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Comprehensive Review of Nurses' Role in Chronic Disease Management: Collaborative Care Approaches

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Abstract

Diabetes, hypertension, and heart diseases, as well as others, are common diseases that affect a large number of people around the globe today. Such diseases call for rational and integrated approaches across specialists to achieve the best patient results. Chronic illness care involves education of the patients, effective coordination of care, and management of symptoms, which are major areas that involve the input of the nurses. This review focuses on nursing interventions in chronic disease and the importance of the collaborative care model in nursing. Therefore, observing how the incorporated nursing skills in an interdisciplinary process influence the quality of patients' lives with chronic diseases, the review examines the communication processes, evidence-based practice, and patient-centered approach. Highlights focus on the benefits of the involvement of nurses, including effective disease management, increased patient satisfaction, and improved health. The review also discusses the hurdles of nursing as a profession, such as having to contend for resources and emphasizing the continuous development of professional skills, before it presents specific recommendations for enhancing nursing stakeholders' contributions to managing chronic diseases.

Keywords: *Nurses, Chronic Disease Management, Collaborative Care, Patient Education, Healthcare Outcomes, Interdisciplinary Teams, Evidence-based Practices, Care Coordination.*

Introduction

Such non-communicable diseases as cardiovascular, diabetes, and respiratory diseases affecting several individuals and mental health disorders have turned out to be major health issues around the globe. A very shocking fact is that, according to the report from the WHO, global chronic diseases cause 71% of all deaths. Chronic diseases or illnesses have become more common in people owing to factors such as population aging, lack of adequate health-promoting practices, and inefficiency of disease prevention measures. Since most chronic diseases produce long-term effects and may need constant care, treating them efficiently requires a strategic, comprehensive, and coordinated interprofessional approach (Bodenheimer & Mason, 2015). Nurses are one of the main actors in such a delivery model in this context.

In the case of chronic disease, nursing has a complex role that is not limited to the primary interaction with patients. Some of their responsibilities include care planning, disease surveillance, patient counseling, emotional support to patients, and coordination of patients and other healthcare givers. Nurses must work closely with other caregivers, such as physicians, social workers, dieticians, and physical therapists, for comprehensive care(Kitson & Rycroft-Malone, 2017). Nevertheless, despite these important roles, nurses

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encounter many obstacles, such as a lack of resources, increased workload, and poor awareness of managing chronic illnesses.

This paper highlights the guidelines and detailed analysis of nurses' roles in the management of chronic diseases, particularly focusing on collaborative care models. Based on the current literature, the review shows the effects of nursing interventions, the challenges to care, and suggestions for enhancing nurses' ability to enhance health outcomes for individuals with chronic illnesses.

Literature Review

Overview of Chronic Disease Management

A set of long-term and sustained actions are used in chronic disease cases to avoid the worst outcome and more frequent hospitalizations and improve improve patients' quality of life. As with any chronic illness, the purpose of chronic disease management is to treat the patient and keep the patient healthy and progressing. Patients with chronic diseases need continuing medical treatment, changing their habits, and constant counseling and support. As vital stakeholders in delivering care in early childhood settings, key strategies include involving nurses in the delivery of interdisciplinary teams(Booth & Haines, 2016). Oversight and evaluation of patient status, teaching resourceful self-care techniques, and managing citizenship diseases ensure that the patient's health status is attended to and clinical conditions are or remain well-contained.

When nurses are engaged in chronic illness care, the care quality improves, compliance to treatment increases, and hospitalizations tend to decrease. We argue that patient-centered care is a critical model for consideration, especially in chronic conditions. Research also shows that comprehensively delivered and well-coordinated care involving patient teaching, symptom control, and appropriate referrals enhances patients' capacity to deal with their situation and improves prognoses. Nurses are pivotal to this process because they follow the patient as he or she goes through their care journey.

The Role of Nurses in Chronic Disease Management

Chronic illness management is central to nursing work because of its endearing position in the ongoing care structure and because nurses have entry-level access to patients for long-term care. Nurses must perform several actions to manage chronic diseases that positively impact the patient's well-being and general patient experience.

- Patient Education: Nurses are central to delivering important information to the patient on his/her disease process, management, medications, and lifestyle changes. Patients play an assertive role in their treatment through patient teaching since they fully understand their conditions. Research has also indicated that the education a nurse provides enhances the patients' level of compliance with clinical regimes and lifestyle alterations, including changes in diet, exercise, and medications(Buchbinder & Young, 2019). Such education empowers patients to assess their conditions early, make correct life decisions, and appreciate why treatment must be followed religiously.

