Assessment of Saudi Arabia's Healthcare System: A Need to Decentralize

By

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A Research Study Presented to the
Faculty of the Department of Public Policy and Administration
School of Business and Public Administration

CALIFORNIA STATE UNIVERSITY, BAKERSFIELD

In Partial Fulfillment of the
Requirements for the Degree of

MASTER OF SCIENCE IN ADMINISTRATION-HEALTH CARE MANAGEMENT
FALL, 2015

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This thesis project has been accepted on behalf of the Department of Public Policy Administration, by their supervisory and committee:

11/19/2015

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11/23/2015

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Acknowledgements

I would like to express my deepest appreciation to my first reader and advisor throughout program, Dr.BJ Moore. Without her guidance and support I would have not been able to accomplish this thesis project. I would also like to thank my second reader Dr. Richard Gearhart for his feedback and enlightening me with a different perspective for analysis of my thesis.

Abstract

In this study, information regarding the demographics, geography, and economy of Saudi Arabia is discussed to give overall background information about Saudi Arabia. The Saudi Arabian healthcare system and structure is discussed in more detail including a management theory that applies to the way it is structured.

This study is a needs assessment or program evaluation study. The different types of program evaluation are explored and the type this study belongs to is identified. The sample frame of the study and how the information was obtained is stated, and the limitations of the study is discussed.

The government structure and ideology in general is discussed in order to understand the general environment that the healthcare system is in. The main challenge of the Saudi Arabian healthcare system as a whole is that the major health services of the Ministry of Health (MOH) are located in a few free standing hospitals rather than spread out through the city and country by having smaller outpatient clinics to cover more area (Colliers). The MOH hospitals are not only centered in a few locations within the cities but are more abundant in the major cities of the Kingdom: Riyadh, Jeddah, and the eastern region cities. One of the main reasons for this is the divide and unwillingness of people to go from developed cities to less developed cities where many amenities are not available to the people. Saudi Arabian healthcare is also experiencing a shortage in healthcare resources including physicians, nurses, and healthcare facilities and equipment.

Lastly, the challenges of the private sector of healthcare which comprises 20 percent of the total market are explored.

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CHAPTER ONE

INTRODUCTION

The healthcare in Saudi Arabia is classified as a national healthcare system where the government provides free healthcare to their citizens. The government is responsible for both the financing of health care and the delivery. Both inpatient and outpatient care is provided by hospitals; a model found in U.S. hospitals associated with medical schools. The government provides free healthcare to Saudi citizens through 244 public hospitals coordinated by the ministry of health (MOH) throughout the Kingdom which comprises 60 percent of Saudi Arabia's total hospitals ("Kingdom of Saudi Arabia: Healthcare Overview, 2012). The other 20 percent are semi-governmental hospitals where healthcare is given to more specific parts of the government such as the national guard, military, and other teaching hospitals (M. Almalki, G.Fitzgerald & M.Clark, 2011). Semi-governmental hospitals mean that these hospitals are part of the government and are funded by them but provide healthcare only to citizens working in these governmental areas and to the employees of these hospitals. The families of both the working officials of the different areas of the government and the employees working in their hospitals may be seen at the "semi-governmental hospital" (Kingdom of Saudi Arabia: Healthcare Overview, 2012). The remaining 20 percent of the healthcare in the Kingdom is serviced by the private sector to the 6 million expatriates living in the kingdom, and to Saudi citizens who need to receive healthcare and cannot be accommodated by the public sector (Kingdom of Saudi Arabia: Healthcare Overview). The number of physicians and nurses working in Saudi Arabia is 18,086 and 44,719 respectively ("Kingdom of Saudi Arabia: Healthcare Overview", 2012).

About Saudi Arabia

Saudi Arabia is located in the middle east; far west in the Asian continent bordering Yemen in the South and Jordan in the North ("The World Factbook: Saudi Arabia", 2015). Saudi Arabia comprises 80% of the Arabian Peninsula taking up 2,149,690 square feet of land ("The World Factbook: Saudi Arabia", 2015). Saudi Arabia is the largest member of the Gulf Cooperation Council (GCC) ("The World Factbook: Saudi Arabia", 2015). The main source of income for Saudi Arabia is petroleum which comprises 90 percent of all export revenue over the past few decades ("The World Factbook: Saudi Arabia", 2015). The total population for Saudi Arabia is roughly 22,000,000 and the expatriates living in the Kingdom are 6,000,000 making a total population of roughly 28,000,000 as of 2014 ("Saudi Arabia Statistics", 2013).

Figure 1.

("The Saudi Network", n.d.)

Saudi Arabia's total expenditure in 2013 for healthcare was $35.9 billion dollars which makes 4.8 percent of the Kingdom's share of GDP per capita ("Deloitte 2015 Health Care Outllok Middle east", 2015). There are a total of 369 hospitals in both the governmental, quasi-governmental, and private hospitals in Saudi Arabia ("Kingdom of Saudi Arabia: Healthcare Overview:, 2012).

Healthcare Structure in Saudi Arabia

The MOH builds hospitals in larger cities that are more densely populated (Almulhim, 2013). As can be seen in figure 2, the big hospitals are mainly concentrated in Riyadh, the capital, and the western region of Jeddah. Furthermore, 20 percent of all the healthcare workers in the Kingdom work in Riyadh ("Kingdom of Saudi Arabia: Healthcare Overview:, 2012). One of the problems with this is that people in the neighboring towns and villages have to go to the cities for their health care (Kingdom of Saudi Arabia: Healthcare Overview). Moreover, the public hospitals form a centralized healthcare system where both primary care and specialists are located in a few major locations in the city. The problem is that the centralized healthcare system fails to adequately deliver healthcare to its citizens in a timely manner resulting in long wait times and lack of space to provide healthcare to a growing population. Specialists are assigned to the hospitals and they are not accessible to the general public. They are only in a few places and not spread throughout the kingdom. The ratio of citizens to hospitals is problematic because it causes hospitals to be overbooked and crowded. In addition, driving from smaller rural areas to bigger cities for healthcare constrains access to health care.

