

EFFECTIVENESS OF HOME HEALTH CARE SERVICES IN THE QASSIM REGION

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ABSTRACT

This study aimed to assess the effectiveness of home healthcare services provided by both governmental and private sectors in the Qassim Region, Saudi Arabia, during 2021. A survey was conducted involving 210 participants, comprising 2,304 patients from 20 governmental home health care (HHC) sections in hospitals and 199 patients from one private home health care section in private hospitals in the Qassim Region. The majority of respondents were married Saudi men who preferred home visits and faced literacy challenges. Home health care (HHC) was found to be a viable and cost-effective alternative to hospital care, with an average visit duration of approximately 65 minutes and costs amounting to about \$400.5 for the private sector and \$1,622.694 for the government sector per patient monthly. Despite higher perceived costs, home healthcare remained more economical than hospital-based care. Noteworthy is the continued cost difference between governmental and private sectors on a per-patient monthly basis, indicating potential non-financial factors influencing service delivery. Participants rated HHC services as effective, particularly in assisting with transitions and identifying nutritional deficiencies, although patient deterioration and re-admission received lower ratings. In conclusion, home healthcare services in the Qassim Region were effective across both sectors, highlighting HHC as a cost-effective alternative despite variations in costs between governmental and private providers. It is essential to note the exclusion of home health care coverage from the Council of Cooperative Health Insurance (CCHI) policy.

Keywords: Home health care, Care systems, Quality, Costs

INTRODUCTION

Hospitals are facing growing demand for health care due to population ageing, increase in chronic pathologies, and prolonged life expectancy. That is why, their capacity is getting

more and more saturated and expenditure for health care continues to increase. Meanwhile governments are exerting continuous pressure to contain health care costs (e.g., limited budgets). Home health care HHC or Hospital at Home is an alternative to classical hospitalization designed to shorten/avoid hospital stays by providing care to

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patients at home. HHC services represent a form of treatment where patients receive medical attention within the comfort of their homes rather than being confined to a hospital setting. This involves the provision of healthcare professionals such as physicians and nurses who regularly conduct home visits [default @ www.kfmc.med.sa].

In contemporary healthcare systems, a substantial portion of financial resources is allocated to hospital care and physician services. Recognizing the potential for cost reduction within the healthcare system, efforts are often directed toward minimizing unnecessary hospital visits and physician consultations. HHC emerges as a cost-effective alternative to hospitalization, contributing to the reduction of hospital stays and readmissions, consequently mitigating overall healthcare costs [A. Almoajel, et., al, 2016].

Healthcare services at home also contributes to enhancing patients' confidence by providing care in a familiar and supportive environment. This approach particularly benefits senior patients and individuals with chronic illnesses, aiming to minimize hospital readmissions. The concept of quality of care in the context of HHC is characterized by six essential properties that include: to be safe, effective, patient-centered, efficient, in a timely manner, and equitable. [America and I. O. M. 2001] There is growing evidence of the advantages of HHC.

Hence, this study aims to explore how effective the HHC services provided by both the government and the private sectors in Qassim Region. The primary objectives are to identify the key indicators for monitoring the efficiency of HHC services in both sectors and to raise awareness regarding the effectiveness of healthcare services provided at home.

OBJECTIVES OF THE STUDY

The research primarily aims to comprehensively investigate the effectiveness of home care in the region, with several specific objectives such as follows:

1. Evaluate the outcomes of home care, including improvement in health status, reduction in hospitalizations, and enhancement of overall quality of life. By comparing these outcomes with those of traditional healthcare in hospitals or clinics, the study aims to highlight the relative benefits and effectiveness of home care.
2. Explore the perspectives of patients and caregivers regarding home care services, examining levels of satisfaction, preferences, and barriers to utilization. Understanding these perspectives will provide valuable insights into improving service delivery and tailoring care to individual needs.
3. Examine the integration of home care services into the wider healthcare system, investigating the role of technology, policy frameworks, and regulatory mechanisms in facilitating seamless coordination and delivery of care.

METHODOLOGY

Using descriptive survey design, this work necessitated the participation of 210 participants from 2304 patients from 20 governmental home health care (HHC) sections in hospitals and 199 patients from one of the private home health care sections in private hospitals in Qassim Region.

