

The Comparative Analysis Of Healthcare System Between Morocco And Southkorea.

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Abstract

The healthcare system reflects the well-being of the population and its reliability is often questioned during health crises. Morocco and South Korea have both demonstrated successful experiences in managing the latest pandemic crisis, despite having different healthcare systems. The Moroccan system has not fully achieved the government's health coverage objectives, while South Korea provides health coverage for the entire population. The South Korean system is rapidly evolving with the help of technology, which is a key element for Morocco to develop its healthcare system. Therefore, the South Korean experience serves as a model for Morocco, and this work focuses on identifying the strengths of the South Korean system to inspire improvements in Morocco's healthcare system.

Keywords: Moroccan healthcare system, South Korean healthcare system, digitization of the healthcare system, financing of healthcare,

1 INTRODUCTION

All countries around the world have been affected by the COVID-19 crisis. However, the response to this crisis varies from one country to another. Among the countries that have impressed the world with their crisis management strategy is South Korea, which was able to control the pandemic quickly without implementing lockdowns or border closures. Both the United States and France have sought to benefit from South Korea's model (Bubert et al, 2020). The South Korean healthcare system is known for high patient financial participation and limited coverage of public health insurance, which has been extended to all income groups (Lee Jong-Wha, 2020).

Additionally, South Korea's use of technology and e-health has contributed to the rapid development of its healthcare system (Bubert et al, 2020). On the other hand, Morocco is in the early stages of digitizing its healthcare sector. The COVID-19 crisis has accelerated this process. Although Morocco has successfully managed the pandemic, it still faces two major challenges: expanding healthcare coverage to reduce state spending and digitizing to address the shortage of human resources.

In this regard, the government has committed to a significant healthcare system digitization project, notably through the 2020-2025 plan. However, professionals consider the implementation of this strategy to be very cautious. Several other factors also seem to be slowing down the project.

This document aims to analyze the main features of the healthcare systems in South Korea and Morocco in order to make a comparison, particularly in the context of the COVID-19 crisis, and in terms of the use of technology in the healthcare sector. The choice of South Korea is motivated by its experience in integrating new technologies in healthcare, which has impressed observers, as well as the rapid development of its powerful financing system. This comparison will allow Morocco to draw inspiration from the South Korean model.

First, we will address the healthcare financing systems of the two countries, then we will outline their experiences in combating COVID-19, and then we will move on to the topic of digitalization in the healthcare sector. Finally, we will conclude with a synthesis that analyzes the areas for improvement in the Moroccan healthcare system, in order to follow the same approach as South Korea.

2 THE FINANCING OF THE KOREAN AND MOROCCAN HEALTHCARE SYSTEMS

The financing structure of the South Korean healthcare system is divided into 40% state contribution, 50% social insurance contributions, and 10% tobacco taxes (OECD, 2010). In terms of healthcare facilities, the private sector is highly developed with the encouragement of the government, representing 94% of hospital infrastructure. It primarily provides primary services through specialized professionals and secondary care through general practitioners.

The role of the South Korean healthcare system in improving the population's health is of major importance, while the government also works to reduce expenses to the lowest level. According to the OECD 2012 report, South Korea has one of the lowest healthcare expenditure rates within the OECD zone (OECD, 2010).

The South Korean healthcare system is characterized by a significant financial contribution from patients and limited coverage of public health insurance after its expansion to include all income categories.

Indeed, in 1976, South Korea established a healthcare system based on universal health coverage. In 2004, it continued its policy by launching the National Health Insurance Program, specifically aimed at covering care for the elderly and incurable diseases (Gestions-hospitalières.fr, 2020). With access to public healthcare for low-income social classes, the state also invested in healthcare infrastructure in poor regions. As a result, South Korea climbed to the second rank globally in the healthcare index (behind Taiwan and ahead of Japan) (G. Buisson, 2020).

In South Korea, the economic growth since the 1960s has propelled the healthcare sector. While a country's economic development does not necessarily lead to the development of its healthcare system, the annual GDP per capita rising from 158 to 12257 dollars between 1960 and 2000 allowed the state to increase the healthcare budget and finance mandatory health insurance from 1977 through employee and employer contributions (Lee Jong-Wha, 2020).

