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Family Medicine and the Aging Population in Canada: Approaches to Polypharmacy, Geriatric Syndromes, and End-of-Life.

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Abstract

The ageing population presents significant challenges for primary care providers, necessitating a comprehensive approach to effectively manage older adults. This literature review explores the multifaceted issues faced by family medicine in addressing the health care needs of older individuals, focusing on three critical areas: polypharmacy, geriatric syndromes, and end-of-life care.

Polypharmacy is prevalent among older adults, with studies indicating that a significant percentage of this population is prescribed multiple medications, leading to increased risks of adverse drug interactions and decreased medication adherence (Huang & Mindikoglu, 2022). Additionally, geriatric syndromes such as falls, delirium, and incontinence complicate management, underscoring the need for targeted screening and intervention strategies (Fried & Tinetti, 2020).

The review also highlights the importance of effective end-of-life care, emphasising the necessity for advanced care planning, communication with patients and families, and integration of palliative care services (Mitchell & Teno, 2021). The findings suggest that implementing comprehensive geriatric assessments (CGAs) can enhance management, while interdisciplinary collaboration is crucial for optimizing care delivery (Rubenstein & Josephson, 2019).

This review aims to inform family medicine practitioners of the challenges and strategies necessary for improving the health outcomes of older adults within primary care settings, ultimately advocating for a holistic, patient-centred approach that addresses the complexities of ageing.

Key Themes

Polypharmacy

The prevalence of polypharmacy among older adults constitutes a significant concern in primary care. The complexity of managing multiple medications necessitates careful oversight to mitigate risks associated with adverse drug interactions and non-adherence (Huang & Mindikoglu, 2022).

Geriatric Syndrome

Recognition and management of geriatric syndromes, such as falls, delirium, and incontinence, are critical for enhancing health outcomes in older adults. These syndromes require targeted interventions and comprehensive assessments to maintain functionality and improve quality of life (Fried & Tinetti, 2020).

End-of-Life Care

The necessity of effective end-of-life care is emphasised, highlighting the importance of advanced care planning, clear communication with patients and families, and the integration of palliative care services into primary care practice (Mitchell & Teno, 2021).



Previous Findings

Impact of Polypharmacy: Research indicates that a considerable portion of older adults is prescribed multiple medications, leading to an increased risk of adverse drug reactions and complicating management strategies (Huang & Mindikoglu, 2022). Effective medication management strategies are essential for improving adherence and minimising risks.

Identification of Geriatric Syndromes: Studies show that geriatric syndromes can lead to significant declines in health and quality of life among older adults. Early identification and intervention are crucial for preserving independence and functionality (Fried & Tinetti, 2020).

Barriers to End-of-Life Care: The findings reveal that barriers to effective end-of-life care include inadequate communication between healthcare providers and patients, a lack of understanding of patient preferences, and insufficient training in palliative care among primary care providers (Mitchell & Teno, 2021).

Implications of Previous Findings

Comprehensive Geriatric Assessments (CGAs): Reviews suggest that implementing CGAs can significantly enhance the management of older adults, enabling healthcare providers to tailor care plans to individual needs and improve overall health outcomes (Rubenstein & Josephson, 2019).

Education and Training: There is a clear need for ongoing education and training for family medicine practitioners regarding the complexities of polypharmacy and geriatric syndromes, as well as the principles of effective end-of-life care (Mitchell & Teno, 2021). Enhanced training can improve clinician confidence and competence in managing these challenges.

Interdisciplinary Collaboration: The implications of the review advocate for interdisciplinary collaboration in managing older adults, highlighting the importance of coordinated care strategies involving family medicine practitioners, geriatric specialists, pharmacists, and palliative care teams (Rubenstein & Josephson, 2019).

Policy and Practice Changes: Finally, the Rubenstein and Josephson's review calls for policy changes that support comprehensive care models for older adults, advocating for better resource allocation for geriatric services and increased funding for research focused on effective interventions in primary care settings (Huang & Mindikoglu, 2022).

Introduction

Background on the ageing population and its significance

In Canada, the aging population is a significant demographic trend that has wide-reaching implications for the country's economy, healthcare system, and social structures. As with



many developed nations, Canada is experiencing an increase in the proportion of its population over the age of 65 due to declining birth rates and increased life expectancy (Statistics Canada, 2022). This trend has profound implications for Canadian society in the coming decades.