Figure 2

(google maps, 2015)

Management Theory

The MOH runs over 80 percent of the Kingdom's healthcare directly. In addition, they oversee all of the healthcare in Saudi Arabia including the 20 percent of the private sector and public health. This kind of system where one center runs the majority and overlooks the entire

healthcare system forms a classical style or bureaucratic form of management (D. Walonick, 1993). A classical form of management leads to a lack of autonomy of the MOH hospitals and health centers since decisions come from on top on the managerial board (M. Almalki, G.Fitzgerald, M.Clark). Autonomy in making decisions for both medical and non-medical improves overseeing budget, quality assurance, and simplifies the contractual agreement between physician and hospital (M. Almalki, G.Fitzgerald, M.Clark).

The advantages of the classical form of management is efficiency and division of labor (Zeiger, S. & Media, D., 2015). However, variation in environment, people, and other factors exists in the healthcare of an entire Kingdom. Decisions to accommodate to the discrepancy of healthcare conditions need to be made to be ran effectively.

Purpose of the study

The purpose of this study was to identify strategies the Saudi Arabian government could use to improve the delivery of healthcare to the Saudi Arabian citizens now and for the future. The research method used was hermeneutics, the study of textual materials. In this study, materials are used on the Saudi Arabian healthcare system from the MOH's website. In addition, other analysis of the Saudi Arabian healthcare system was used.

Usefulness of the Study

The information in this study can be used in an administrative position both in the MOH and in hospitals. Since almost 80 percent of the healthcare, whether governmental or quasi governmental, is majorly controlled by the MOH, the MOH can take into consideration the allocating of major hospitals and medical cities to adequately deliver healthcare to Saudi Arabian citizens. The proper allocation of hospitals and medical cities in turn allocates physicians, nurses, and health care workers where necessary.

Furthermore, this study may be useful for administrative positions in hospitals to balance out specialists and primary care physicians internally. Building outpatient and inpatient centers to adequately deliver healthcare to Saudi Arabian citizens may be done accordingly.

Chapter Two

Introduction

In this chapter the Saudi Arabian governmental and healthcare system and how it affects the functioning of the MOH is examined. In order to answer the research question regarding the decentralization of healthcare, articles and fact reports regarding Saudi Arabian's healthcare system is explored. The main struggles of Saudi Arabian healthcare that affects its proper delivery are mainly the underdevelopment of neighboring cities and rural areas and the growing population that is currently experiencing a shortage of healthcare.

Saudi Arabia's Healthcare System

The majority of the Saudi Arabian healthcare system, around 80%, follows the Beveridge Model of healthcare system (Reid, 2008). Similar to the National Healthcare System in Great Britain, healthcare is both provided and funded by the government. The Beveridge model for healthcare is not unusual for a government ideology like Saudi Arabia's where the government controls most of the economy and education. The advantages of a healthcare system following the Beveridge model is that healthcare access is given to all of their citizens and it is free. The disadvantage however is that it does not leave much room for the free market to take part in and hence, may decrease quality of healthcare due to lack of competition.

The remaining 20 percent of the healthcare provided in Saudi Arabia is controlled by the private market ("Kingdom of Saudi Arabia: Healthcare Overview, 2012). Private hospitals provide healthcare to the expatriates and their families working and living in Saudi Arabia who are not entitled to use governmental hospitals and must have health insurance provided by their employers. In addition, Saudi citizens use private hospitals for shorter appointment wait times.

This would categorize the 20 percent of the private hospitals in Saudi Arabia as a combination of the Bismarck and out of pocket model. The mandatory health insurance to foreigners living in the kingdom resembles the Bismarck model. Saudi Arabian citizens paying out of pocket for shorter appointment wait times is considered the “Out-of-Pocket” Model (Reid, 2008).

Government structure and ideology

Saudi Arabia has a monarchy which is a type of government where the King and his successors, all part of the Al-Saud” family, run the Kingdom (“Government”, 2015). The constitution of the Kingdom is based on Islamic law also named “Shari’ah” in Arabic. The king is advised by a group of highly educated people called the Consultative Council, in Arabic is known as “Majlis Al-shura” (“Government”, 2015). The council is composed of 150 members and are elected by the King himself on a 4 year term. The council advises the King on economic, health, and various other laws implemented in the Kingdom. The King however has the final decision in any legislation proposed by the council. In addition, the King is also the commander in chief of the military. Saudi Arabia is divided into 13 provinces. Each province is appointed a governor and a deputy governor by the King and are also from the royal family.

Figure 3.

(“Saudi King names new heirs amid cabinet reshuffle”, 2015)

In the middle is the current King, King Salman bin Abdulaziz. To the right is King Salman’s nephew and the crown prince, Prince Mohammed bin Naif. He is the first in line to be his successor. To the left is King Salman’s son, Prince Mohammed bin Salman bin Abdulaziz, the deputy crown prince. He is the second in line to be the successor of the King.