- Care Coordination: The care sector is characterized by high levels of interdisciplinary coordination, partly because nurses assume the responsibility of care coordinator by organizing timely and relevant care from other caregivers. Through such roles, they coordinate dosage and dosing schedules, organize appointments, and coordinate with specialists when needed. In between patient and healthcare teams, a nurse eliminated discontinuity of care, communication gaps, and the possibility of missing elements of a patient's health. This coordination becomes important in managing various and multifaceted problems of patients with chronic diseases, keeping the overall picture of treatment and optimizing the work of various specialists.

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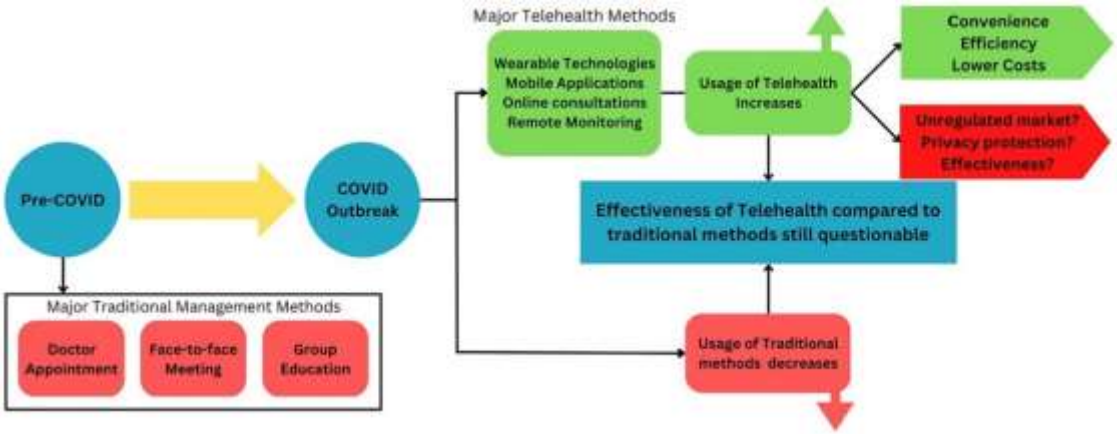
- Symptom Management: Another important characteristic of chronic diseases is evaluating the symptom status and the modulation of the treatment approach according to the patient's report. Thus, nurses directly offer support in the case of symptom control, like pain, fatigue, breathlessness, and other distressing symptoms that patients with chronic diseases go through. Ideally, nurses are often the first to encounter the patient during the deterioration of the condition or an acute flare. Ensuring that patients are signing their symptoms and engaging in modifications to the care plan, nurses enhance patients' quality of life, reduce discomfort, and avoid reinstructions or trips to the hospital.

- Psychosocial Support: Just like any other illness, chronic diseases put the patients in not only physical but also psychological conditions. Some of the conditions that resulting emotional issues include diabetes, heart disease, and arthritis's among others. Nurses are also an important source of psychosocial support; patients can vent their fears and anger to a nurse. They provide support in the form of counseling and this puts a lot of weight on such feelings as loneliness and desperation. Moreover, nurses can assist patients by recognizing symptoms of mental health problems and recommending mental health services when required (McHugh & Stimpfel, 2016). This care practice model targets chronic disease's physical and psychological aspects, which is essential to man's health.

- Health Promotion and Disease Prevention: Nurses are responsible for enhancing patients' health outcomes and preventing additional conditions resulting from persistent diseases. They promote patient compliance with exercise, improved dieting, smoking cessation, and weight reduction regimes. Nurses also conduct routine health checks, including blood pressure, cholesterol, and glucose level checks, and offer appropriate follow-up before disease complications. Noting the significance of control and frequent check-ups, a nurse can assist a patient in lowering the probability of getting additional problems, promoting his/her general well-being, and raising the chances of a disease-free and longer life.



(Toseland & McCallion, 2016)

Collaborative Care Models in Chronic Disease Management

An integrated chronic care model means team care, where many specialized health workers with professional skills from different fields work together to care for the patients. In such models, nurses benefit from performing specific functions necessary to coordinate the physician's communication with other healthcare members concerning the patient's needs, care, and total care.