According to Statistics Canada (2022), approximately 18.8% of the Canadian population was aged 65 and over in July 2022, translating to over 7.3 million citizens aged 65 years and older living in Canada. The proportion of seniors in the Canadian population is expected to rise over the next few decades due to factors such as longer life expectancies and an aging Baby Boomer population.

The Baby Boomer generation remains the largest generation in Canada. According to the 2021 Census, 9,212,600 Baby Boomers were residing in Canada at the time of the survey (Statistics Canada, 2021). However, this was the first Census in which they represented less than a quarter of the total Canadian population. Based on the 2021 Census, Baby Boomers accounted for 24.9% of the population, a decrease from 41.7% at the end of the baby boom period in 1966. Between the 2016 and 2021 Censuses, the number of Baby Boomers fell by 3.1%, largely due to mortality, although some individuals moved outside of Canada (Statistics Canada, 2021).

The ageing population in Canada is a major demographic shift that presents both challenges and opportunities. While it will place increased pressure

on the healthcare system, pensions, and social services, Canada's response through immigration, policy reform, and innovation will be crucial in adapting to this reality. As the population continues to age, proactively addressing these challenges will be key to ensuring economic sustainability and the well-being of the country's older citizens (KPMG, 2020).

Importance of family medicine in managing older adults

Family medicine plays a crucial role in managing the health and well-being of older adults in Canada. As the population ages, the need for comprehensive, patient-centred care increases, and family physicians are often at the forefront of providing this care (Canadian Institute for Health Information, 2021).

All industrialised societies have populations that are ageing rapidly. Ageing is associated with rising levels of dependency and comorbidity, and the older population accounts for most costs in health services (World Health Organization, 2020). Health and social care costs are increasing everywhere, prompting third-party payers to seek reduced hospital admission and readmission rates for older individuals, shorter lengths of stay, and postponement of admissions to nursing homes (Canadian Institute for Health Information, 2021). This pressure to reduce the costs of health and social services for the ageing population is causing challenges for practitioners across disciplines and sectors.



In Canada, a national consensus meeting led to the development of national standards for Senior Friendly Hospitals (SFHs) and subsequently to provincial initiatives to develop SFH frameworks and indicators (Canadian Frailty Network, 2019). The goal of the SFH initiative is to decrease the risks of hospitalisation with the aim of minimising loss of function, maintaining physical autonomy, and being more responsive to the developmental needs of seniors. While the physical environment is often considered the primary focus of the SFH movement, the following components are also essential: organisational support, processes of care, the emotional and behavioural environment, ethics in clinical care and research, and the physical environment (Canadian Frailty Network, 2019).

Family medicine is vital in managing the ageing population in Canada due to its emphasis on continuity of care, coordination between healthcare providers, and a holistic approach to treating older adults (Wong et al., 2020). As Canada's elderly population grows, the role of family physicians becomes increasingly important in ensuring older adults live healthy, independent, and dignified lives. They are key to managing chronic diseases, supporting mental health, coordinating complex care needs, and providing end-of-life care (Canadian Institute for Health Information, 2021).

Overview of the challenges faced in primary care

Primary care in Canada faces several challenges that impact both

healthcare providers and patients. These challenges are largely due to structural issues in the healthcare system, changing demographics, and evolving patient needs.

Primary healthcare in Canada is in crisis. One in six Canadians report not having a regular family physician, and less than half are able to see a primary care provider on the same or next day (Canadian Institute for Health Information [CIHI], 2021). The consequences are significant, resulting in stress and anxiety for Canadians in need of care, as well as risks associated with limited diagnoses and referrals for potentially life-threatening conditions (CIHI, 2021).

Additionally, there are costs for hospitals and stress for staff stemming from visits to the emergency room for issues that would be better treated in primary care. Although many jurisdictions have seen worsened access to primary care due to the COVID-19 pandemic, Canada's access issues have compounded over time. A 2020 Commonwealth Fund survey indicated that 39% of Canadian respondents visited the Emergency Room (ER) in the past two years for a condition that could have been treated by a doctor, had one been available (Commonwealth Fund, 2020).