Additionally, a voluntary health insurance scheme existed; however, the lack of qualified human resources and the lack of commitment from medical institutions quickly led to its failure. Faced with this failure, the Korean government implemented a new program allowing for increased healthcare insurance funding and its extension to self-employed individuals and

informal sector workers. This led the country to achieve universal coverage as early as 1989, forming the backbone of its healthcare financing system(Lee Jong-Wha, 2020).

In Morocco, efforts have been made to improve equity and accessibility to healthcare. Reforms have been implemented to strengthen the healthcare financing system in order to cover all segments of the population, including the most vulnerable. The healthcare financing reform, initiated in 2002 with the adoption of the basic medical coverage law (BMC), was effectively launched in 2005 with the establishment of the National Health Insurance Agency Known by (ANAM). This reflects the government's vision of achieving universal healthcare coverage through three BMC schemes according to law 65.00 (www.acaps.ma):

- ❖ Mandatory health insurance or (AMO) for the active and retired population in both the public and private sectors and their dependents.
- ❖ The medical assistance scheme (RAMED) for the population not covered by AMO and with low incomes.
- ❖ Health insurance for self-employed individuals and other professional categories.

The Moroccan social protection system covers public and private sector employees for risks related to illness, maternity, disability, old age, death, work-related accidents, and occupational diseases, and also provides family benefits. Despite its implementation, this system has not fully achieved its objectives, as several population segments, especially those in the informal sector, do not benefit from any social coverage.

Over the past decade, Moroccan consumer spending has increased significantly in line with economic growth, leading to higher healthcare needs and consequently increased financing requirements. Total healthcare expenditure was 52 billion Dirhams in 2013 and rose to 60.9 billion Dirhams in 2018, representing 5.8% of the GDP compared to 6.2% in 2010 (Ministère de santé, 215).

Morocco must first think about controlling the rate of increase in health care costs as the United States and Canada did in the 1990s, they had very high health expenses, they improved this situation by reducing the rate of increase in healthcare costs (Theodore. H et al, 2014).

All efforts to cover healthcare financing needs have only led to a slight change in the financing structure: in 2018, household contributions accounted for 45.6% of the total, compared to

50.7% in 2013. The remainder is financed by tax resources, medical coverage, employers, international cooperation, and other sources (Ministère de santé, 2015).

Furthermore, the private sector, which plays a significant role in the Moroccan healthcare ecosystem, receives 65% of healthcare contributions, compared to 10.3% for the public sector, despite the latter providing over 77% of the total number of hospital beds and medical services (M. Idrissi, 2018).

This represents a significant loss for public hospitals. The unequal distribution of healthcare infrastructure across regions, the lack of incentive mechanisms for the private sector to invest at the local level, and the additional financing challenge faced by the social protection sector all hinder the development of the healthcare sector in Morocco.

Table 1. Comparative table of health indicators

Indicators in 2019	South of Korea	Morocco	OECD
Hospital beds per 1000 inhabitant	12,43	1,00	4,4
Doctors beds per 1000 inhabitant	2,37	0,73	3,5
Nurses per 1000 inhabitant	6,9	0,9	8,8
Health expenditures	8,1% of GDP	5,8% of GDP	8,8%
Health coverage rate	100%	59%	98,4%
Diabetes	6,9%	7%	-
Smokers	20,8%	14,5%	18%

Source: 2019 OECD report + Ministry of health of Morocco 2019

The indicators show that Morocco is significantly lagging behind South Korea and needs to put more effort into healthcare financing and addressing the shortage of human resources. This comparison reveals that what is a strength in the Korean system is a weakness in the Moroccan

system. However, it's important to note that despite the challenges faced by the Moroccan healthcare system, its handling of the Covid-19 crisis is considered among the best.

3 APPROACH TO BENCHMARKING THE COVID-19 PANDEMIC SITUATION

The management of the pandemic crisis varied significantly among the countries affected by Covid-19, with some successfully containing the virus's spread while others experienced a collapse of their healthcare systems. To compare Morocco's crisis management with that of South Korea, an OECD country, it is useful to have an overview of the situation in both countries to identify major trends.

