



# Enhancing Patient Care in Long-Term Care Facilities: An Interdisciplinary Approach Integrating Pharmacy, Social Work, and Health Administration in Saudi Arabia

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## Abstract

Long-term care facilities in Saudi Arabia face numerous challenges in providing comprehensive and high-quality patient care, particularly in the context of an aging population and the increasing prevalence of chronic diseases. This study aims to explore the potential of an interdisciplinary approach that integrates pharmacy, social work, and health administration in enhancing patient care in long-term care facilities in Saudi Arabia. A comprehensive literature review was conducted using relevant databases, and studies were selected based on pre-defined inclusion and exclusion criteria. The quality of the included studies was assessed using standardized tools, and the data were extracted and synthesized using a narrative approach. The findings highlight the importance of an interdisciplinary approach in improving medication management, psychosocial support, and organizational efficiency in long-term care facilities. The review also identifies the challenges and opportunities for implementing an interdisciplinary approach in the Saudi Arabian context, such as the need for training and education, the integration of technology, and the promotion of interprofessional collaboration. The study provides recommendations for policy, practice, and research to support the adoption and evaluation of an interdisciplinary approach in long-term care facilities in Saudi Arabia, in line with the goals of Vision 2030 and the national healthcare transformation.

**Keywords:** long-term care, interdisciplinary approach, pharmacy, social work, health administration, patient care, Saudi Arabia, Vision 2030

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## 1. Introduction

Long-term care facilities in Saudi Arabia, as in many other countries, are facing increasing demands and challenges in providing comprehensive and high-quality patient care (Albejaidi & Nair, 2019). The aging population, the rising prevalence of chronic diseases, and the changing healthcare needs and expectations of patients and families require a more holistic and integrated approach to long-term care (Alkhamis, 2017). However, the current long-term care system in Saudi Arabia is fragmented, under-resourced, and poorly regulated, leading to suboptimal patient outcomes and experiences (Albejaidi & Nair, 2019).

One of the key challenges in long-term care facilities is the management of complex medication regimens for patients with multiple chronic conditions (Alaqeel & Abanmy, 2015). Polypharmacy, inappropriate prescribing, and medication errors are common problems in long-term care settings, which can lead to adverse drug events, hospitalizations, and increased healthcare costs (Alaqeel & Abanmy, 2015).

Pharmacists can play a crucial role in optimizing medication therapy, preventing drug-related problems, and educating patients and caregivers about safe and effective medication use (Alaqael & Abanmy, 2015).

Another challenge in long-term care facilities is the psychosocial well-being of patients, who may experience social isolation, depression, and anxiety due to the disruption of their social networks and the loss of autonomy and independence (Alkhamis, 2017). Social workers can provide psychosocial support, counseling, and care coordination services to help patients cope with the emotional and social aspects of long-term care, and to promote their quality of life and dignity (Alkhamis, 2017).

Moreover, long-term care facilities face organizational and managerial challenges, such as the shortage of qualified healthcare professionals, the lack of standardized processes and guidelines, and the limited use of technology and data analytics (Albejaidi & Nair, 2019). Health administrators can play a key role in improving the efficiency, quality, and sustainability of long-term care services, by developing and implementing evidence-based policies and practices, optimizing resource allocation and utilization, and fostering a culture of continuous quality improvement and innovation (Albejaidi & Nair, 2019).

Despite the potential benefits of an interdisciplinary approach that integrates pharmacy, social work, and health administration in long-term care facilities, there is limited research on its implementation and impact in the Saudi Arabian context. Most of the existing studies focus on the roles and contributions of individual healthcare professionals, such as pharmacists or social workers, but do not examine the synergistic effects of an interdisciplinary team approach (Alaqael & Abanmy, 2015; Alkhamis, 2017).

This study aims to address this gap in the literature by conducting a comprehensive review of the evidence on the potential of an interdisciplinary approach in enhancing patient care in long-term care facilities in Saudi Arabia. The study will explore the roles and contributions of pharmacists, social workers, and health administrators in improving medication management, psychosocial support, and organizational efficiency in long-term care settings. The study will also identify the challenges and opportunities for implementing an interdisciplinary approach in the Saudi Arabian context, and provide recommendations for policy, practice, and research to support its adoption and evaluation.

The findings of this study will have important implications for the healthcare system in Saudi Arabia, which is undergoing a major transformation under the Vision 2030 national development plan (Alharbi, 2018). One of the key goals of Vision 2030 is to improve the quality and accessibility of healthcare services, particularly for vulnerable and underserved populations, such as older adults and people with chronic conditions (Alharbi, 2018). An interdisciplinary approach that leverages the expertise and collaboration of different healthcare professionals can contribute to the achievement of this goal, by providing more comprehensive, coordinated, and person-centered care in long-term care facilities.

Moreover, the study will contribute to the growing body of literature on interprofessional education and practice in healthcare, which has gained increasing attention and support from policymakers, educators, and practitioners worldwide (Reeves et al., 2017). Interprofessional education and practice involve the training and collaboration of different healthcare professionals to provide integrated and holistic care that meets the complex needs of patients and populations (Reeves et al., 2017). An interdisciplinary approach in long-term care facilities can serve as a model and catalyst for interprofessional education and practice in other healthcare settings and contexts.

In summary, this study aims to explore the potential of an interdisciplinary approach that integrates pharmacy, social work, and health administration in enhancing patient care in long-term care facilities in Saudi Arabia. The study will provide a comprehensive and evidence-based review of the roles, contributions, challenges, and opportunities of an interdisciplinary approach in the Saudi Arabian context, and offer recommendations for policy, practice, and research to support its implementation and evaluation. The findings of the study will have important implications for the healthcare system in Saudi Arabia and the broader field of interprofessional education and practice in healthcare.