Recent analysis of administrative data showed that the number of Ontarians without a primary care provider rose from 1.8 million in March 2020 to 2.2 million in March 2022 (Ontario Ministry of Health, 2022). Meanwhile, approximately 3% of family physicians



in the province ceased working in the first six months of the pandemic—twice as many as in previous years (Ontario Ministry of Health, 2022). Individuals without a regular primary care provider reported seeking treatment for nonurgent health issues at in-person and virtual walk-in clinics (50% and 27%, respectively) or emergency departments (24%) (OurCare, 2022). Some turned to other health professionals, including pharmacists (14%), chiropractors (5%), specialist physicians (3%), and naturopaths (3%) (OurCare, 2022).

Objectives and scope of the literature review

The primary objective of this literature review is to explore and synthesize current research on the challenges and strategies in family medicine for managing the health of older adults in primary care settings, focusing on three key areas: polypharmacy, geriatric syndromes, and end-of-life care. Specifically, the review aims to examine the prevalence and impact of polypharmacy in older adults, emphasizing its implications for adverse drug reactions, medication adherence, and the complexities of managing multiple medications (Huang & Mindikoglu, 2022). It also seeks to identify common geriatric syndromes—such as falls, delirium, and incontinence—and evaluate the effectiveness of screening and intervention strategies that maintain functionality and improve quality of life in this population (Rubenstein & Josephson, 2019).

Additionally, the review assesses the role of family medicine in end-of-life care, highlighting the importance of advanced care planning, clear communication among healthcare providers, patients, and families, as well as the integration of palliative care services (Mitchell & Teno, 2021). Another focus is to evaluate the effectiveness of comprehensive geriatric assessments (CGAs) in personalizing care plans that enhance health outcomes for older adults. Finally, the review underscores the importance of interdisciplinary collaboration among family physicians, geriatric specialists, pharmacists, and palliative care teams in optimizing care delivery (Fried & Tinetti, 2020). This review draws on peer-reviewed articles and systematic reviews indexed in PubMed, focusing on studies from recent decades, to offer insights into how family medicine can adapt to meet the growing needs of aging populations through holistic, patient-centered, and multidisciplinary approaches.

Challenges in Managing Older Adults in Primary Care

Polypharmacy

Definition and prevalence among older adults

The World Health Organization (WHO) defines polypharmacy as “the administration of many drugs at the same time or the administration of an excessive number of drugs” (WHO, 2022). While there is no consensus on the specific medication threshold or measurement methods,



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polypharmacy is commonly defined as the concurrent use of five or more medications (Huang & Mindikoglu, 2022). This issue is particularly concerning among older adults, as it increases the risk of adverse drug interactions, side effects, and medication non-adherence. In Canada, polypharmacy is prevalent among older adults due to the higher incidence of chronic conditions that necessitate treatment (Harris et al., 2022).

Polypharmacy is especially common among frail individuals; however, previous studies have primarily focused on prescription medications, often neglecting the use of non-prescription medications, such as over-the-counter drugs and health supplements (Delara et al., 2022). Frailty is characterized by increased vulnerability to stressors and poor health outcomes, often resulting from physiological changes associated with chronic disease accumulation and aging. In Canada, the prevalence of polypharmacy is notable, with 21% of adults using five or more prescription medications, 21% using five or more non-prescription medications, and 16% using at least three prescription and three non-prescription medications concurrently (Harris et al., 2022). The rates of prescription polypharmacy and concurrent use of prescription and non-prescription medications are significantly higher among pre-frail or frail adults compared to their non-frail counterparts.

However, there is limited knowledge regarding the safety profiles of these combinations in the context of frailty.

Regardless of frailty status, women tend to have higher rates of non-prescription and concurrent prescription and non-prescription medication use compared to men (Harris et al., 2022). Efforts to manage polypharmacy in Canada include conducting medication reviews, implementing deprescribing programs, and improving prescribing practices to ensure that medication regimens are both safe and necessary for older adults (Delara et al., 2022).