The government finances and controls all the major aspects of the kingdom such as education, health, internal and external politics and affairs, and the main resource that funds the kingdom, petroleum export. Appointed officials, mainly ministers, are appointed to overlook and deliver the services of each field. For example, the MOH has a minister of health appointed by the government to overlook, deliver, and make decisions regarding the healthcare of the Kingdom.

With regard to healthcare, it is worth noting that according to Article 31 of the Saudi Arabian constitution, the government provides free healthcare to all Saudi Arabian citizens

(Albejaidi, 2010). Therefore, it is part the constitution and considered a human right that all Saudi Arabian citizens receive healthcare. This comes from when the kingdom was founded in 1931.

Struggles of Healthcare in the Kingdom

Underdeveloped Cities and Rural Areas

One of the main problems with regard to healthcare in Saudi Arabia is that the neighboring cities to the three main large ones (Riyadh, Jeddah, and Dammam) are underdeveloped. Some of the cities do not have airports or other amenities which makes the quality of life in these areas low. This makes those areas unappealing to physicians, nurses, and healthcare workers who would have to live and practice there (Almulhim, 2013). In addition, there are rural areas in the three main cities that are similar in quality of life to the underdeveloped cities and are also being avoided to live and work in.

Furthermore foreign physicians and healthcare workers who make up the majority of healthcare workers in the kingdom, are even more compelled not live in those areas. Expatriates are deprived of amenities that are provided in their home countries while living in the Kingdom. Financial compromise makes them barely stay at the larger cities which causes a high turnover rate (Kingdom of Saudi Arabia: Healthcare Overview). For them to move to more rural areas would take much more compromise for the expatriates. Expatriates make up more than 60 percent of all healthcare workers in the Kingdom (M. Almalki, G.Fitzgerald, M.Clark). This by far is the biggest challenge to spread out and decentralize the healthcare in Saudi Arabia. The country structure as a whole needs to develop to provide complementing amenities and better standard of living for healthcare to follow through with everything else.

Cell Theory

Previous studies have shown that in less urbanized cities where healthcare facilities are further away results in restriction to access of healthcare for citizens Noor, Zurovac, Hay, Ochola & Snow, 2003). As a result of further distance of governmental healthcare facilities and a lack of an effective means of transportation for the people, the number of visits to hospitals and healthcare facilities decreases.

The underdevelopment of smaller cities is one of the major contributors to the centralization of healthcare in the Kingdom. The decentralization of healthcare from free standing hospitals and medical cities to smaller outpatient clinics will aid in delivering better healthcare access to the Saudi Arabian citizens. There will be more locations and options for the citizens to pick where they want to go for healthcare. Furthermore, smaller outpatient clinics as opposed to freestanding hospitals help to pay closer attention to the patient and provide better care. The cell ratio theory states that cells evolved to a molecular level in order to increase the ratio of surface area to volume to better supply each individual cell with water, oxygen, and nutrients effectively ("Cell Theory, Form, and Function", 2015). The evolution of cells to become so small is because each organelle now is much closer to the cell surface as opposed it to be in a much bigger cell where it is harder to transport things that are further away from the surface inside. This same theory in essence applies with the decentralization of healthcare from big free standing hospitals and medical cities to smaller outpatient clinics. Even if the free standing hospitals had all the resources to provide healthcare for all Saudi Arabian citizens, it would be difficult in providing such service from one or a few centers to the 29 million people living in the Kingdom.

Different Direction in the Private Sector

The majority of the healthcare whether governmental or quasi governmental comprises around 80 percent of the healthcare in Saudi Arabia ("Kingdom of Saudi Arabia: Healthcare Overview, 2012). Government funding to the majority of healthcare is beneficial for the Saudi Arabian citizens since it is quality driven versus cost. The MOH is a non-profit organization and the health of Saudi Arabian citizens takes precedence. However, for the remaining 20 percent of the healthcare in the Kingdom which is catered by the private sector cost takes precedence over quality. In addition, the bargaining power to get a discount from the three major insurance companies is undermined tremendously in Saudi Arabia with only a very few key players as compared to other countries such as the United States where many more insurance companies exist ("Kingdom of Saudi Arabia: Healthcare Overview, 2012). Furthermore, this serves as a major problem for the expatriates living in the Kingdom that can only resort to the Private sector for healthcare. In addition, the Saudi Arabian citizens resorting to private healthcare for less wait time might be getting healthcare with that benefit but with less quality. The private sector recognizes the insufficiency in providing healthcare by the public sector in a timely manner and capitalizes in it to provide quicker healthcare.

Shortage of Health Resources

Even having a majority of health workers that are not citizens, the ratio of the population to physicians and nurses, 10,000:16: 36 respectively is fairly low compared to other nations with similar or less healthcare budgets. In addition, there is a shortage of hospital beds even in the major cities where healthcare is prevalent ("Kingdom of Saudi Arabia: Healthcare Overview, 2012). There is an apparent shortage of healthcare resources in general which needs to be rectified.

Saudisation

Saudisation is the process where foreign workers are replaced with Saudi workers ("Kingdom of Saudi Arabia: Healthcare Overview, 2012). The reason behind Saudisation is that the majority of workers in the Saudi Arabian Job market including healthcare is predominantly foreigners. The expatriates working in the healthcare field make up 60 percent of all the workers. In an attempt to lower unemployment and increase the knowledge, experience, and capabilities of Saudi Arabian workers, they are replacing foreigners with Saudi Arabian citizens. However, this transition may be too rapid to train the Saudi Arabian healthcare workers and have them receive adequate knowledge and experience.