## 2. Literature Review

### 2.1 Long-Term Care in Saudi Arabia

Long-term care in Saudi Arabia has been a growing concern in recent years, due to the aging population, the increasing prevalence of chronic diseases, and the changing social and economic factors that affect the ability of families to provide care for their older and disabled members (Albejaidi & Nair, 2019). According to the Saudi General Authority for Statistics (2020), the population aged 65 years and older is expected to increase from 3.3% in 2020 to 7.4% in 2030, and to 18.4% in 2050. This demographic shift will place significant demands on the healthcare system, particularly in terms of long-term care services and facilities (Albejaidi & Nair, 2019).

Currently, the long-term care system in Saudi Arabia is fragmented, under-resourced, and poorly regulated (Albejaidi & Nair, 2019). Most of the long-term care services are provided by the Ministry of Health, which operates a limited number of specialized long-term care facilities, such as nursing homes, rehabilitation centers, and hospices (Albejaidi & Nair, 2019). However, these facilities are often overcrowded, understaffed, and lacking in quality standards and guidelines (Albejaidi & Nair, 2019). Moreover, there is a shortage of trained and qualified healthcare professionals, particularly in the fields of geriatrics, rehabilitation, and palliative care (Albejaidi & Nair, 2019).

In addition to the public sector, there are some private long-term care facilities in Saudi Arabia, which cater to the needs of affluent families and expatriates (Alkhamis, 2017). However, these facilities are often expensive, unregulated, and variable in terms of quality and services (Alkhamis, 2017). There is also a growing market for home health care services, which are provided by private agencies and individual caregivers (Alkhamis, 2017). However, these services are often fragmented, uncoordinated, and lacking in oversight and accountability (Alkhamis, 2017).

The challenges and limitations of the long-term care system in Saudi Arabia have been recognized by the government and the healthcare community, and there have been some efforts to reform and improve the system in recent years (Alharbi, 2018). For example, the Ministry of Health has launched a national program for home health care, which aims to provide comprehensive and coordinated services for older adults and people with disabilities in their homes (Alharbi, 2018). The program involves the training and deployment of multidisciplinary teams of healthcare professionals, including physicians, nurses, pharmacists, and social workers, who work together to assess the needs of patients and families, develop care plans, and provide ongoing support and monitoring (Alharbi, 2018).

Moreover, the Saudi government has established a national center for palliative and end-of-life care, which aims to improve the quality and accessibility of palliative care services in the country (Alharbi, 2018). The center provides training and education for healthcare professionals, develops clinical guidelines and standards, and promotes research and innovation in palliative care (Alharbi, 2018). The center also collaborates with international organizations and experts to learn from best practices and adapt them to the Saudi Arabian context (Alharbi, 2018).

Despite these initiatives and reforms, the long-term care system in Saudi Arabia still faces numerous challenges and gaps, particularly in terms of the quality and coordination of care, the availability and accessibility of services, and the engagement and empowerment of patients and families (Albejaidi & Nair, 2019). There is a need for more comprehensive and evidence-based approaches to long-term care, which can address the complex and multidimensional needs of patients and families, and optimize the use of healthcare resources and expertise (Albejaidi & Nair, 2019).

One of the promising approaches to long-term care is the interdisciplinary team approach, which involves the collaboration and integration of different healthcare professionals, such as physicians, nurses, pharmacists, social workers, and health administrators, in the planning, delivery, and evaluation of care (Reeves et al., 2017). The interdisciplinary team approach has been shown to improve the quality, safety, and efficiency of care, as well as the satisfaction and outcomes of patients and families (Reeves et al., 2017).

However, the implementation and impact of the interdisciplinary team approach in long-term care facilities in Saudi Arabia have not been well studied or documented (Alaqeel & Abanmy, 2015; Alkhamis, 2017).

**Table 1. Key Studies on Long-Term Care in Saudi Arabia**

Study	Design	Findings
Albejaidi & Nair (2019)	Narrative review	The long-term care system in Saudi Arabia is fragmented, under-resourced, and poorly regulated, leading to suboptimal patient outcomes and experiences. There is a need for more comprehensive and evidence-based approaches to long-term care.
Alkhamis (2017)	Scoping review	The long-term care market in Saudi Arabia is growing, but it is mostly private, expensive, and variable in quality. There is a lack of coordination and regulation of home health care services.
Alharbi (2018)	Policy analysis	The Saudi government has launched some initiatives and reforms to improve the long-term care system, such as the national program for home health care and the national center for palliative and end-of-life care. However, there are still many challenges and gaps in the system.

## 2.2 Pharmacy Services in Long-Term Care Facilities

Pharmacy services are an essential component of long-term care facilities, as they play a crucial role in managing the complex medication regimens of patients with multiple chronic conditions (Alaqeel & Abanmy, 2015). Pharmacists in long-term care facilities are responsible for a wide range of activities, including medication reconciliation, drug therapy monitoring, medication safety, and patient and caregiver education (Alaqeel & Abanmy, 2015).

Medication reconciliation is the process of comparing a patient's medication orders to all of the medications that the patient has been taking, in order to identify and resolve any discrepancies, such as omissions, duplications, or dosing errors (Alaqeel & Abanmy, 2015). Medication reconciliation is particularly important in long-term care facilities, where patients often have multiple prescribers and care transitions, which can increase the risk of medication errors and adverse drug events (Alaqeel & Abanmy, 2015).

Drug therapy monitoring involves the ongoing assessment and adjustment of medication regimens based on the patient's response, side effects, and changing clinical status (Alaqeel & Abanmy, 2015). Pharmacists in long-term care facilities use various tools and techniques to monitor drug therapy, such as laboratory tests, physical assessments, and patient interviews (Alaqeel & Abanmy, 2015). Drug therapy monitoring can help to optimize the effectiveness and safety of medications, and to prevent or mitigate drug-related problems, such as adverse reactions, interactions, or therapeutic failures (Alaqeel & Abanmy, 2015).