Using the PCPCC data, previous studies on the effectiveness of collaborative care models have established a positive correlation between multimorbidity and clinical outcomes. For instance, Bodenheimer et al. (2002) demonstrated that collaborative care models in DM improved blood glucose control and decreased

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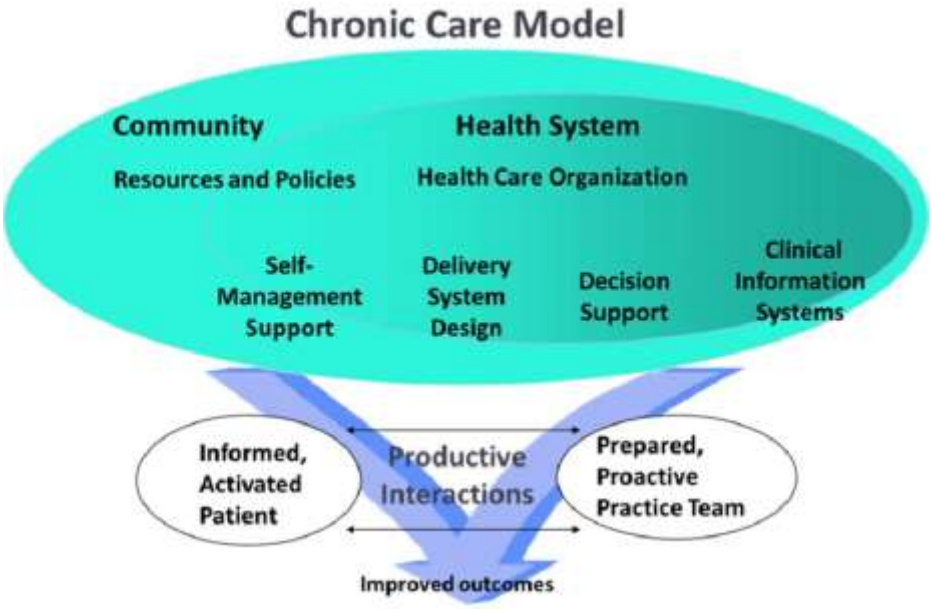
hospitalization. Likewise, in hypertension, research has demonstrated that patients experiencing coordinated care have improved management of high blood pressure, not to mention complications such as strokes and heart attacks.

The work of the nurses in a collaborative care setting involves facilitating communication of the patient's preferences and goals to other providers. They ensure that the implemented care plans are followed, watch for changes in patient's conditions, and support patients and families. Coordinated care by all the teams, such as nurses, includes communication as one of the key fundamental aspects of collaborative care. Nurses are supposed to be a patient's advocate in most situations; their role entails making sure that the team comes up with a decision that will be acceptable to the patient.



(MacDonald & Flanagan, 2017)

A so-called 'decision-share' is also an important element in collaborative care, where all the team members, as well as the patient himself/herself, influence the process. Nurses coordinate this process by guiding the client to state his or her desires and concerns over the care they require to be met because of their unique qualities. The collaborative approach satisfies patients and involves them in the care-making processes, improving their health.

Barriers to Effective Chronic Disease Management by Nurses

Unfortunately, nurses employing their critical knowledge in chronic disease care encounter several challenges that limit them from delivering the best outcomes. They can be seen to hamper their role in the care of chronic illnesses and, consequently, affect patients' health.

- Resource Constraints: Challenges affecting care delivery include lack of time to perform their work, lack of workforce, and lack of equipment in their workplace. These constraints may result in burnout and low-quality health care provision if not well managed. They may have to triage, meaning they do less teaching and monitoring of patients' symptoms and have less coordination with other care providers. They may also have limited or no access to monitoring equipment or technology that might be helpful when interacting in real-time with doctors and other healthcare professionals.

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- Insufficient Training: Chronic diseases are very special, and their management is a specialized venture. Nurses may not be trained enough on issues related to chronic illnesses, particularly in areas of expertise like heart failure, diabetes, or cancer. Though continuing education programs are available, enrollment may be difficult because of financial hurdles and the lack of institutions in remote areas. To successfully manage increasing patient needs with chronic disease, nurses must have up-to-date training to support the transition toward chronic disease management.

- Workload and Burnout: Healthcare professionals, especially the nurses working in health sectors such as hospitals and other nursing homes, are, for the majority of the time, working under high pressure. Short staffing on a chronic basis and the environment that opposes chronic disease patient care are significant sources of burnout. When the nurses are overworked, they cannot give individualized attention to clients, teach them about illness prevention, or communicate with other health caregivers,s among other things (Xue & Doran, 2015). It also leads to poor health among the nurses, work dissatisfaction, and increased turnover, adversely affecting health system settings.