As of April 12, 2020, the Republic of Korea, ranked 12th in the global economy, with a population of 52 million, 90% of whom live in urban areas, had confirmed 10,537 Covid-19 cases, 217 deaths, and 7,447 recoveries. The key question is how the country managed the pandemic to achieve such significant results (G. Buisson, 2020)

South Korea is the second country to be affected by the coronavirus after China. As of May 16, 2020, it is ranked 43rd, far behind China in 11th place and Russia in 2nd place. South Korea has a low death rate (2.4% of confirmed cases) and a very high recovery rate (89.1%). Its situation is much better than other OECD countries such as the United States (6% death rate and 17.5% recovery rate), France (19.4% death rate and 42.2% recovery rate), Germany (4.5% death rate and 85.9% recovery rate), as well as China (5.6% death rate and 94.3% recovery rate) and Japan (4.4% death rate and 63.8% recovery rate). In Asia, only Taiwan (1.6% death rate and 87.1% recovery rate), Hong Kong (0.4% death rate and 95.9% recovery rate), and possibly Singapore (0.1% death rate) have better statistics (Barjo, 2020).

The South Korean model has been admired by several health professionals, who have praised the country's healthcare system for its ability to react quickly and effectively.

As for Morocco, as of the same date of May 16, 2020, it has reported 1,274,180 confirmed cases, with 16,297 deaths (almost 1.28% of confirmed cases), and 1,257,883 recoveries, resulting in a 0.98% death rate (Ministère de santé, 2020). These numbers indicate that the situation in Morocco is better than in South Korea, despite the fact that Morocco had imposed lockdown and closed its borders.

Given its limited resources, Morocco stands out as an exception, having reacted more promptly than several European or North American countries with greater means to act swiftly. From the beginning of the pandemic, Morocco had implemented a series of timely decisions.

The Moroccan experience made a strong impression on Europeans and also on South Korea, which was seen as a model. They were impressed by the extensive testing, indicating the effectiveness of the testing methods, which were praised by many observers. Morocco quickly began producing its own masks, which were then exported worldwide (Sylla, 2020).

While the complete closure of Morocco's borders was the key decision to contain the spread, reinforced by the lockdown, these two factors were not decisive for South Korea. Instead, South Korea accelerated the production of testing kits. In just a few days, more than 100,000 citizens were tested (Barjo, 2020).

Another aspect that sets the South Korean model apart is its use of digital technology. The "contact tracing" program, based on monitoring suspected and confirmed cases through the analysis of their recent interactions, was effective. This technique allowed for the identification of contacts of infected individuals and tracking them before symptoms appeared (OCDE, 2010).

Finally, to conclude on this crisis management issue, it is necessary to highlight the Moroccan experience, which has been praised by the WHO and most developed countries. Morocco has achieved better rankings than South Korea despite the significant difference in resources. However, the South Korean healthcare system is ranked among the top in the world for its strong contribution to the well-being of citizens. The use of technology is measured at a very high level, with even talk of hospital robotization. This increasing digitization of healthcare is a lever for performance for South Korea, as well as a potential for a new business based on improving the global attractiveness of its healthcare system, and thus constituting an important source of foreign exchange through the development of medical tourism.

4 THE INTRODUCTION OF HIGH TECHNOLOGY INTO THE HEALTHCARE SYSTEM

To promote the use of high-quality electronic medical record systems and assess the state of healthcare information technology in South Korea, the Minister of Health and Social Welfare conducted two surveys in 2015 and 2017. These surveys primarily focused on the electronic medical record system, with other systems being developed subsequently, such as order communication systems, personal health records, imaging archiving and communication

systems, laboratory information management systems, and clinical data warehouses (K. Lee et al, 2022). By digitizing all these systems, South Korea has become a global leader in e-health.

Furthermore, South Korean hospitals are increasingly integrating new technologies (AI: Artificial Intelligence, big data, 5G networks, etc.) into their infrastructures, with the goal of achieving "smart hospitals" (Businessfrance, 2019). In this effort, the major tech operator Samsung Medical Center is partnering with the mobile operator KT to launch a 5G service, which will allow doctors to exchange patient data between different departments and laboratories within the center (Businessfrance, 2019).