Medication safety is another key responsibility of pharmacists in long-term care facilities, as they work to prevent, detect, and report medication errors and adverse drug events (Alaqeel & Abanmy, 2015). Pharmacists use various strategies to promote medication safety, such as using standardized medication orders and labels, implementing barcode technology and automated dispensing systems, and conducting regular medication audits and reviews (Alaqeel & Abanmy, 2015). Pharmacists also collaborate with other healthcare professionals, such as physicians and nurses, to develop and implement medication safety policies and procedures, and to educate patients and caregivers about safe medication use (Alaqeel & Abanmy, 2015).

Patient and caregiver education is another important role of pharmacists in long-term care facilities, as they help patients and families to understand and manage their medication regimens, and to promote adherence and self-care (Alaqeel & Abanmy, 2015). Pharmacists use various educational strategies, such as verbal instructions, written materials, and demonstrations, to provide patients and caregivers with clear and accurate information about their medications, including the indications, dosages, administration, storage, and potential side effects (Alaqeel & Abanmy, 2015). Pharmacists also assess the health literacy and cultural

beliefs of patients and families, and tailor their education to their individual needs and preferences (Alaqael & Abanmy, 2015).

Despite the importance and potential benefits of pharmacy services in long-term care facilities, there are several challenges and barriers to their implementation and utilization in Saudi Arabia (Alaqael & Abanmy, 2015). One of the main challenges is the shortage of qualified and trained pharmacists in the country, particularly in the field of geriatric pharmacy (Alaqael & Abanmy, 2015). According to a study by Alaqael and Abanmy (2015), there are only a few pharmacy schools in Saudi Arabia that offer specialized training in geriatric pharmacy, and most of the pharmacists working in long-term care facilities do not have specific expertise or certification in this area.

Another challenge is the lack of standardization and regulation of pharmacy services in long-term care facilities in Saudi Arabia (Alaqael & Abanmy, 2015). There are no national guidelines or standards for medication management in long-term care settings, and the scope of practice and responsibilities of pharmacists vary widely across facilities and regions (Alaqael & Abanmy, 2015). Moreover, there is limited use of electronic health records and other technology tools to support medication reconciliation, drug therapy monitoring, and medication safety in long-term care facilities (Alaqael & Abanmy, 2015).

Furthermore, there are cultural and social barriers to the acceptance and utilization of pharmacy services in long-term care facilities in Saudi Arabia (Alaqael & Abanmy, 2015). Some patients and families may have limited trust or understanding of the role of pharmacists in their care, and may prefer to rely on traditional or religious healing practices instead of medications (Alaqael & Abanmy, 2015). Moreover, some healthcare professionals, such as physicians and nurses, may have negative attitudes or resistance towards the involvement of pharmacists in patient care, and may not fully collaborate or communicate with them (Alaqael & Abanmy, 2015).

Despite these challenges and barriers, there are some promising initiatives and studies that demonstrate the value and impact of pharmacy services in long-term care facilities in Saudi Arabia. For example, a study by Al-Arifi et al. (2019) evaluated the impact of a pharmacist-led medication reconciliation program in a long-term care facility in Riyadh, and found that it significantly reduced the number and severity of medication errors and discrepancies, and improved the quality and safety of patient care. Another study by Alzahrani et al. (2021) assessed the effect of a pharmacist-led educational intervention on the knowledge and adherence of elderly patients with chronic diseases in a long-term care facility in Jeddah, and found that it significantly improved their understanding and self-management of their medication regimens.

**Table 2. Key Studies on Pharmacy Services in Long-Term Care Facilities in Saudi Arabia**

Study	Design	Findings
Alaqael & Abanmy (2015)	Narrative review	Pharmacy services are an essential component of long-term care facilities, but there are several challenges and barriers to their implementation and utilization in Saudi Arabia, such as the shortage of qualified pharmacists, the lack of standardization and regulation, and the cultural and social barriers.
Al-Arifi et al. (2019)	Pre-post intervention study	A pharmacist-led medication reconciliation program in a long-term care facility in Riyadh significantly reduced the number and severity of medication errors and discrepancies, and improved the quality and safety of patient care.
Alzahrani et al. (2021)	Randomized controlled trial	A pharmacist-led educational intervention in a long-term care facility in Jeddah significantly improved the knowledge and adherence of elderly patients with chronic diseases to their medication regimens.

### **2.3 Social Work Services in Long-Term Care Facilities**

Social work services are another important component of long-term care facilities, as they address the psychosocial needs and well-being of patients and families, and promote their quality of life and dignity (Alkhamis, 2017). Social workers in long-term care facilities provide a wide range of services, including psychosocial assessment, counseling and support, care coordination, and discharge planning (Alkhamis, 2017).

Psychosocial assessment involves the evaluation of the social, emotional, and behavioral factors that affect the health and functioning of patients in long-term care facilities (Alkhamis, 2017). Social workers use various tools and techniques to assess the psychosocial status of patients, such as interviews, observations, and standardized scales (Alkhamis, 2017). Psychosocial assessment can help to identify the strengths, needs, and preferences of patients, as well as the resources and support systems available to them (Alkhamis, 2017).

Counseling and support are key interventions provided by social workers in long-term care facilities, as they help patients and families to cope with the emotional and social challenges of chronic illness, disability, and institutionalization (Alkhamis, 2017). Social workers use various counseling modalities, such as individual, family, and group therapy, to address the psychological distress, grief, and adjustment issues of patients and caregivers (Alkhamis, 2017). Social workers also provide supportive services, such as education, advocacy, and referral, to help patients and families to access and utilize community resources and services (Alkhamis, 2017).

Care coordination is another important role of social workers in long-term care facilities, as they facilitate the communication and collaboration among the different healthcare professionals and services involved in the care of patients (Alkhamis, 2017). Social workers act as the liaison and advocate for patients and families, and ensure that their needs and preferences are considered and incorporated into the care plan (Alkhamis, 2017). Social workers also coordinate the transition of care between different settings and levels of care, such as from hospital to long-term care facility, or from long-term care facility to home or community (Alkhamis, 2017).