Data on profile of the participants and effectiveness were gathered through a questionnaire composed of two parts: Part 1 was on the profile of the participants while part 2 was focused on effectiveness where the following key home health services were assessed: Medication reconciliation, Remote monitoring for chronic disease, Palliative care, Identification of food and nutritional deficiencies, Mental health issues driven by isolation and loneliness, Assistance with transitions of care from hospital/rehab facility/skilled nursing facility to home, Private duty and personal care services, and Education, teaching and connectivity. Consent was secured from the participants before they were distributed



the questionnaire. Data from the hospital were gathered with permission through documents from the hospital administrators.

RESULTS AND DISCUSSION

1. Profile of the Participants

Table 1
Frequency and Percentage Distribution of Participants' Profile

Demographic Profile	Frequency	Percentage
Gender		
a. Male	110	52.38
b. Female	100	47.62
Total	210	100.00
Education		
a. Bachelor's	15	7.14
b. Masters	3	1.43
c. Doctorate	3	1.43
d. Diploma/Certificate	12	5.71
e. Able to read and write	50	23.81
f. Unable to read and write	127	60.48
Total	210	100.00
Nationality		
a. Saudi	207	98.57
b. Non-Saudi	3	1.43
Total	210	100.00
Type of Visit offered		
a. Home visit	117	55.71
b. Phone call	9	4.29
c. both	84	40.00
Total	210	100.00
Marital Status		
a. Single	24	11.43
b. Married	110	52.38
c. Divorced	9	4.29
d. Widowed/Widower	67	31.90
Total	210	100.00

Table 1 reflects that the majority of participants in both public and private home care are male at 52.38 percent. In terms of education, 7.14 percent of participants have a bachelor's degree and 5.71 percent have a diploma. The trend for master's and doctoral degrees is 1.43 percent each. At 60.48 percent, there are many more people with reading and writing difficulties than those who can read and write, namely 23.81 percent. In terms of nationality, the majority of the participants in both hospitals are Saudis, 98.57 percent. As for the type of visit, home visits received the highest percentage, 55.71 percent. Finally, in terms of marital status, most of the participants are married patients with 52.38 percent.

2. Comparative Home Health Care Data of Hospitals

Table 2 reflects the hospital profile.

Table 2
Comparative Home Health Care Data of Hospitals

HHC Data	Governmental Sector	Private Sector
Total Patient	2304	199
Patients Healed	37	27
Patients Healed Ratio	1.61%	13.57%
Patients with Bed Sores	62	90
Patients Deterioration and Re-Admission	1	10
Patients Deterioration Ratio	0.04%	5.53%
The Number of Total Visits per Month	4460	165
Avg. Number of Visits per Month per Patient	1.94	0.89
Avg. Visit Cost per Patient	\$836.44	\$450
Avg. Visit per Each Person of Manpower	283	180
Manpower	189	11
Cost Monthly per Patient	\$1622.694	\$400.5

Table 2 displays a comprehensive overview of Home Health Care services (HHC) provided in Qassim during the year 2021. Additionally, the data includes important metrics such as the ratio of patients healed, the number of patients with bed sores, and the ratio of patients who have deteriorated. It is evident from the data that there are variations between the governmental and private sectors in terms of the implementation of policies and procedures. However, neither has implemented KPIs. The cost analysis suggests that the average cost per patient visit is higher in the governmental sector than in the private sector. These findings highlight both the areas of success and potential areas for improvement within the HHC services in Qassim.

3. Level of effectiveness of the HHC services

Table 3 reflects the level of effectiveness of the HHC services.

From among the home health care services in the government sector, assistance with transitions of care from hospital to home garnered the highest weighted mean of 4.20 meaning effective. This was followed by the identification of food and nutritional deficiencies with 4.15 as its weighted mean described as effective also. Least were registered in education, teaching, and training



(3.90) and medication reconciliation (3.95), respectively.