Risks and complications associated with polypharmacy

Polypharmacy, defined as the concurrent use of multiple medications, is an increasing concern in healthcare, particularly among older adults and individuals with chronic conditions. In Canada, as in many other countries, polypharmacy is linked to various risks and complications, including adverse drug reactions (ADRs), drug-drug and drug-disease interactions, increased risk of falls, cognitive impairment and delirium, medication non-adherence, reduced quality of life, hospitalizations, and emergency visits (Maher et al., 2013). While the use of multiple medications can sometimes be appropriate, a higher number of medications is often associated with an increased risk of drug interactions, poor medication adherence, adverse effects, and elevated healthcare utilization and costs (Reason et al., 2012). Many Canadian seniors face a heightened risk of adverse events due to the use of numerous prescription medications without adequate explanations of potential side effects



and drug interactions (Harris et al., 2022).

Interventions such as routine medication reviews can help mitigate polypharmacy and its associated adverse events. Polypharmacy also contributes significantly to healthcare costs for both patients and the healthcare system. A retrospective cohort study indicated that polypharmacy is associated with a higher likelihood of taking potentially inappropriate medications and an increased risk of outpatient visits and hospitalizations, leading to approximately a 30% increase in medical costs (Maher et al., 2013). Falls, which are linked to increased morbidity and mortality in older adults, can be exacerbated by certain medications.

A study comparing patients who have not fallen with those who have fallen once or multiple times found that the number of medications taken was associated with an increased risk of falls (Reason et al., 2012). Additionally, urinary incontinence is another issue related to polypharmacy. A longitudinal study of women aged 70 years and older revealed that polypharmacy was associated with a higher risk of lower urinary tract symptoms (Harris et al., 2022). Addressing polypharmacy typically requires a multidisciplinary approach, including medication reviews conducted by pharmacists, deprescribing strategies, and ongoing monitoring to minimize risks while ensuring that necessary treatments are maintained (Delara et al., 2022).

Impact on patient outcomes

Polypharmacy, particularly among older adults and individuals with chronic conditions, significantly impacts patient outcomes in Canada. Although the use of multiple medications can be necessary, the associated risks often outweigh the benefits when not carefully managed. The effects of polypharmacy can be both positive and negative, depending on management practices; however, key negative impacts include an increased risk of adverse drug reactions and hospitalizations, decreased medication adherence, cognitive decline, functional impairment, reduced quality of life, impacts on mortality rates, and increased healthcare costs (Rossi et al., 2007). Older adults face a heightened risk of adverse drug reactions due to age-related declines in kidney and liver function, which can necessitate dosage adjustments (Hajjar et al., 2007).

There is also a high prevalence of unnecessary drug use among older veterans in outpatient settings, with factors such as race, income, and polypharmacy, along with health-related beliefs, playing central roles in this issue (Reason et al., 2012). While numerous studies have linked the number of medications to negative health outcomes, further research is needed to clarify the consequences of unnecessary drug use in elderly patients. Healthcare professionals must remain vigilant about the risks associated with polypharmacy and thoroughly evaluate all medications at each patient visit to mitigate these risks. Efforts to address polypharmacy in Canada include medication reviews and deprescribing



initiatives. Organizations like the Canadian Deprescribing Network (CaDeN) are working to reduce unnecessary medications and improve patient outcomes through education, research, and clinical guidelines (Reason et al., 2012).

Overall, polypharmacy can profoundly affect patient outcomes in Canada, frequently leading to adverse effects such as increased hospitalizations, cognitive decline, and diminished quality of life. Effectively managing polypharmacy requires a careful, individualized approach that incorporates regular medication reviews, collaboration among healthcare providers, and an emphasis on deprescribing when appropriate to enhance patient outcomes and alleviate strain on the healthcare system.

Geriatric Syndromes

Overview of common geriatric syndromes (e.g., falls, delirium, incontinence)

Geriatric syndromes represent a group of multifactorial health conditions that are highly prevalent among older adults, significantly impacting their quality of life, functionality, and overall healthcare outcomes. These syndromes are not tied to any specific disease; rather, they arise from impairments across multiple physiological systems associated with aging. The most common geriatric syndromes include falls, cognitive impairment, incontinence, frailty, and depression (Sanford et al., 2020).