Several other techniques and methods have been implemented in this context, including the integrated management of operating rooms that enables surgeons to use a touch interface and a voice command system to better manage analysis tools and surgical equipment (Businessfrance, 2019).

According to these technologies, the hospitals of the future will be more efficient. The quality of patient care will be better, operational costs will be minimized, and the inherent risks in the healthcare sector will be better controlled. Furthermore, the introduction of artificial intelligence in the hospital environment is a first. During the "Korea International Medical Clinical Laboratories and Hospital Equipment Show" (KIMES) held in Seoul in 2017, 1300 South Korean and foreign equipment suppliers showcased their products, including IBM Corp, which presented its supercomputer called Watson capable of diagnosing cancer. This computer was first used by the Gil Medical Center at Gachon University in Seoul to assist doctors in diagnosing cancer(Mathieu, 2017).

On the other hand, Morocco is at the very beginning of digitizing its healthcare system. Attempts, considered very timid so far, have been initiated, but the future looks promising. Starting in 2018, software to help hospitals care for women and children victims of violence by obtaining the number and cases of those affected at the local regional, and central levels has been implemented(Ouchagour. L, 2022). A digital system aimed at monitoring maternal and neonatal deaths has been put in place within hospitals. The management of children's vaccination appointments has become digital in the sense of alerting parents(Ouchagour. L, 2022).

Furthermore, to develop a system for receiving, processing, and monitoring user observations and complaints, the ministry is trying to launch the "Khadamati" program, which provides a

range of counselling and guidance services for citizens via phone and internet. Similarly, a "Health Complaints Hotline" service has been established, as well as a "My Appointment Hotline" service to allow appointments to be made in various public hospitals through the electronic portal www.mawidi.ma(Ouchagour. L, 2022). It should be noted that despite all these platforms aiming for integrated patient data management for better quality of care, several challenges remain to be addressed to accelerate this digitization initiative, particularly socio-cultural factors.

5 THE SOUTH KOREAN HEALTHCARE MODEL : WHAT CHALLENGES DOES MOROCCO NEED TO OVERCOME?

After reviewing the South Korean healthcare system and making a slight comparison with the Moroccan healthcare system, we have identified four important factors for the development of the health sector that constitute the strengths of the South Korean system, while Morocco is still deficient in these areas. Firstly, we note the universal health coverage. Although this program is currently being implemented, it faces obstacles that the government must work to minimize. It is crucial for the government to swiftly ensure universal healthcare coverage to facilitate the progress of other initiatives. The second issue concerns inequity in access to healthcare, primarily due to the uneven distribution of healthcare facilities and resources. Over 31% of the population is still located more than 10 kilometers away from healthcare facilities, especially in rural areas(Ministère de la santé, 2019). Public authorities need to reconsider the healthcare distribution by allocating more doctors and healthcare personnel to remote and mountainous regions, while ensuring good working conditions as a means of incentive and motivation.

The third factor concerns the role of the private sector in the Moroccan healthcare system. The government should encourage private investment initiatives, especially in regions lacking healthcare facilities, to address the need for infrastructure and to tackle the issue of insufficient human resources. Another important aspect to consider is the global trend towards digitalizing the healthcare sector. It is crucial not to fall behind the rest of the world in this aspect. Digitalization offers numerous opportunities, including improving the quality of care through rapid and efficient pathological diagnosis, sharing data (Big Data) on a national scale, ensuring equitable access to healthcare, saving resources through services such as teleconsultation and telemedicine, and many other advantages that can be realized through artificial intelligence.

6 CONCLUSION

The healthcare sector is highly sensitive as it directly impacts the well-being of citizens. Upgrading this sector relies on coordinating efforts from all stakeholders. It also reflects a country's economic situation, as seen in the case of South Korea, which quickly and rigorously took action to reach the same level as many economically stronger countries. This could serve as inspiration for Morocco, which is undergoing major transformations in all sectors. Seeking partnerships or requesting support from South Korea in developing the Moroccan healthcare system's development strategy and implementing best practices could be beneficial.

The demands of citizens and the global trend towards digitalization and artificial intelligence are putting immense pressure on governments to successfully develop the healthcare sector by injecting a positive dynamic and initiating profound reform.

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