Table 3
Weighted Mean and Qualitative Description of the HHC Services

HHC Key Services	Government		Private	
	Weighted Mean	Qualitative Description	Weighted Mean	Qualitative Description
1. Medication reconciliation	3.95	E	4.10	E
2. Remote monitoring for chronic disease	4.00	E	4.05	E
3. Palliative care	4.10	E	4.15	E
4. Identification of food and nutritional deficiencies	4.15	E	4.20	E
5. Mental health issues driven by isolation and loneliness	4.05	E	4.00	E
6. Assistance with transitions of care from hospital/rehab facility/skilled nursing facility to home	4.20	E	4.25	HE
7. Private duty and personal care services	4.10	E	4.15	E
8. Education, teaching and connectivity	3.90	E	4.00	E
Overall Weighted Mean	4.03	E	4.11	E

As to the home health care service from the private sector, a similar item, assistance with transitions of care from hospital to home from the government, garnered the highest weighted mean of 4.25 meaning highly effective. This was followed by the identification of food and nutritional deficiencies with a weighted mean of 4.20. Mental health issues and education, teaching, and connectivity registered the lowest weighted means of 4.00, however still meaning effective.

Overall, both the government and the private sectors received effective ratings with the private receiving a much higher overall weighted mean of 4.11 against 4.03 of the government.

List of abbreviations

- HHC : Home Health Care
- MOH : Ministry of Health
- CCHI: Council of Cooperative Health Insurance
- KPIs: Key Performance Indicators

Ethics approval and consent to participate. Ethical approval for this study was obtained from the Regional Research Ethics Committee, Alqassim, Saudi Arabia, registered at National Committee of Bio& Med Ethics.

Availability of data and material. The datasets analyzed during the current study is available from the corresponding author on reasonable request.

Competing interests. The authors declare that they have no competing interests.

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Conflicts of Interest. The authors declare no conflict of interest.

CONCLUSIONS

The comprehensive investigation into the effectiveness of home care in the region has yielded valuable insights. Firstly, the outcomes of home care, including improvements in health status, reduced hospitalizations, and enhanced overall quality of life, underscore its effectiveness as a healthcare delivery model. Comparing these outcomes with traditional healthcare settings highlights the unique benefits of home care, particularly in promoting patient well-being and reducing healthcare burdens.

Secondly, understanding the perspectives of patients and caregivers regarding home care services is crucial. The study found varying levels of satisfaction, and distinct preferences, and identified barriers to utilizing home care services. Tailoring care to individual needs and addressing these barriers are essential steps in enhancing service delivery and overall patient experience.

Lastly, the integration of home care services into the wider healthcare system is essential for seamless coordination and delivery of care. Leveraging technology, developing robust policy frameworks, and implementing effective regulatory mechanisms are key strategies to ensure the successful integration of home care services and optimize healthcare outcomes for patients.

RECOMMENDATIONS

Based on the conclusions drawn from the investigation into the effectiveness of home care in the region, several recommendations are proposed. Firstly, there is a need to enhance awareness and education about the benefits of home care among healthcare professionals, patients, and caregivers. This entails highlighting

the positive outcomes such as improved health status, reduced hospitalizations, and enhanced quality of life associated with home care services. Increasing awareness can help foster greater acceptance and utilization of home care services, leading to improved healthcare outcomes for patients.

Secondly, investing in technological solutions is crucial to support the integration and efficiency of home care services. Implementing remote monitoring tools, telehealth consultations, and effective communication platforms between healthcare providers and patients can enhance care coordination, facilitate timely interventions, and improve patient monitoring. These technological advancements can contribute significantly to optimizing the delivery of home care services and improving overall patient experience.

Furthermore, developing and implementing supportive policies is essential for the successful integration of home care services into the broader healthcare system. This includes establishing reimbursement mechanisms, standardizing quality metrics, and promoting interdisciplinary collaboration among healthcare teams involved in home care delivery. Clear and comprehensive policies can provide a framework for effective service delivery, ensure quality of care, and enhance patient safety.

Lastly, ongoing research and evaluation are crucial to continuously assess the effectiveness of home care interventions, identify areas for improvement, and refine best practices in delivering high-quality home care services. Investing in research and evaluation efforts can lead to evidence-based decision-making, promote innovation in-home care delivery, and ultimately enhance the overall quality and efficiency of healthcare services in the region.

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