

Accessibility to Care Through Telemedicine: The Case of the Province of Al Haouz

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Abstract: The field of healthcare is increasingly making use of information and communication technologies (ICT) to address epidemiological changes, meet the growing demands for care related to chronic diseases and an aging population, combat medical deserts, and rectify inequalities in the distribution of healthcare. In Morocco, the reform of the healthcare system largely hinges on the restructuring of healthcare services and the digitization of the healthcare system. The digitization is a key pillar of the healthcare sector reform, as established by Law 06.22 instituting this reform. The aim of this study is to understand how teleconsultation has facilitated access to healthcare in the Marrakech-Safi region, specifically in the province of Al Haouz. This is an exploratory and descriptive study of the pilot telemedicine experience, employing a qualitative approach based on interviews with project stakeholders. Telemedicine has proven its utility, especially during the Covid-19 pandemic, by enabling the continuity of remote consultations. However, the experience in Al Haouz has revealed constraints, particularly in terms of human resources engagement, coordination across different levels of care, and organizational.

1 INTRODUCTION

The healthcare sector is one of the main sectors to be making increasing use of information and communication technologies, and is achieving major successes in many countries with a view to accompanying epidemiological changes, refocusing interest on new care demands linked to chronic diseases and an ageing population, combating medical deserts and correcting geographical inequalities in care provision.

Telemedicine its debut in 1906 with the telephone transmission of electrocardiograms by Dr. Willem Einthoven; today it is practiced in various forms, such as teleconsultation, tele regulation, telediagnosis or tele-expertise, with the aim of extending healthcare services to the most remote or isolated areas.

In Morocco, health system reform is largely based on restructuring the health care offering, on the one hand and digitizing the system, on the other. The latter is an essential pillar of the reform, explicitly stipulated by the provisions of Law 06.22 on health sector reform. It calls for major innovations in the way care is delivered at the various levels of intervention. The use of information and communication

technologies broadens the scope of patient care and contributes to the development of new forms of work within healthcare structures.

One of the pilot projects undertaken by the Moroccan health authorities in 2020 was the introduction of telemedicine in the Marrakech-Safi region. The experiments were carried out under an agreement with a telecommunications operator, with technical support from the Mohammed VI University Hospital in Marrakech and financial backing from the regional council.

The aim of this paper is to describe the deployment of this experiment, and to assess its impact on access to healthcare in the Marrakech-Safi region.

2 METHOD

In order to better understand how teleconsultation improves access to healthcare services in a certain area, this study uses an exploratory and descriptive approach to the ground reality, bolstered by social research instruments such as data gathering,

questioning, and direct communication with collaborators and authorities.

3 RESULTS

3.1 Challenges and Context for Telemedicine Deployment in the Marrakech-Safi Region

The Marrakech-Safi region covers an area of 39,167 km², representing 5.5% of the national territory, and is home to 4.521 million inhabitants (RGPH2 2014), representing a density of 115 inhabitants per km².

The region has eight provinces and one prefecture: Chichaoua, Al Haouz, El Kelâa des Sraghna, Essaouira, Rehamna, Safi, Youssoufia and the prefecture of Marrakech. It is a predominantly rural region (84% of the population of the province of Al Haouz in particular is rural). The high population density of the Al Haouz province justifies the deployment of teleconsultation in this province.

3.1.1 Health Care Provision in the Marrakech-Safi Region

The province reports an evolution over the period 2019-2022 with an increase in the number of primary healthcare facilities from 437 to 464, of which 77% are located in rural areas and 28% are non-medicalized.

In terms of private facilities, there are 46 in the region, with a total bed capacity of 1,376. However, no clinics or medical practices operate in the province of Al Haouz.

3.1.2 Hospital Personnel in the Marrakech-Safi Region

Human resources in the Marrakech-Safi region total 6469, 51% of whom work in hospitals, with a 69% feminization rate and an average age of 41 (meaning that half the staffs are under 40).

The per capita density is 1.76 doctors per 10,000 inhabitants and 7.13 nursing staff per 10,000 inhabitants; these rates are well below the international norm, since according to WHO reference standards, the critical threshold for medical and paramedical density is 2.5 nursing staff per 1,000 inhabitants. Morocco as a whole reports 1.64 healthcare professionals per 1,000 inhabitants.

3.2 Telemedicine Pilot Projects in the Marrakech Safi Region

The shortage of human resources, the isolation of certain areas of the region, the desire to reduce the flow of patients to hospitals and to avoid delays in patient care were the reasons that led the health authorities in the Marrakech-Safi region to rethink the way in which patients are cared for.

To this end, an agreement was signed between the regional council of the Marrakech-Safi region, the region's health and social protection directorate, the Mohammed VI university hospital and the Marrakech faculty of medicine and pharmacy. The aim of the agreement is to support and disseminate telemedicine technology at regional level, with all the technical facilities required to carry out remote clinical examinations.

The first phase of the project involved connecting all the region's hospitals to the Mohammed VI University Hospital in Marrakech. The second phase of the project involved extending the link to health centers, i.e. 27 sites.

According to data compiled by the Marrakech-Safi regional health and social protection department, there is a marked disparity in the number of teleconsultations carried out between the provinces and the prefecture of Marrakech, as shown in the table below by province

Table 1: the number of tele-consultations by province in the Marrakech Safi region.