These conditions contribute to increased mortality and disability, diminished financial and personal resources, and prolonged hospitalizations, ultimately leading to a substantial decline in quality of life (Brown-O'Hara, 2014). Frailty is one of the most recognized geriatric syndromes, characterized by a reduction in strength and endurance, which heightens vulnerability to even minor health stressors. Frail older adults face a greater risk of falls, hospitalization, and mortality (Brown-O'Hara, 2014). Falls are particularly concerning as they are a leading cause of injury and disability in older adults, often linked with other syndromes such as cognitive decline and sarcopenia, a condition involving the loss of muscle mass and strength (Sanford et al., 2020).

In managing frailty, Comprehensive Geriatric Assessments (CGAs) play a vital role in developing personalized care plans that address the physical, cognitive, and social needs of older adults. Key interventions include strength and balance exercises, proper nutrition, and medication reviews aimed at preventing polypharmacy, all designed to enhance health outcomes (Rockwood & Mitnitski, 2007). Additionally, cognitive impairments, including dementia and delirium, are prevalent among the elderly population. These impairments not only adversely affect cognitive functioning but also increase dependency, leading to a greater need for assistance with daily living activities. Furthermore, depression is another common geriatric syndrome that negatively impacts the emotional well-being of older adults and



frequently coexists with other conditions, such as frailty and cognitive decline (Magnuson et al., 2019). These geriatric syndromes share common risk factors, including aging, immobility, and chronic diseases, making early detection crucial for effective management. Comprehensive geriatric assessments are widely employed to identify these conditions and guide interventions aimed at preserving functionality and improving the quality of life for older adults (Sanford et al., 2020; Brown-O'Hara, 2014).

How these syndromes complicate management in primary care settings?

Geriatric syndromes significantly complicate management in primary care settings due to their multifactorial nature and the overlapping health issues faced by older adults. These syndromes—such as frailty, cognitive impairment, falls, incontinence, and depression—do not fit neatly into the traditional disease model, making diagnosis and treatment more complex (Sanford et al., 2020).

One major complication in primary care is the interaction between multiple syndromes. For example, a patient with cognitive impairment is more likely to experience falls due to diminished awareness and mobility issues. Similarly, frailty and sarcopenia (loss of muscle mass) increase the risk of falls, further complicating the management of these patients. When these syndromes occur together, they exacerbate each other and lead to a higher likelihood of hospitalizations

and worse health outcomes (Brown-O'Hara, 2014).

Polypharmacy, is another challenge in managing geriatric syndromes in primary care. Older adults are often prescribed several medications to address their various conditions, leading to increased risks of drug interactions, adverse effects, and complications such as falls and delirium. The need to carefully balance treatment regimens while avoiding medication-related harm makes primary care management particularly difficult (Magnuson et al., 2019).

Additionally, geriatric syndromes often require more time and resources than what is typically available in a primary care setting. Comprehensive assessments, such as geriatric evaluations, are crucial for identifying the full scope of issues, but these assessments are time-consuming and may require a multidisciplinary approach. Many primary care practices lack the necessary tools or specialized knowledge to perform such evaluations effectively, leading to underdiagnosis or mismanagement of geriatric syndromes (Sanford et al., 2020).

Incontinence and pressure ulcers further illustrate the difficulties in management. Both conditions often result from immobility, cognitive impairment, and functional decline, requiring careful monitoring and preventive measures. These issues often go unaddressed due to the limited time primary care physicians have during consultations, leading to poor health outcomes and reduced



quality of life for older adults (Brown-O'Hara, 2014).

To address these challenges, primary care providers must adopt a more holistic, interdisciplinary approach that focuses on early detection, prevention, and coordinated care. However, resource limitations and the complexity of managing multiple syndromes simultaneously continue to complicate care in this setting.

End-of-Life Care

Challenges in providing quality end-of-life care

End-of-life care (EOLC) is a critical component of healthcare that encompasses the physical, emotional, and spiritual needs of patients as they approach the end of their lives. Despite the advances in medical technology and the increasing recognition of the importance of quality EOLC, numerous challenges persist in delivering effective care. This literature review explores various barriers to quality EOLC, highlighting issues such as inadequate communication, insufficient training for healthcare providers, cultural differences, and systemic healthcare challenges. One of the most significant barriers to quality EOLC is inadequate communication between healthcare providers, patients, and families. Effective communication is paramount for understanding patient preferences and ensuring that care aligns with their wishes (Weissman et al., 2018).