Lack of a Unified Database

Another struggle of the healthcare system in the Kingdom has a lack of a unified healthcare system where all the patient information such as diseases, visits, checkups, and follow ups is recorded ("Kingdom of Saudi Arabia: Healthcare Overview, 2012). The lack of a unified healthcare database decreases productivity for administrative work since all information of a patient needs to be input from scratch when visiting a different healthcare facility. In addition, many of the healthcare workers may not know the local Arabic language used, and this could help with time taken to translate. This all seriously impacts planning.

On a similar note, Saudi Arabia lacks a National Health Interview Survey (NHIS) (Albejaidi, 2010). An NHIS helps keep track of the nation or Kingdom's up to date accurate statistics regarding the amount, distribution, and effects of illness and disability ("About the National Health Interviews Survey"). This information aids Public health to evaluate the causes and address solutions to such problems. This data also helps in evaluating what kind of

preventative and awareness programs could solve such a problem.

The major disease in KSA

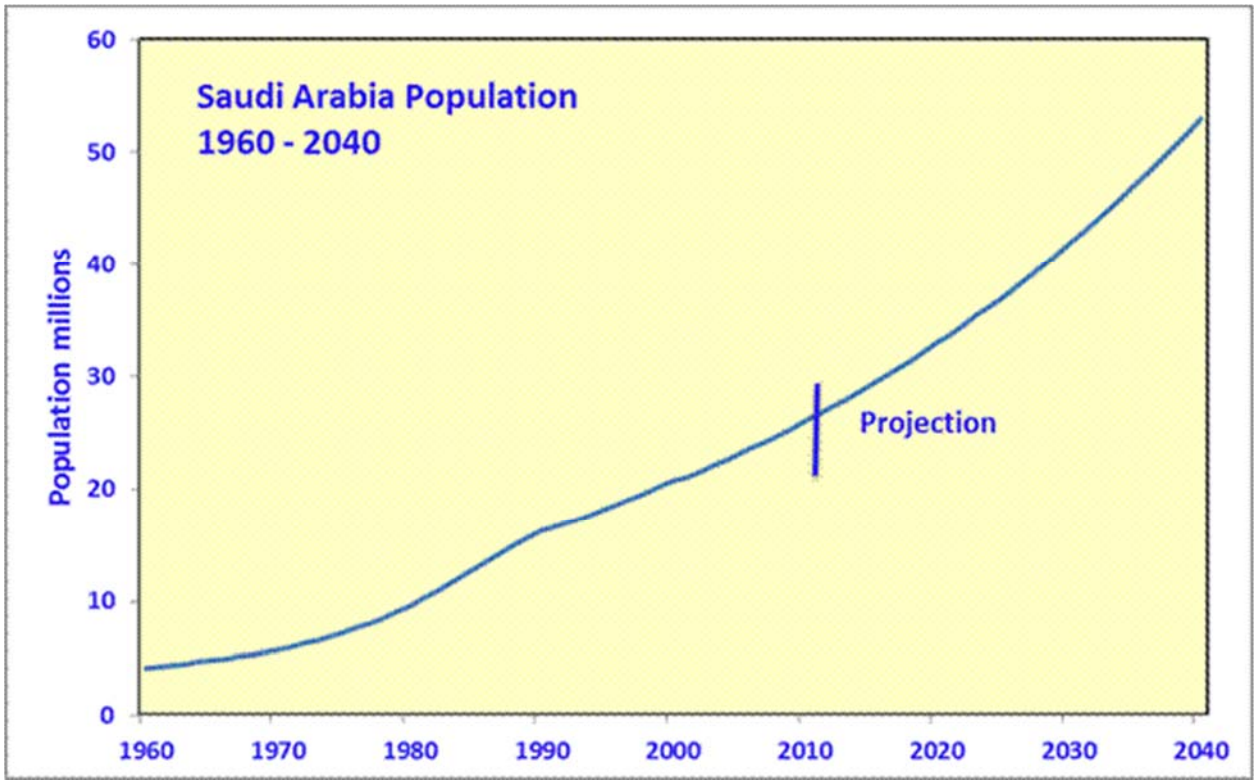
The major disease contributing to almost 1 out 4 deaths in Saudi Arabia is Coronary Heart Disease (CHD) ("Health Profile: Saudi Arabia", 2014). The major reason according to Al-Hazza is the lifestyle in Saudi Arabia leading to major inactivity of both genders in the Kingdom (Alhazzaa, 2004). The Kingdom relies heavily on auto drivers to transport women around since they are not allowed to drive. Furthermore, not much stress and encouragement is put on walking around as all the streets and services are mainly catered to vehicles and not pedestrians. As a lifestyle disease, it seems that the inactivity and the way Saudi Arabia as a country is designed is the major contributing factor to CHD.

Population Problem

The population of Saudi Arabia is currently close to 30 million including 9 million foreigners living in the Kingdom. The population of Saudi Arabia dramatically increased from 1960 to 1990 by a 4 fold increasing from around 4 million to 16 million Saudi Arabian citizens. This 400% increase in 30 years is equivalent to the baby boomers in the 60s in the United States. This was probably a result from increase in wealth due to expansion and export of the oil industry at the time. In addition, polygamy with many children from each wife was common. Although the increase in population has dropped from the 1990s until today, the current population with foreigners is expected to increase to 38 million by 2040 (Watts, 2012). More healthcare resources such as hospitals, clinics, physicians, and nurses would be needed to provide healthcare to them. As mentioned previously in this paper, the ratio of the population to physicians to nurses is 10,000:16: 36. This ratio is expected to only grow bigger apart if the

Kingdom is not able to generate more healthcare workers and provide jobs to foreign healthcare workers.

Figure 4.