Province	Number of teleconsultation
Al Haouz	96
Safi	20
Chichaoua	2
Youssoufia	2
Rehamna	1
Marrakech	0
El Kelaâ	0
Essaouira	0
Total	121

In its implementation phase, the telemedicine project in the region encountered a number of organizational and structural constraints, such as the difficulty of connecting certain sites via the Internet; the non-connection of certain hospitals; and the unavailability of human resources due to their commitment to the Covid-19 pandemic response plan.

An analysis of the documentation provided by the Al Haouz site managers showed that the province has demonstrated a high level of capacity to carry out the project successfully. This was demonstrated by the performance achieved over the last two years in the province; indeed, the 2021 and 2022 progress, reports show an increase in the number of teleconsultation from 121 to 1179.

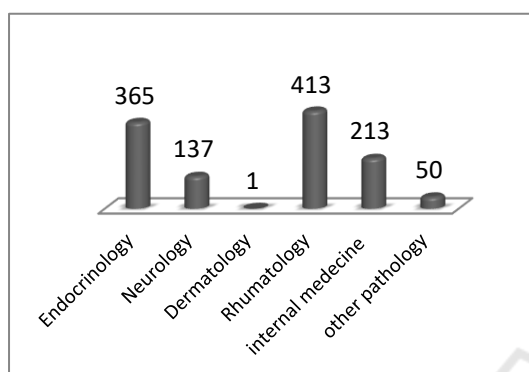


Figure 1: Report on teleconsultations in the province of Al Haouz 2022.

There is also strong demand for certain specialties, such as rheumatology, endocrinology, neurology and internal medicine. According to project managers, raising awareness among human resources is essential to ensure the project's long-term success. Efforts will have to be made by hospital managers and the general public (associations, media, etc.).

Still according to the project managers, the system offers many advantages and can be improved and extended to primary health care establishments through the practice of tele-notification in specialized consultations, according to a work schedule shared between the hospital level and the health centers, in particular the Amizmiz and Asni health centers, which already have the necessary equipment.

4 DISCUSSION

Telemedicine proved its usefulness, particularly during the Covid-19 pandemic, enabling the continuity of remote consultations to be maintained in several countries around the world. In France, during containment, the number of teleconsultations exploded to over 5 million during April 2020 (Simon & Moulin, 2021), in reactivity to the pandemic, but also in response to the challenges of accessibility and territorial inequalities in healthcare provision.

In Morocco, the province of Al Haouz and, more generally, the Marrakech-Safi region have demonstrated a remarkable capacity for resilience, according to the 2021-2022 assessment.

In terms of access to specialist consultations, the use of telemedicine in the province of Al Haouz has made it possible to avoid long journeys to second- or third-level hospital structures, as well as long waiting times to obtain an appointment, which in all cases represents a saving in time, effort and money for patients; This situation is identical in France, particularly in areas faced with an unavailability of specialist doctors, making delays incompatible with continuity of care (Moulin & Salles, 2017). Telemedicine is particularly useful in areas where access to medical services is limited by geographical accessibility. It offers high-quality care, improving the management of chronic diseases while reducing travel costs for patients.

However, experience has revealed a number of functional and organizational constraints. Based on interviews with project managers, a number of constraints can hamper the operationalization of telemedicine in the experimental sites. These include the non-adherence of human resources due to a lack of training or appropriation; the under-use or non-use of all technological equipment due to a lack of technical skills; and organizational constraints linked to the system of healthcare provision in Morocco; this situation was similarly evoked in France at the start of telemedicine pilot experiments, with the coexistence of constraints of a technical, logistical or training-related nature (Maxime Durupt, 2016).

In addition, the lack of coordination between the different levels of healthcare provision (primary, secondary and tertiary) is a real obstacle to the implementation of remote specialist consultations, particularly given the mismatch between the availability of public health professionals and doctors at Marrakech University Hospital.

Research into coordination and communication between the secondary level (the hospital) and the primary level (the health center) in the case of telemedicine practice (Robert Harrison, 1996), shows that few serious technical problems have been encountered where coordination between levels of care has been strengthened; in this case, patients, hospital specialists and general practitioners even report high levels of satisfaction with consultations carried out remotely.

The experience in Al Haouz province has revealed constraints, notably in terms of human resources buy-in, coordination between different levels of care, and organizational constraints. This calls for a review of

implementation and deployment methods, as well as coordination mechanisms between the various stakeholders.

5 CONCLUSION

Telemedicine can help to improve access to healthcare, but it requires that the structural and organizational dysfunctions of the health sector be taken into account. The experience of the Al Haouz province highlights the need to raise awareness and train human resources, as well as to improve coordination between the various healthcare players. Telemedicine can be a starting point for reorganizing healthcare provision in Morocco, particularly in rural areas.

The pilot experience in Al Haouz province revealed a number of organizational and functional constraints, particularly in terms of human resources and coordination between the different levels of care. This calls for a review of implementation and deployment methods, as well as coordination mechanisms between the various stakeholders; the question now is whether Moroccan decision-makers will be guided by a strategy that takes into account all the lessons learned from the pilot experiences, to ensure the success of the Royal Convention project on telemedicine in rural areas in Morocco?

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