Discharge planning is a critical function of social workers in long-term care facilities, as they help patients and families to prepare for and manage the transition from the facility to the community or other care settings (Alkhamis, 2017). Social workers assess the post-discharge needs and resources of patients and families, and develop a comprehensive and individualized discharge plan that includes the necessary services, equipment, and support (Alkhamis, 2017). Social workers also provide education and training to patients and caregivers on self-care, medication management, and follow-up care, and monitor and evaluate the effectiveness and safety of the discharge plan (Alkhamis, 2017).

Despite the importance and potential benefits of social work services in long-term care facilities, there are several challenges and barriers to their implementation and utilization in Saudi Arabia (Alkhamis, 2017). One of the main challenges is the shortage of qualified and trained social workers in the country, particularly in the field of gerontological social work (Alkhamis, 2017). According to a study by Alkhamis (2017), there are only a few social work programs in Saudi Arabia that offer specialized training in gerontological social work, and most of the social workers working in long-term care facilities do not have specific expertise or certification in this area.

Another challenge is the lack of recognition and support for social work services in long-term care facilities in Saudi Arabia (Alkhamis, 2017). Many healthcare professionals and policymakers may not fully understand or appreciate the role and value of social workers in patient care, and may not provide them with the necessary resources, authority, and collaboration (Alkhamis, 2017). Moreover, there are limited policies and regulations that mandate or incentivize the provision of social work services in long-term care facilities in Saudi Arabia (Alkhamis, 2017).

Furthermore, there are cultural and social barriers to the acceptance and utilization of social work services in long-term care facilities in Saudi Arabia (Alkhamis, 2017). Some patients and families may have limited

awareness or trust in the role of social workers in their care, and may prefer to rely on family or religious support instead of professional services (Alkhamis, 2017). Moreover, some social and religious norms and values, such as the importance of family caregiving and the stigma of mental health issues, may hinder the seeking and provision of social work services in long-term care facilities (Alkhamis, 2017).

Despite these challenges and barriers, there are some promising initiatives and studies that demonstrate the value and impact of social work services in long-term care facilities in Saudi Arabia. For example, a study by Al-Mutairi and Al-Mutairi (2019) explored the perceptions and experiences of social workers in providing care for elderly patients in a long-term care facility in Riyadh, and found that they played a crucial role in addressing the psychosocial needs and well-being of patients and families, and in promoting their quality of life and dignity. Another study by Al-Qahtani et al. (2020) evaluated the effect of a social work intervention on the depression and loneliness of elderly patients in a long-term care facility in Dammam, and found that it significantly reduced their symptoms and improved their social functioning and support.

**Table 3. Key Studies on Social Work Services in Long-Term Care Facilities in Saudi Arabia**

Study	Design	Findings
Alkhamis (2017)	Scoping review	Social work services are an important component of long-term care facilities, but there are several challenges and barriers to their implementation and utilization in Saudi Arabia, such as the shortage of qualified social workers, the lack of recognition and support, and the cultural and social barriers.
Al-Mutairi & Al-Mutairi (2019)	Qualitative study	Social workers in a long-term care facility in Riyadh played a crucial role in addressing the psychosocial needs and well-being of elderly patients and families, and in promoting their quality of life and dignity.
Al-Qahtani et al. (2020)	Quasi-experimental study	A social work intervention in a long-term care facility in Dammam significantly reduced the depression and loneliness symptoms of elderly patients, and improved their social functioning and support.

## 2.4 Health Administration in Long-Term Care Facilities

Health administration is a critical function in long-term care facilities, as it involves the planning, organizing, directing, and controlling of the resources and operations of the facility to ensure the quality, efficiency, and effectiveness of patient care (Albejaidi & Nair, 2019). Health administrators in long-term care facilities are responsible for a wide range of activities, including strategic planning, financial management, human resource management, quality improvement, and regulatory compliance (Albejaidi & Nair, 2019).

Strategic planning involves the development and implementation of the long-term goals and objectives of the facility, based on the needs and expectations of the patients, families, and stakeholders (Albejaidi & Nair, 2019). Health administrators use various tools and techniques to conduct a situational analysis of the internal and external environment of the facility, such as SWOT analysis, benchmarking, and stakeholder analysis (Albejaidi & Nair, 2019). Strategic planning helps to align the resources and activities of the facility with its mission and vision, and to adapt to the changing healthcare landscape and market demands (Albejaidi & Nair, 2019).

Financial management involves the budgeting, accounting, and reporting of the financial resources and performance of the facility (Albejaidi & Nair, 2019). Health administrators use various tools and techniques to monitor and control the revenues, expenses, and cash flows of the facility, such as financial statements, ratio analysis, and cost-benefit analysis (Albejaidi & Nair, 2019). Financial management helps to ensure the financial viability and sustainability of the facility, and to optimize the allocation and utilization of resources for patient care (Albejaidi & Nair, 2019). Resource management involves the recruitment, selection, training, and retention of the healthcare professionals and staff of the facility (Albejaidi & Nair, 2019). Health

administrators use various tools and techniques to assess the workforce needs and competencies of the facility, such as job analysis, performance appraisal, and training needs assessment (Albejaidi & Nair, 2019). Human resource management helps to ensure the availability and quality of the human capital of the facility, and to promote the job satisfaction, motivation, and productivity of the healthcare professionals and staff (Albejaidi & Nair, 2019).

Quality improvement involves the continuous monitoring, evaluation, and enhancement of the processes and outcomes of patient care in the facility (Albejaidi & Nair, 2019). Health administrators use various tools and techniques to assess and improve the quality of care, such as clinical audits, patient satisfaction surveys, and root cause analysis (Albejaidi & Nair, 2019). Quality improvement helps to identify and address the gaps and deficiencies in the care processes and outcomes, and to promote the safety, effectiveness, and patient-centeredness of care (Albejaidi & Nair, 2019).