(Watts, 2012)

Stakeholders

The long wait times and big crowds around hospitals is what brought the attention to make a needs assessment of the decentralization of healthcare in Saudi Arabia. The stakeholders in this study are mainly the government which controls and overlooks healthcare through the ministry of health (MOH). The MOH overlooks all of the healthcare in the Kingdom and owns 80 percent of the Kingdom's hospitals, clinics, and health care facilities. The government will need a cost benefit analysis towards a shift to more outpatient clinics throughout the Kingdom. A study of whether or not this shift will benefit or infringe on other plans of the government. For

example, in an effort to help transport people around in Riyadh, the capital, the government invested 23 billion dollars in a new metro system ("$22.5 billion Riyadh Metro 'a race against time'", 2015). The project is called Riyadh metro. It started last year and is expected to continue until 2020. The Riyadh metro project could be a good opportunity to spread out healthcare since transportation will be easier.

The private hospital's owners that contribute to 20 percent of the remaining healthcare in Saudi Arabia are the other major stakeholders of this study. The direction of decentralization of healthcare would be beneficial to them. The private sector would invest in different types and levels of healthcare according to new plans and changes. The MOH changes their investments in different levels of healthcare clinics as they need on a yearly basis from primary, secondary, and terry levels of healthcare (Albejaidi, 2010).

Physicians, nurses, healthcare workers, and all locals are stakeholders as well of this study. The relocation and distribution of healthcare facilities will affect where they will go for work and receive healthcare. Lastly, construction companies who have an interest in building new hospitals are stakeholders in this study.

CHAPTER THREE
METHODS

This study is about the decentralization of healthcare from free-standing hospitals to out-patient clinics in Saudi Arabia. The type of study is a needs assessment or program evaluation and is done by systematically gathering information regarding the healthcare in Saudi Arabia. There are five different kinds of program evaluation which depends on the stage and aspect of the program ("Types of Evaluation", n.d.). 1) A Needs assessment is used when exploring if there is a need for a new program or an addition to an existing program or to evaluate whether there is a continuing need for a program. 2) Formative evaluation: is used when a program is in the process of development or being modified before application of the program. This kind of evaluation shows the feasibility of each element in the program and is useful to find any errors before application and to improve the successfulness of the program. This type of evaluation is also referred to as a process evaluation and is used to determine if the program is carried out as intended in order to meet the program's goals. This kind of evaluation is typically done in the beginning of program implementation. Process evaluation is used adjust to any early errors and ensure an effective start of the program. 3) Outcome evaluation: this kind of evaluation is similar to process evaluation in that it is also used in the early stage of the program but measures an outcome or an initial result and evaluates it accordingly. 4) Economic evaluation: is also called a cost-benefit analysis and is similar to outcome and process evaluation in that it is done in the beginning stages of program application. However, this kind of evaluation concentrates more on the financial return for the investment: the benefits relative to the cost. 5) Impact Evaluation: is an evaluation of an already running program or after then program has ended. This measures how effective the program met its goal or purpose. This paper is a needs assessment evaluation

where the current healthcare structure of Saudi Arabia is evaluated on how effective it has been in regard to the centralization of services to meet the health needs of the citizens. The start of providing healthcare by the MOH is the initiation of the program and has been ongoing since.

Information such as the type of healthcare system used in the Kingdom, the number of hospitals, physicians, and nurses, and challenges found in the Kingdom's healthcare on a large scale were collected. The gathering of all this information is used to answer the research question: Should Saudi Arabia move to a more decentralized widespread outpatient clinic rather than free standing hospitals? In addition to the research question, pinpointing gaps and room for improvement to better the program or system from the current one was attempted. This study is therefore intended to adjust and improve the current healthcare system rather than replace it. This needs assessment is a non-experimental study which uses both quantitative and non-quantitative information. This type of study is based on hermeneutics where analysis and interpretation is done on the information regarding statistics and past data and articles of the healthcare in Saudi Arabia.

The sample frame examined in this study are all the sources of information regarding the Saudi Arabian health care system. Access to information is limited by the type of government structure. The sample was data collected regarding the number of hospitals, clinics, and healthcare facilities from both the MOH and private hospitals; the type of clinic, whether primary, secondary, dental, or a specialized is recorded; and the number of beds in each healthcare facility. The data collected was mainly from the ministry of health (MOH)'s official website. The MOH accumulates and present various health data regarding the population on their statistics page on their website.

Other articles were used from middle eastern and American journals which have analysis

on the structure of Saudi Arabia's healthcare. These articles are called "Kingdom of Saudi Arabia Healthcare Overview" from Colliers international, and "Health care system in Saudi Arabia: an overview" from the Eastern Mediterranean Health Journal (Kingdom of Saudi Arabia: Healthcare Overview, 2012; M. Almalki, G.Fitzgerald & M.Clark, 2011). Search terms such as "centralization of Saudi Arabia's healthcare", and "challenges of the Saudi Arabian healthcare" were used in different search engines. There were around 40 different websites and articles used for theory support, and evidence backup.

Limitations

This needs assessment is based on hermeneutics because designing an experimental study to answer the research question is not possible. Hermeneutics is based on interpretations and implications from past studies and relevant information regarding the study.

The number of hospitals recorded given by the MOH website was last updated in 2013. This number although recent, may have changed over the past year and a half as many hospitals and private clinics are opening and closing. In addition, the number of beds is a mere estimate on the size and type of facility ("AHRQ Releases Standardized Hospital Bed Definitions", n.d.). Licensed bed is the maximum number of beds a facility may hold but the facility may not actually have that many beds. Sometimes the number is recorded before the hospital is fully functioning and is just based on the licensed beds number given and may be inaccurate.