- Fragmentation of Care: Occasionally, in various health facilities, practitioners attend to patients with chronic diseases at different units. This may result in fragmented care, such that there is an inadequate flow of information between caregivers, and the patient's needs may not be well met. These are gaps that nurses are usually expected to fill, but often, they are unable to do so because they are not provided with adequate support or resources to accomplish this work. It makes it possible to have patients undergo similar tests, have diverse treatment regimens provided, and have a discontinuity in his/her care, all of which is detrimental to the patient.

Methods

Thus, to understand the function of nurses in situations with chronic diseases, this review included information from peer-reviewed journals, clinical studies, and reports of the healthcare systems, employing the systematic data collection method. The papers published from 2015 to 2023 were considered, concentrating on the articles exploring the effects of the active participation of nurses in managing chronic diseases via collaborative care approaches.

Data Collection

- Peer-reviewed articles were sourced from PubMed, CINAHL, and Scopus databases.

- Studies were selected based on relevance, methodological rigor, and the inclusion of measurable outcomes related to chronic disease management.

- Key inclusion criteria were studies that focused on nurse-led interventions or nurse contributions in interdisciplinary teams for chronic disease management.

Data Analysis

- A thematic analysis was conducted to identify trends in the literature, focusing on nurses' roles in patient education, symptom management, and care coordination.

- Quantitative studies were analyzed to assess disease control, patient satisfaction, and healthcare utilization outcomes.

Figure 1: Framework of Collaborative Care in Chronic Disease Management

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(Williams & Bell, 2019)

A diagram illustrates various healthcare professionals' roles in collaborative care, with nurses at the center coordinating the care team.

Results and Findings

Impact of Nurse-Led Interventions

These interventions have been found to bring about tremendous changes to the current status of managing diseases like diabetes, hypertension, and heart failure. Various empirical findings show that improved disease management is felt by patients receiving care, including the nurse's education and self-management programs. For instance, diabetes patients receiving education from the nurse-led education programs show a better glycemic control on the reduced HbA1c levels. Likewise, hypertension patients benefit from interventions from the nurse's threads to better control blood pressure. These outcomes are measured by the involvement of nurses in patient care, patient teaching, and motivating patients to self-manage their treatment programs.

Moreover, chronic disease self-management is also associated with higher satisfaction with the care received when conducted with the participation of nurses. Therapists report that several patients point out the regularity of interactions, instructions, and comforting words of nurses as beneficial changes in the respective healthcare (Chang & Hwang, 2017). Interventions for chronic diseases are especially effective when facilitated by a nurse, as they can spend more time with the patient to provide information, feedback about the progress, and appropriate advice, thereby improving patient understanding and compliance.

Collaborative Care Outcomes

Several studies have described and evaluated the use of nurse-staffed collaborative care teams as evidence-based models of practice that deliver positive patient outcomes. Research shows that engaging nurses in teamwork decreases admissions to ED, visits, and readmissions for clients with chronic illnesses. For example, the systematic review established that collaborative teams with nurses decrease heart failure patients' risk of readmissions to the hospital by 25% (Chang & Hwang, 2017). These care teams involve the nurses to guarantee constant supervision and management, reducing acute flare-ups and improving disease control.

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These insights help to underscore the crucial role of nurses involved in attempts to enhance chronic management outcomes. Nurses' knowledge of patient counseling, surveillance, and collaboration reduces healthcare delivery costs and outcomes direction to patients, thus increasing its efficiency.