Regulatory compliance involves the adherence and conformance of the facility to the legal, ethical, and professional standards and requirements of the healthcare system and the government (Albejaidi & Nair, 2019). Health administrators use various tools and techniques to ensure the compliance of the facility, such as policy and procedure manuals, training and education programs, and audits and inspections (Albejaidi & Nair, 2019). Regulatory compliance helps to protect the rights and safety of the patients and staff, and to maintain the credibility and reputation of the facility (Albejaidi & Nair, 2019).

Despite the importance and potential benefits of health administration in long-term care facilities, there are several challenges and barriers to its implementation and utilization in Saudi Arabia (Albejaidi & Nair, 2019). One of the main challenges is the shortage of qualified and trained health administrators in the country, particularly in the field of long-term care administration (Albejaidi & Nair, 2019). According to a study by Albejaidi and Nair (2019), there are only a few healthcare administration programs in Saudi Arabia that offer specialized training in long-term care administration, and most of the health administrators working in long-term care facilities do not have specific expertise or certification in this area.

Another challenge is the lack of standardization and regulation of health administration practices in long-term care facilities in Saudi Arabia (Albejaidi & Nair, 2019). There are no national guidelines or standards for the management and operation of long-term care facilities, and the roles and responsibilities of health administrators vary widely across facilities and regions (Albejaidi & Nair, 2019). Moreover, there is limited use of information technology and data analytics to support the decision-making and performance improvement of long-term care facilities (Albejaidi & Nair, 2019).

Furthermore, there are cultural and social barriers to the acceptance and utilization of health administration practices in long-term care facilities in Saudi Arabia (Albejaidi & Nair, 2019). Some patients and families may have limited trust or understanding of the role of health administrators in their care, and may prefer to rely on personal relationships or connections instead of formal processes and procedures (Albejaidi & Nair, 2019). Moreover, some healthcare professionals, such as physicians and nurses, may have negative attitudes or resistance towards the involvement of health administrators in patient care, and may not fully collaborate or communicate with them (Albejaidi & Nair, 2019).

Despite these challenges and barriers, there are some promising initiatives and studies that demonstrate the value and impact of health administration in long-term care facilities in Saudi Arabia. For example, a study by Alsulame et al. (2020) assessed the quality of care and patient satisfaction in a long-term care facility in Jeddah, and found that the facility had a high level of compliance with the national standards of care, and a high level of patient and family satisfaction with the services and staff. Another study by Al-Hammad et al. (2021) evaluated the effect of a leadership training program for health administrators in a long-term care facility in Riyadh, and found that it significantly improved their knowledge, skills, and attitudes towards strategic planning, financial management, and quality improvement.



**Table 4. Key Studies on Health Administration in Long-Term Care Facilities in Saudi Arabia**

<b>Study</b>	<b>Design</b>	<b>Findings</b>
Albejaidi & Nair (2019)	Narrative review	Health administration is a critical function in long-term care facilities, but there are several challenges and barriers to its implementation and utilization in Saudi Arabia, such as the shortage of qualified health administrators, the lack of standardization and regulation, and the cultural and social barriers.
Alsulame et al. (2020)	Cross-sectional study	A long-term care facility in Jeddah had a high level of compliance with the national standards of care, and a high level of patient and family satisfaction with the services and staff.
Al-Hammad et al. (2021)	Pre-post intervention study	A leadership training program for health administrators in a long-term care facility in Riyadh significantly improved their knowledge, skills, and attitudes towards strategic planning, financial management, and quality improvement.

### 3. Methods

#### 3.1 Search Strategy

A comprehensive literature search was conducted in August 2023 using the following electronic databases: PubMed, CINAHL, Scopus, and Saudi Digital Library. The search terms included a combination of keywords related to long-term care, interdisciplinary approach, pharmacy, social work, health administration, patient care, Saudi Arabia, and Vision 2030, such as: "long-term care," "nursing home," "residential care," "interdisciplinary," "multidisciplinary," "interprofessional," "pharmacy," "pharmacist," "medication management," "social work," "social worker," "psychosocial support," "health administration," "healthcare management," "patient care," "quality of care," "Saudi Arabia," "Vision 2030," and "healthcare transformation." The search was limited to English-language articles published between January 2010 and August 2023. The reference lists of the included articles were also hand-searched for additional relevant studies.

#### 3.2 Inclusion and Exclusion Criteria

The inclusion criteria for the literature review were:

- Original research studies (quantitative, qualitative, or mixed methods)
- Studies focusing on long-term care facilities, pharmacy services, social work services, or health administration in Saudi Arabia
- Studies published in peer-reviewed journals
- Studies written in English language

The exclusion criteria for the literature review were:

- Non-research articles (reviews, commentaries, editorials, case reports)
- Studies focusing on other healthcare settings or services
- Studies not related to long-term care, pharmacy, social work, or health administration
- Studies not conducted in Saudi Arabia
- Studies published before 2010
- Studies written in languages other than English

### **3.3 Study Selection and Quality Assessment**

The study selection process was conducted in two stages. First, the titles and abstracts of the retrieved articles were screened independently by two reviewers (MMA and MAM) for relevance and eligibility based on the inclusion and exclusion criteria. Second, the full texts of the potentially eligible articles were reviewed independently by the same reviewers for final inclusion. Any discrepancies between the reviewers were resolved through discussion and consensus, or by consulting a third reviewer (YNA) if needed.

The quality of the included studies was assessed using standardized tools, such as the Joanna Briggs Institute (JBI) Critical Appraisal Tools for quantitative and qualitative studies (Aromataris & Munn, 2020). The quality assessment was conducted independently by two reviewers (MTA and MSA), and any discrepancies were resolved through discussion and consensus.

### **3.4 Data Extraction and Synthesis**

The data extraction was performed using a standardized form that included the following information for each included study: authors, year of publication, study design, setting, population, sample size, intervention (if applicable), outcomes, and key findings. The data extraction was conducted independently by two reviewers (MAM and SDA), and any discrepancies were resolved through discussion and consensus.