In addition, there was some confusion on what was considered governmental hospitals or private hospitals. This is because 20% of the healthcare in Saudi Arabia is considered quasi-governmental like the security forces hospital, national guard hospital, and the military hospital. These kinds of hospitals, although governmental, cover only people working for those parts of the government, their families, and the employees and their families working in the hospital. The

general public do not have access to quasi-governmental hospitals and healthcare facilities. Two different studies have analyzed the number of hospitals differently; one recording MOH hospitals comprising 60 percent of the Saudi Arabian healthcare, and the other recording the MOH hospitals as 70 percent of the Saudi Arabian healthcare.

In addition, inaccurate numbers of expatriates working in the kingdom for an assigned type of job may be reported from an employer (Alshihry, 2015). Due to to Saudization, the process of replacing foreign workers with Saudi Arabian workers, the ministry of labor sets a quota on the number of foreigners in each organization and type of profession they can work in. The quota however is not always followed by the employer resulting in inaccurate numbers of physicians and nurses. Department heads of hospitals especially in private hospitals rely on foreign nurses and hospital administrative workers. This is due to lower wage given to foreign workers and the better quality of work that foreigners bring than the lack of experience Saudi Arabian workers have. Saudization is sometimes happening too rapidly and employers still try to bend the laws to slower the process for them and misrepresent information.

Another limitation is the ambiguity in defining access to healthcare. For example, healthcare access is measured by the agency of healthcare research and quality by the number of insured people. In the case of Saudi Arabia as well as other Beveridge like model type of healthcare, every citizen has the right to healthcare with no health insurance that includes and exempts people from it. This poses a constraint on how to measure and compare access to healthcare globally (“Access to Healtcare”, n.d.). Furthermore, a previous study has shown that there is a correlation in Kenya between access to healthcare and the distance between health facilities and residential areas. However, the factors causing the correlation in Kenya may be different that then factors in Saudi Arabia and therefore may be not applicable.

Lastly, there seems to be a direction with the tight control of governmental structure in the Kingdom. For example, the ministry of Interior has over 20 major departments under them such as traffic, passport, civil, and immigration departments. Centralization of a system including healthcare is intended to keep close oversight and quicker top down decision execution. Regardless of how beneficial decentralization of healthcare is, it may be contradictive to the direction of the MOH.

IRB

This needs assessment study used public information available on the internet. No human subjects were interviewed or interacted with to obtain any of the information in this study. None of the information is considered private for an individual or organization. Therefore, no IRB approval was needed for the purpose of this study.

CHAPTER FOUR
FINDINGS

A difference between the structure of the healthcare system in Saudi Arabia and the United States was noticed. The Saudi Arabian healthcare system was mainly accessed through large free standing hospitals especially governmental hospitals. In the United States, although there are large free standing hospitals similar to the ones found in Saudi Arabia, healthcare can be accessed through many widespread outpatient locations in the cities. This was thought to be more effective because there is less appointment wait times, and it reduces overcrowding around free-standing hospitals dramatically. In an effort to see whether or not it would be advantageous for the healthcare in the kingdom to shift to outpatient clinics, articles regarding the Kingdom's healthcare structure were researched.

The ministry of health's (MOH) website contained all recorded health facilities throughout the kingdom. The names, location, number of beds, and number of physicians in each hospital belonging to each city and region can be found on the website. However, no analysis of the reason why it is structured the way it is was found in the MOH website. Two articles that are non-Saudi Arabian based displayed the information regarding the healthcare system of Saudi Arabia and provided analysis and explanation regarding the reasons behind the way it is structured. One article was published by a United States global commercial real estate organization and the other article was published by a middle eastern health journal.

In addition to the two articles used, information from the MOH website and google maps was used to visually display the locations of the health centers throughout the kingdom. Furthermore, three descriptive scholarly articles regarding the challenges of the Saudi Arabian

healthcare were used. To support the ideas formed and hermeneutics all the information gathered different economic and scientific theories were used.

Findings:

Table 1.

Healthcare distribution
• The major MOH hospitals are centralized in a few parts of the cities. • Most of the major MOH hospitals are in Riyadh, Jeddah, and the eastern region of the Kingdom.
Challenges with the Saudi Healthcare
• Shortage of physicians and nurses. • More health resources are needed. • Expatriates make up 60% of all healthcare workers in Saudi Arabia. • Healthcare workers from both foreigners and Saudi citizens avoid undeveloped cities to work and live in. • Previous studies show a correlation between distance between hospitals and living locations with access to healthcare. • The major heart disease in Saudi Arabia is coronary heart disease.
Problems with the private sector in healthcare
• Three health insurance companies run the private market of healthcare in the Kingdom. • The private market could have a different direction than governmental hospitals.

Centralized MOH health services in the cities:

The major health services of the ministry of health (MOH) are located in a few free standing hospitals rather than spread out through the city by having smaller outpatient clinics to cover more area (Kingdom of Saudi Arabia: Healthcare Overview, 2012). This leads to patient overcrowding at the hospitals and long appointment wait times. This also contributes to traffic crowds near the hospital and overcrowding of cars parked around the hospital.