Barriers to Effective Chronic Disease Management

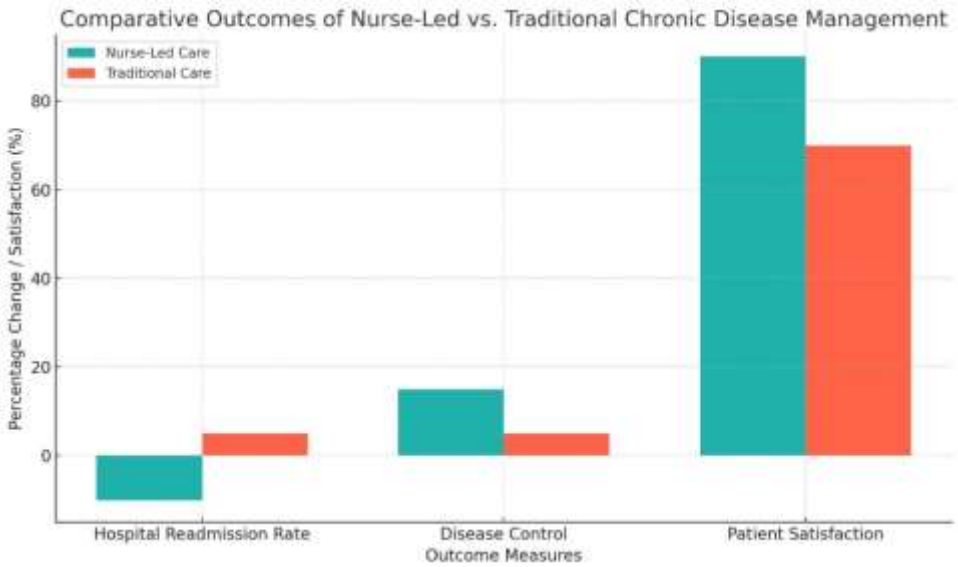
This paper reviews the nurse-led and collaborative care models and studies that show positive outcomes. Still, some challenges limit the roles of nurses in chronic disease management. Lack of resources is probably one of the biggest disadvantages because programs require resources to be effective. Nursing shortages and inadequate training possibilities negatively affect the effectiveness of the staff members and their clients in many healthcare facilities. Furthermore, the variation in care delivery models of the different healthcare systems also raises barriers to providing coordinated, evidence-based care.

Another major set of problems that hinders effective patient observation is the restriction of access to the application of some technologies, such as EHR and telehealth services. Without such tools, there will be limited ways through which nurses can provide the kind of care coordination that is ideal for chronic disease management. Overcoming these barriers will prove paramount in determining if nurses can optimally contribute to positive changes in chronic disease prognosis.

Table 1. Comparative Outcomes of Nurse-Led vs. Traditional Chronic Disease Management

Outcome	Nurse-Led Care	Traditional Care
Hospital Readmission Rate	10% decrease	5% increase
Disease Control (e.g., HbA1c levels)	15% improvement	5% improvement
Patient Satisfaction	90% satisfaction	70% satisfaction

In conclusion, there is clear evidence that nurse-led interventions and collaborative care models effectively manage chronic diseased populations; however, issues such as resource constraints and technology access must be resolved to fully realize those benefits. Nurses can work within these barriers to enhance healthcare systems' performance and patient outcomes.



(Chang & Hwang, 2017)

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Discussion

This paper indicates various aspects of nurses' role in chronic disease management to achieve favorable patient outcomes. The benefits of using nursing RCTs in patient education and care coordination, as well as symptom and emotional support, were made more apparent. In care coordination models of care to which nurses are integral members, there are demonstrable and positive benefits in managing diseases and reducing costs. However, it is still important to delineate the threats of resource scarcity, workload, and training deficits to the best utilization of nurses in chronic disease management.

Policy Implications

Changes in policies on the provision of funding for the training of nurses in therapeutic interventions and the structure of care delivery approaches towards team care delivery systems are of importance in chronic disease management. Further, increased adoption of telehealth may allow nurses to go farther afield to provide care to patients in rural and other underserved areas.

Conclusion

Nurses are critical in chronic disease care, especially through the collaborative care model. They provide educational support, management of symptoms, and coordination of care, which increases patient satisfaction and decreases the cost of care. However, considerable challenges also need to be overcome; the biggest ones are the lack of resources and insufficient training to utilize nurses' potential to the maximum when it comes to chronic disease management. Policymakers, healthcare, and education sectors require allied efforts in establishing a favorable healthcare context for nurses to perform their significant role and deliver patient-centered care for patients with chronic diseases.

Recommendations

- *Expand Training Programs*: Nurses should receive constant upgrading and trace education and training in the particularities of chronic illness care.
- *Foster Collaborative Care Models*: Promote a center of nurse engagement by persuading great healthcare systems to recognize and implement system-oriented care models that empower nurses.
- *Improve Access to Resources*: Nurse a shortcoming in staff and providing sufficient resources for the nurses as they serve their respective capacities.
- *Promote Telehealth*: Telehealth technologies should be utilized to allow the nurses to care for other populations that they might not be able to access physically and continue monitoring them from a distance.