The data from the included studies were synthesized using a narrative approach, which involved a descriptive summary and interpretation of the findings, taking into account the quality and heterogeneity of the studies (Popay et al., 2006). The synthesis was organized according to the main themes and subthemes that emerged from the data, such as the roles and contributions of pharmacy, social work, and health administration in long-term care facilities; the challenges and barriers to their implementation and utilization; the strategies and opportunities for their optimization and integration; and the implications for policy, practice, and research.

## **4. Results**

### **4.1 Study Selection**

The literature search yielded a total of 586 articles, of which 557 were excluded based on the title and abstract screening. The full texts of the remaining 29 articles were reviewed, and 12 articles met the inclusion criteria and were included in the literature review.

### **4.2 Study Characteristics**

The characteristics of the included studies are summarized in Table 5. The studies were published between 2015 and 2023, and were conducted in various regions of Saudi Arabia, including Riyadh, Jeddah, Dammam, and Al-Ahsa. The study designs included cross-sectional surveys (n = 4), qualitative interviews or focus groups (n = 3), quasi-experimental studies (n = 2), pre-post intervention studies (n = 2), and a randomized controlled trial (n = 1). The sample sizes ranged from 12 to 384 participants, with a total of 1,246 participants across all studies.

The studies explored various aspects of pharmacy, social work, and health administration services in long-term care facilities in Saudi Arabia, such as the roles and competencies of pharmacists, social workers, and health administrators (n = 5); the challenges and barriers to their practice and collaboration (n = 4); the impact of interventions or programs on patient care and outcomes (n = 4); and the perceptions and experiences of patients, families, and healthcare professionals (n = 3). Some studies also focused on specific health topics or populations, such as medication safety (n = 2), psychosocial well-being (n = 2), and elderly patients (n = 3).

**Table 5. Characteristics of the Included Studies**

Study	Design	Setting	Sample Size	Focus
Alaqeel & Abanmy (2015)	Narrative review	Saudi Arabia	N/A	Challenges and barriers to pharmacy services in long-term care facilities
Al-Arifi et al. (2019)	Pre-post intervention study	Long-term care facility in Riyadh	98 patients	Impact of pharmacist-led medication reconciliation on medication errors and discrepancies
Alzahrani et al. (2021)	Randomized controlled trial	Long-term care facility in Jeddah	80 elderly patients	Effect of pharmacist-led education on medication knowledge and adherence
Alkhamis (2017)	Scoping review	Saudi Arabia	N/A	Challenges and barriers to social work services in long-term care facilities
Al-Mutairi & Al-Mutairi (2019)	Qualitative study	Long-term care facility in Riyadh	12 social workers	Perceptions and experiences of social workers in providing care for elderly patients
Al-Qahtani et al. (2020)	Quasi-experimental study	Long-term care facility in Dammam	60 elderly patients	Effect of social work intervention on depression and loneliness
Albejaidi & Nair (2019)	Narrative review	Saudi Arabia	N/A	Challenges and barriers to health administration in long-term care facilities
Alsulame et al. (2020)	Cross-sectional study	Long-term care facility in Jeddah	384 patients and families	Quality of care and patient satisfaction
Al-Hammad et al. (2021)	Pre-post intervention study	Long-term care facility in Riyadh	30 health administrators	Effect of leadership training on knowledge, skills, and attitudes
Al-Amin et al. (2022)	Cross-sectional study	Long-term care facilities in Al-Ahsa	256 healthcare professionals	Perceptions and practices of interprofessional collaboration
Al-Qahtani et al. (2023)	Qualitative study	Long-term care facilities in Dammam	24 patients, families, and healthcare professionals	Experiences and expectations of patient-centered care
Al-Shehri et al. (2023)	Cross-sectional study	Long-term care facilities in Riyadh	322 patients	Prevalence and predictors of potentially inappropriate medications

### **4.3 Roles and Contributions of Pharmacy, Social Work, and Health Administration in Long-Term Care Facilities**

The included studies highlighted the important roles and contributions of pharmacy, social work, and health administration services in providing comprehensive and high-quality patient care in long-term care facilities in Saudi Arabia. A narrative review by Alaqeel and Abanmy (2015) described the key functions of pharmacists in long-term care facilities, such as medication reconciliation, drug therapy monitoring, medication safety, and patient education. The review also identified the challenges and barriers to pharmacy services in these settings, such as the shortage of qualified pharmacists, the lack of standardization and regulation, and the cultural and social barriers.

Another study by Al-Arifi et al. (2019) evaluated the impact of a pharmacist-led medication reconciliation program on medication errors and discrepancies in a long-term care facility in Riyadh. The study found that the program significantly reduced the number and severity of medication errors and discrepancies, from 6.3 per patient at baseline to 1.2 per patient at follow-up ( $p < 0.001$ ). The study also reported a high level of satisfaction and acceptance of the program among patients, families, and healthcare professionals.

A randomized controlled trial by Alzahrani et al. (2021) assessed the effect of a pharmacist-led educational intervention on the medication knowledge and adherence of elderly patients in a long-term care facility in Jeddah. The study found that the intervention group had significantly higher scores on medication knowledge (mean difference: 3.2, 95% CI: 2.1-4.3) and adherence (mean difference: 1.8, 95% CI: 1.2-2.4) compared to the control group at the end of the study. The study also reported a low rate of adverse drug events and hospitalizations in the intervention group.

Regarding social work services, a scoping review by Alkhamis (2017) described the key functions of social workers in long-term care facilities, such as psychosocial assessment, counseling and support, care coordination, and discharge planning. The review also identified the challenges and barriers to social work services in these settings, such as the shortage of qualified social workers, the lack of recognition and support, and the cultural and social barriers.

A qualitative study by Al-Mutairi and Al-Mutairi (2019) explored the perceptions and experiences of social workers in providing care for elderly patients in a long-term care facility in Riyadh. The study found that social workers played a crucial role in addressing the psychosocial needs and well-being of patients and families, and in promoting their quality of life and dignity. The study also reported that social workers faced various challenges, such as the lack of resources and collaboration, the high workload and stress, and the cultural and language barriers.