MOH hospitals in mainly Riyadh, Jeddah, and the eastern region:

The MOH hospitals are not only centered in a few locations within the cities but are more abundant in the three major cities of the Kingdom: Riyadh, Jeddah, and the eastern region cities

(Kingdom of Saudi Arabia: Healthcare Overview, 2012). It was primarily structured this way for the interest and political agenda of the Kingdom. Riyadh being the capital and the largest city in the Kingdom has nearly 20 percent of all hospitals including governmental, quasi-governmental and private hospitals (Kingdom of Saudi Arabia: Healthcare Overview, 2012). Jeddah, the second largest city in Saudi Arabia, which has many of the secondary governmental offices has close to 12 percent of all hospitals in the Kingdom. In addition, Jeddah is located in the Mecca region of the Kingdom that has the airport that brings in millions of people yearly whom come to perform the major and minor pilgrimages. Lastly, the eastern region has 9 percent of the total hospitals. The eastern region is the most important part of the Kingdom economically where all the petroleum, which is the main source of income for Saudi Arabia, comes from.

Having a few centralized locations is easier to control cost and make effective decisions operationally. However, this does not apply to a large hospitals aiming to cater healthcare service to the majority of the population. A decentralized type of healthcare with more spread out outpatient clinics is more effective. A member of the shoura council in Saudi Arabia who wished to stay anonymous was recorded by the local newspaper saying: “The centralized system often fails to take appropriate decisions at the right time” (Abdulghafour, 2014). This is because top-down decisions are much harder with a large free standing hospital as the status quo. Having smaller outpatient clinics would make it possible to adapt and make decisions particular to the type of people and geographic area (Douglas, 2013). This can be examined using the cell theory in biology. The cells evolved to smaller cells to increase the surface area to volume ratio. This is for quicker and easier export of waste and import of nutrients. The same can be applied to smaller outpatient clinics where they are spread out through the Kingdom and are able to accommodate the needs of the patients more effectively than free standing hospitals.

Shortage of Health Resources:

According to the Ministry of Economy and Planning, Saudi Arabia last year was being in short of 10,000 physicians and 20,000 nurses (Abdulghafour, 2014). The Kingdom is in need of more physicians, nurses, and various other types of healthcare workers. This is also important to meet the needs of the growing population who are expected to reach 38 million in 15 years.

On the same note, more health centers, equipment, and beds are needed to provide quality healthcare service to the citizens (Kingdom of Saudi Arabia: Healthcare Overview, 2012).

Expatriates make up 60% of all Healthcare Workers:

A nation that is evolving and growing such as Saudi Arabia needs to have more Saudi Arabian healthcare workers to be able to be independent. For the same reason every nation supports local businesses, food, and sports, having more local workers makes the Kingdom not dependent on hiring foreign professionals. This would lead to unemployment rates dropping in the Kingdom and more Saudi citizens getting into more fields. Another reason, both the MOH and private hospitals do not need to hire foreign workers which mostly costs more to be able to provide the paperwork and accommodation for them to live. Lastly, according to an economist, Stacy Mitchell, having local people in the field benefits the economy ultimately (Mitchell, 2015). The money that Saudi workers make is kept in the country and benefits other local and government businesses instead of having the money sent out of the Kingdom.

Developed Vs Undeveloped Cities:

Both foreign workers and Saudi citizens avoid working and living in undeveloped cities and rural areas of major cities. The undeveloped and rural areas have less amenities and services than developed cities and as a result there is even a further shortage of healthcare workers

providing healthcare service for the people living in those areas. A wage differential system may be implemented where healthcare workers are paid more in undeveloped and rural areas than the developed cities as an incentive to compromise.

Furthermore, studies have shown in developing nations that an inverse correlation exists between distance to healthcare facilities and healthcare access. As a result of the centralization of healthcare, healthcare access is compromised which is considered one of three components that determines the successfulness of a healthcare system ("The Demi-Decade of Coverage or: The Scalpel and the Chainsaw", 2010). The two other components are quality and cost of healthcare.

Three Health insurance companies:

In the 20 percent private market of healthcare in Saudi Arabia, only three insurance companies are available in the market. Based on the theory of monopoly, when there is only one supplier providing a unique kind of service, they can control the market and set high prices without compensating for better quality of goods and services (Weyl, 2011). Only having three insurance companies is very close to a monopoly with only two more players in the field. These three insurance companies may agree to give premiums for the people without the incentive to better their benefits or services. In the United States, there are more than 30 private health insurance companies "(How many health insurance companies are there in the United States", n.d.). More insurance companies are needed to compete and bring the prices down and provide better benefits and services in a large portion that constitutes one fifth of the health market in the Kingdom.

Direction of Private Market:

The majority of healthcare in Saudi Arabia is provided and financed by the government. However, the private market is privately owned by investors who may have a different

motivation than providing quality healthcare. In a free market where making a profit by increasing price and reducing cost is the goal, this direction may compromise on the healthcare provided to the people. The theory of profit maximization takes place when there is no motive for the health of the people like the public sector would, but rather to make a profit (Chand, n.d.). This would ultimately affect one of the three determinants of the successfulness of a healthcare system: quality ("The Demi-Decade of Coverage or: The Scalpel and the Chainsaw", 2010). It is important to have the quality and access of the private market healthcare in the right direction since it could potentially grow to have more than 20 percent of the market with the introduction of health insurance by the Saudi government in the future (Kingdom of Saudi Arabia: Healthcare Overview, 2012).