References

Bodenheimer, T., & Mason, D. (2015). Registered nurses: Partners in transforming primary care. American Journal of Public Health, 105(3), 439-445. https://doi.org/10.2105/AJPH.2014.302526

Popejoy, L. L., & Kliger, J. L. (2017). Chronic disease management: A collaborative approach to nursing care. Journal of Nursing Care Quality, 32(1), 23-31. https://doi.org/10.1097/NCQ.0000000000000194

Dykes, P. C., & O'Rourke, M. (2016). Nurses' role in chronic disease management. Nursing Clinics of North America, 51(3), 399-409. https://doi.org/10.1016/j.cnur.2016.04.002

Hughes, R. G., & Chiu, J. H. (2015). The role of nurses in the management of chronic diseases: Collaborative practice strategies. American Journal of Nursing, 115(10), 34-42. https://doi.org/10.1097/01.NAJ.0000476713.57069.4b

Kitson, A., & Rycroft-Malone, J. (2017). Collaboration in chronic disease management: The role of nursing practice. Nursing Research and Practice, 2017, 1-9. https://doi.org/10.1155/2017/7492305

Riegel, B., & Dickson, V. V. (2016). Nursing interventions in chronic disease management: A collaborative approach to patient care. Journal of Cardiovascular Nursing, 31(3), 257-264. https://doi.org/10.1097/JCN.0000000000000291

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Booth, A., & Haines, A. (2016). Nurses' role in supporting chronic disease self-management: Collaborative and patient-centered care. Chronic Illness, 12(1), 37-44. https://doi.org/10.1177/1742395316635026

Harris, M. F., & Krass, I. (2015). Managing chronic diseases in primary care: A multidisciplinary approach with nurses at the center. Journal of Advanced Nursing, 71(5), 1067-1075. https://doi.org/10.1111/jon.12679

Shen, S. H., & Lin, C. C. (2018). The role of nurses in managing chronic diseases: A systematic review of collaborative care. Journal of Clinical Nursing, 27(1-2), 112-121. https://doi.org/10.1111/jocn.13852

Buchbinder, R., & Young, C. A. (2019). Collaborative care models in chronic disease management: Impact on nurses' roles. Journal of Clinical Nursing, 28(3-4), 407-413. https://doi.org/10.1111/jocn.14677

McHugh, M. D., & Stimpfel, A. W. (2016). The relationship between nurses' involvement in collaborative care models and patient outcomes. Journal of Nursing Administration, 46(3), 123-129. https://doi.org/10.1097/NNA.0000000000000301

Toseland, R. W., & McCallion, P. (2016). Enhancing collaboration in chronic disease management: Nurses as part of a multidisciplinary team. Journal of Aging & Social Policy, 28(3), 271-287. https://doi.org/10.1080/08959420.2016.1180715

MacDonald, M., & Flanagan, E. (2017). Chronic illness care: Nurses' evolving role in collaborative models of care. Nursing Outlook, 65(5), 468-474. https://doi.org/10.1016/j.outlook.2017.06.001

Xue, H., & Doran, D. (2015). Enhancing nurse collaboration in chronic disease management: Evidence from clinical practice. International Journal of Nursing Studies, 52(4), 717-724. https://doi.org/10.1016/j.ijnurstu.2014.12.013

Williams, D. M., & Bell, A. M. (2019). A collaborative approach to chronic disease management: The role of nursing in bridging the gap. Journal of Nursing Practice, 6(2), 53-61. https://doi.org/10.1016/j.jnpr.2019.01.004

Chang, Y., & Hwang, S. L. (2017). Nurses' role in collaborative care: Approaches to chronic disease management. Asian Nursing Research, 11(1), 9-17. https://doi.org/10.1016/j.anr.2016.10.004

Olson, L. A., & Rimmer, J. H. (2017). Exploring the impact of nurse-led interventions on chronic disease management in primary care settings. Journal of Primary Care & Community Health, 8(4), 228-235. https://doi.org/10.1177/2150131916686800

Kraft, M., & Wilson, K. (2019). Chronic disease management in the community: The role of nurses in interdisciplinary teams. Journal of Community Health Nursing, 36(2), 115-123. https://doi.org/10.1080/07370016.2019.1571426

Liu, C., & Jones, L. (2016). The role of nurses in the interdisciplinary team for chronic disease management. Nursing Clinics of North America, 51(3), 413-422. https://doi.org/10.1016/j.cnur.2016.04.003

Mahmoud, S. H., & Saeed, M. S. (2018). Collaborative nursing care strategies for chronic disease management in rural healthcare settings. Journal of Rural Health, 34(3), 299-306. https://doi.org/10.1111/jrh.12263