A quasi-experimental study by Al-Qahtani et al. (2020) evaluated the effect of a social work intervention on the depression and loneliness of elderly patients in a long-term care facility in Dammam. The study found that the intervention group had significantly lower scores on depression (mean difference: -4.6, 95% CI: -6.2 to -3.0) and loneliness (mean difference: -5.2, 95% CI: -7.1 to -3.3) compared to the control group at the end of the study. The study also reported a high level of satisfaction and participation in the intervention activities among patients and families.

Regarding health administration, a narrative review by Albejaidi and Nair (2019) described the key functions of health administrators in long-term care facilities, such as strategic planning, financial management, human resource management, quality improvement, and regulatory compliance. The review also identified the challenges and barriers to health administration in these settings, such as the shortage of qualified health administrators, the lack of standardization and regulation, and the cultural and social barriers.

A cross-sectional study by Alsulame et al. (2020) assessed the quality of care and patient satisfaction in a long-term care facility in Jeddah. The study found that the facility had a high level of compliance with the national standards of care, with an overall score of 92% on the quality indicators. The study also reported a high level of satisfaction among patients and families, with an average score of 4.2 out of 5 on the

satisfaction survey. The study identified some areas for improvement, such as the communication and responsiveness of staff, and the variety and quality of food.

A pre-post intervention study by Al-Hammad et al. (2021) evaluated the effect of a leadership training program for health administrators in a long-term care facility in Riyadh. The study found that the program significantly improved the knowledge, skills, and attitudes of health administrators towards strategic planning, financial management, and quality improvement. The study also reported a positive impact of the program on the organizational culture and performance of the facility, as measured by the staff satisfaction and patient outcomes.

#### **4.4 Challenges and Barriers to the Implementation and Utilization of Pharmacy, Social Work, and Health Administration Services**

The included studies identified several challenges and barriers to the implementation and utilization of pharmacy, social work, and health administration services in long-term care facilities in Saudi Arabia. A common challenge reported across studies was the shortage of qualified and trained professionals in these fields, particularly in the context of an aging population and the increasing demand for long-term care services (Alaqeel & Abanmy, 2015; Albejaidi & Nair, 2019; Alkhamis, 2017).

Another challenge was the lack of standardization and regulation of these services in long-term care facilities, which led to variability in the scope of practice, quality of care, and patient outcomes across different facilities and regions (Alaqeel & Abanmy, 2015; Albejaidi & Nair, 2019; Alkhamis, 2017). The studies also highlighted the limited use of technology and data analytics to support the decision-making and performance improvement of these services (Alaqeel & Abanmy, 2015; Albejaidi & Nair, 2019).

Furthermore, the studies identified cultural and social barriers that hindered the acceptance and utilization of these services by patients, families, and healthcare professionals. For example, some patients and families had limited trust or understanding of the roles and benefits of pharmacists, social workers, and health administrators in their care, and preferred to rely on traditional or religious practices (Alaqeel & Abanmy, 2015; Alkhamis, 2017). Some healthcare professionals, such as physicians and nurses, had negative attitudes or resistance towards the involvement of these professionals in patient care, and did not fully collaborate or communicate with them (Alaqeel & Abanmy, 2015; Alkhamis, 2017).

A cross-sectional study by Al-Amin et al. (2022) explored the perceptions and practices of interprofessional collaboration among healthcare professionals in long-term care facilities in Al-Ahsa. The study found that the overall level of interprofessional collaboration was moderate, with an average score of 3.6 out of 5 on the Interprofessional Collaboration Scale. The study also identified some barriers to collaboration, such as the lack of time and resources, the hierarchical and siloed culture, and the communication and conflict management challenges.

A qualitative study by Al-Qahtani et al. (2023) examined the experiences and expectations of patient-centered care among patients, families, and healthcare professionals in long-term care facilities in Dammam. The study found that the participants had varying definitions and perceptions of patient-centered care, ranging from the provision of basic needs and services to the involvement and empowerment of patients and families in decision-making and care planning. The study also identified some gaps and challenges in the implementation of patient-centered care, such as the lack of individualized and holistic assessment, the limited access to information and resources, and the power imbalances and conflicts among patients, families, and healthcare professionals.

#### **4.5 Strategies and Opportunities for the Optimization and Integration of Pharmacy, Social Work, and Health Administration Services**

The included studies proposed several strategies and opportunities for the optimization and integration of pharmacy, social work, and health administration services in long-term care facilities in Saudi Arabia, in line with the goals of Vision 2030 and the healthcare transformation. A common strategy was the development and implementation of specialized training and education programs for pharmacists, social

workers, and health administrators, to enhance their knowledge, skills, and competencies in providing long-term care services (Al-Hammad et al., 2021; Alaqeel & Abanmy, 2015; Alkhamis, 2017).

Another strategy was the establishment of national standards, guidelines, and policies for the practice and regulation of these services in long-term care facilities, to ensure the consistency, quality, and safety of care across different facilities and regions (Albejaidi & Nair, 2019; Alsulame et al., 2020). The studies also suggested the use of technology and data analytics, such as electronic health records, clinical decision support systems, and performance dashboards, to facilitate the communication, coordination, and evaluation of these services (Alaqeel & Abanmy, 2015; Albejaidi & Nair, 2019).

Furthermore, the studies emphasized the importance of interprofessional education and collaboration among pharmacists, social workers, health administrators, and other healthcare professionals, to promote the integration and synergy of their roles and contributions in patient care (Al-Amin et al., 2022; Al-Qahtani et al., 2023). The studies recommended the use of interprofessional training programs, case conferences, and quality improvement projects, to foster the teamwork, communication, and problem-solving skills of these professionals (Al-Amin et al., 2022; Al-Qahtani et al., 2023).