Major Disease in the Kingdom is CHD:

The major disease contributing to almost 1 out 4 deaths in Saudi Arabia is Coronary Heart Disease (CHD) (Abdulghafour, 2014). The major reason according to Al-Hazza is the lifestyle in Saudi Arabia leading to major inactivity of both genders in the Kingdom (Abdulghafour, 2014). The kingdom relies heavily for auto drivers to transport women around since they are not allowed to drive. Furthermore, not much stress and encouragement is put to walk around as all the streets and services are mainly catered to vehicles and not pedestrians. As a lifestyle disease, it seems that the inactivity and the way Saudi Arabia as a country is designed is the major contributing factor to CHD. The MOH needs to have more program awareness regarding CHD to overcome the high cost on them and better the health of the Saudi citizens.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

The Saudi Arabian education system along with the MOH needs to develop programs to attract more people to the healthcare field. Saudi Arabia needs to become more independent and rely less on foreigners in healthcare. Not only is this important for the Saudi Arabian economy overall, but also is needed to cater to the growing population who are expected to reach 38 million by the year 2040.

The decentralization of healthcare is beneficial for the Kingdom to manage and deliver services effectively. Wage incentives is an effective current solution to attract more people to the less developed cities and rural areas.

An incremental approach to change fits the governmental structure. The healthcare structure of a nation cannot be changed suddenly. The need to decentralize needs to take place in the largest city in Saudi Arabia, Riyadh the capital, and then the outcome for a single project is measured and evaluated accordingly. Based on the results, decentralization can slowly be done in other major cities to effectively provide access to healthcare throughout the Kingdom. In parallel to the decentralization of healthcare, the other problems of the Kingdom's healthcare need to be addressed. Therefore, an article in Arabic will be posted recommending the first steps to decentralize healthcare. In addition, the article will include a way to solve the major disease affecting the Kingdom, as well as a strategy to have more health insurance competition in the private sector.

Recommendation 1:

Subsidize Building of a Medical City in Undeveloped Areas

In order to have more healthcare centers and medical facilities in developing cities, subsidies may be given to the private sector to encourage building, along with wage differential for employees, subsidizing hospitals and health centers may be an effective way to attract health businesses in underdeveloped cities.

Cost Estimate:

The construction of a medical city in Riyadh, which is the most expensive because it is one of the three largest cities in the Kingdom, was evaluated at $107 million or 401.25 Saudi Riyals ("Saudi hospital construction tender awarded at $107 million", 2013). This medical city is estimated to have 105 beds. Construction of a medical city in the city of Abha, north of the Kingdom, may cost 70-80 percent of the cost it would to build in Riyadh. The government may propose a 33.3 percent subsidy at a value of $26 million or 100 million Saudi Riyals.

Recommendation 2:

Subsidize Patient Visits in Diryah Health Centers

Help promote citizens living in Diryah city, north of Riyadh, to have easier access to healthcare in developing cities. The measure of how much overcrowding it reduced to Riyadh will be measured. Based on the results, more subsidies maybe assessed and planned in the future.

Cost Estimate:

The cost of primary, secondary, and tertiary care excluding drugs and diagnostics in Saudi Arabian Hospitals reported by the World Health Organization ("Choosing interventions that are cost effective (WHO-CHOICE)", 2015):

Primary Care for 20,000 patients cost per bed per day:

20,000 patients X 281.12 cost per bed per day = 6,622,400 Saudi Riyals.

Secondary Care for 10,000 patients cost per bed per day:

10,000 patients X 366.75 cost per bed per day = 3,667,500 Saudi Riyals

Tertiary Care for 6,000 patients cost per bed per day:

6,000 X 500.93 cost per bed per day = 3,005, 580.

Total Cost for 36,000 patients = 13, 295, 480 Saudi Riyals or 3,545,462 US Dollars.

Recommendation 3:

Implement Wage Differential in Developing Cities

Implement a wage differential system for developed and underdeveloped cities in order to effectively spread healthcare professionals throughout the kingdom. A wage differential system along with the mandatory service for newly graduates in various healthcare fields for 5 years is an effective way to bring more healthcare professionals to developing cities.

Cost Estimate:

New graduates will be paid more than what they are paid in developed cities. The difference in wage from the developed cities is to be added to the wages of new graduates working in developing cities. This way the cost would only be for administrative cost for the adjustment of the wage differential system.

Recommendation 4:

Conditional Medical Scholarships

With the scholarships cutback from the ministry of higher education, provide scholarships for the healthcare fields with the condition of working a minimum of 5 years in

underdeveloped cities and rural areas. The current King Abdullah scholarship program has been running since 2005 (“King Abdullah Scholarship Program”, 2013). The scholarship has regulations for a Saudi Arabian citizen to participate such as an accredited high school degree not older than 3 years and to work in Saudi after the completion of the program of study.

Action Plan:

For medical fields, add another regulation for students for mandatory work in one of the developing cities for a minimum of 5 years.

Recommendation 5:

CHD Risk Awareness

According to the World Health Organization (WHO), Coronary Heart Disease (CHD) caused 19,569 total deaths in Saudi Arabia for the year 2014 (“Saudi Arabia: Coronary Heart Disease”, 2014). This constitutes to a quarter of the total deaths in the Kingdom. According to articles mentioned previously in this study, the lack of mobility and exercise is the most probable linkage to CHD in Saudi Arabia. Going by the “low hanging fruit concept”, the Saudi Arabian healthcare costs could be dropped down dramatically.

The Public Health’s role should raise awareness by advertisements about the major risk factors in the television, newspaper, and public bill boards. In addition, it needs to be integrated in the education system in schools and universities.

Recommendation 6:

Encourage Health Insurance Companies Entry

With only three health insurance companies in the private sector for healthcare, the government should encourage more health insurance companies to startup. Other types of

insurances such as life, auto, house insurance in the Kingdom may also get involved in health insurance.

Action Plan:

1) Advertise the need of more health insurance companies in the Kingdom.
2) Implement easier regulations in the business of commerce for health insurance companies to enter the Kingdom.

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