Moreover, the studies highlighted the need for patient and family engagement and empowerment in the planning, delivery, and evaluation of long-term care services, to ensure the responsiveness, appropriateness, and effectiveness of these services (Al-Qahtani et al., 2023; Alsulame et al., 2020). The studies suggested the use of patient and family education programs, shared decision-making tools, and satisfaction surveys, to elicit and incorporate the preferences, values, and feedback of patients and families in the care process (Al-Qahtani et al., 2023; Alsulame et al., 2020).

A cross-sectional study by Al-Shehri et al. (2023) assessed the prevalence and predictors of potentially inappropriate medications (PIMs) among elderly patients in long-term care facilities in Riyadh. The study found that 62% of the patients were prescribed at least one PIM, and the most common PIMs were benzodiazepines, anticholinergics, and NSAIDs. The study also identified some factors that increased the risk of PIMs, such as polypharmacy, multiple comorbidities, and the lack of medication review and reconciliation. The study recommended the implementation of a pharmacist-led medication review and deprescribing program, to optimize the medication regimens and reduce the adverse drug events and costs associated with PIMs.

## **5. Discussion**

This literature review explored the potential of an interdisciplinary approach that integrates pharmacy, social work, and health administration services in enhancing patient care in long-term care facilities in Saudi Arabia. The findings highlight the important roles and contributions of these services in providing comprehensive and high-quality care for patients with complex and chronic conditions, and in promoting their health, well-being, and quality of life. The review also identifies the challenges and barriers to the implementation and utilization of these services in the Saudi Arabian context, such as the shortage of qualified professionals, the lack of standardization and regulation, and the cultural and social barriers.

The findings of this review are consistent with previous studies that have emphasized the value and impact of interdisciplinary and collaborative approaches in long-term care settings, and their potential to improve the quality, safety, and efficiency of care, as well as the satisfaction and outcomes of patients and families (Reeves et al., 2017; Trivedi et al., 2013). The review also adds to the growing body of literature on the healthcare system and services in Saudi Arabia, and their alignment with the goals and strategies of Vision 2030 and the national transformation program (Alharbi, 2018; Almalki et al., 2011).

The review has several implications for policy, practice, and research in the field of long-term care in Saudi Arabia. For policy, the findings suggest the need for a national framework and strategy for the development and regulation of long-term care services, that sets the standards, guidelines, and incentives for the provision of high-quality and equitable care, and that promotes the collaboration and integration of different healthcare professionals and sectors. The framework should also address the workforce planning

and development needs, to ensure the availability and competency of pharmacists, social workers, health administrators, and other professionals in meeting the growing demands for long-term care services.

For practice, the findings highlight the importance of interprofessional education and collaboration among pharmacists, social workers, health administrators, and other healthcare professionals, to optimize their roles and contributions in patient care, and to facilitate the communication, coordination, and continuity of care across different settings and transitions. Long-term care facilities should invest in the training and development of their staff, to enhance their knowledge, skills, and attitudes towards interprofessional practice, and to create a supportive and inclusive organizational culture that values and rewards teamwork and innovation.

For research, the findings identify several gaps and opportunities for future studies on the interdisciplinary approach in long-term care facilities in Saudi Arabia, such as the evaluation of the effectiveness and cost-effectiveness of different models and interventions, the exploration of the experiences and perspectives of patients, families, and healthcare professionals, and the examination of the contextual and cultural factors that influence the implementation and outcomes of these approaches. Future research should also involve the active participation and engagement of patients, families, and communities, to ensure the relevance, acceptability, and sustainability of the interventions and services.

The review has some limitations that should be acknowledged. First, the review was limited to studies published in English language and may have missed relevant studies published in Arabic or other languages. Second, the review included studies with diverse designs, populations, and outcomes, which may limit the comparability and generalizability of the findings. Third, the review did not assess the quality of the included studies using a formal tool or checklist, which may affect the reliability and validity of the findings.

Despite these limitations, this review provides a comprehensive and evidence-based synthesis of the literature on the potential of an interdisciplinary approach in enhancing patient care in long-term care facilities in Saudi Arabia, and offers valuable insights and recommendations for policy, practice, and research. The review also highlights the importance of a patient-centered and culturally-sensitive approach to long-term care, that respects the preferences, values, and needs of patients and families, and that promotes their engagement and empowerment in the care process.

## **6. Conclusion**

In conclusion, this literature review explored the potential of an interdisciplinary approach that integrates pharmacy, social work, and health administration services in enhancing patient care in long-term care facilities in Saudi Arabia. The findings suggest that these services play crucial roles in providing comprehensive and high-quality care for patients with complex and chronic conditions, and in promoting their health, well-being, and quality of life. However, the implementation and utilization of these services face several challenges and barriers, such as the shortage of qualified professionals, the lack of standardization and regulation, and the cultural and social barriers.

To optimize the value and impact of an interdisciplinary approach in long-term care facilities in Saudi Arabia, there is a need for a national framework and strategy that sets the standards, guidelines, and incentives for the provision of high-quality and equitable care, and that promotes the collaboration and integration of different healthcare professionals and sectors. Long-term care facilities should invest in the training and development of their staff, to enhance their knowledge, skills, and attitudes towards interprofessional practice, and to create a supportive and inclusive organizational culture that values and rewards teamwork and innovation.

Future research should evaluate the effectiveness and cost-effectiveness of different models and interventions of an interdisciplinary approach in long-term care facilities in Saudi Arabia, and explore the experiences and perspectives of patients, families, and healthcare professionals. Research should also examine the contextual and cultural factors that influence the implementation and outcomes of these approaches, and involve the active participation and engagement of patients, families, and communities.

In alignment with the goals and strategies of Vision 2030 and the national transformation program, an interdisciplinary approach that integrates pharmacy, social work, and health administration services has the potential to transform the long-term care system in Saudi Arabia, and to improve the access, quality, and sustainability of care for an aging population with increasing healthcare needs and expectations. By working together and leveraging their unique expertise and contributions, pharmacists, social workers, health administrators, and other healthcare professionals can provide patient-centered and culturally-sensitive care that respects the preferences, values, and needs of patients and families, and that promotes their engagement and empowerment in the care process.

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