A study by Kuehn (2016) noted that many healthcare professionals feel uncomfortable discussing end-of-life issues, which can lead to misunderstandings and unmet needs. Furthermore, patients and families often report feeling uninformed about their options, resulting in increased anxiety and difficulty in making informed decisions (Mack et al., 2016).

Another challenge is the lack of sufficient training for healthcare providers regarding EOLC. A survey conducted by Henson et al. (2015) revealed that many healthcare professionals feel underprepared to address the complex needs of dying patients, particularly in managing pain and other symptoms. This inadequacy in training can lead to suboptimal care, as providers may rely on aggressive treatments rather than focusing on comfort and quality of life. The World Health Organization (2018) emphasizes the need for comprehensive education and training programs to equip healthcare providers with the necessary skills and knowledge to deliver high-quality EOLC.

Cultural differences also play a significant role in the challenges faced in EOLC. Various cultural beliefs and practices can influence how individuals perceive death and dying, which in turn affects their preferences for care (Wong et al., 2019). For instance, some cultures may prioritize family involvement in decision-making, while others may prefer a more individualistic approach. The failure to recognize and respect these cultural differences can result in care



that is not aligned with patients' values and beliefs, leading to dissatisfaction and poor outcomes (Brady et al., 2019). Systemic healthcare barriers further complicate the provision of quality EOLC. Issues such as inadequate funding, fragmented services, and limited access to palliative care can hinder the ability of healthcare systems to deliver comprehensive EOLC (Earle et al., 2016).

Palliative care services, which are essential for managing symptoms and enhancing quality of life for patients with serious illnesses, are often underutilized due to a lack of awareness among patients and healthcare providers (Kavalieratos et al., 2016). Additionally, the increasing demand for EOLC services, coupled with a shortage of trained professionals, poses significant challenges to healthcare systems (Kelley et al., 2019). In fact, providing quality end-of-life care remains a multifaceted challenge that requires concerted efforts to address communication barriers, enhance provider training, respect cultural differences, and improve systemic healthcare processes. By acknowledging and tackling these challenges, healthcare systems can work towards ensuring that patients receive compassionate, respectful, and individualized care as they approach the end of life.

Communication issues and decision-making with patients and families

Effective communication is a cornerstone of quality healthcare, particularly for the ageing population

who often face complex health challenges and require nuanced decision-making. As individuals age, they frequently encounter a myriad of health issues that necessitate shared decision-making between healthcare providers, patients, and their families. However, communication issues can arise that complicate this process, often leading to misunderstandings, reduced patient satisfaction, and suboptimal health outcomes.

This literature review examines the communication challenges faced by healthcare providers and families when making decisions about care for elderly patients, as well as strategies to enhance this critical aspect of healthcare delivery.

One prominent communication issue is the cognitive decline that can accompany ageing, which may impede an older adult's ability to understand medical information or articulate their preferences effectively. According to McCormack et al. (2017), cognitive impairment affects not only the patient's capacity to participate in discussions but also their ability to retain and process information about their health conditions and treatment options.

This challenge is compounded by the fact that many healthcare providers may not be adequately trained to adapt their communication styles to meet the needs of patients with cognitive decline (Harrison et al., 2018). Hence, it is crucial for providers to employ strategies that enhance comprehension, such as using plain language, visual aids, and teach-back



methods to confirm understanding (Weiss et al., 2014).

Another significant barrier to effective communication in the ageing population is the emotional and psychological dimensions of decision-making. Older adults often experience feelings of vulnerability, anxiety, and fear regarding their health, which can hinder open dialogue with providers (Kirk et al., 2018). Families, too, may struggle with the emotional weight of making decisions on behalf of their elderly loved ones, particularly when it comes to end-of-life care (Harris et al., 2016). This emotional complexity can lead to avoidance of discussions about difficult topics, resulting in unaddressed preferences and unmet needs. Healthcare providers must be skilled in navigating these emotional landscapes, fostering an environment where patients and families feel safe to express their concerns and preferences. Cultural differences also play a critical role in communication and decision-making for the ageing population.

As the demographic landscape becomes increasingly diverse, healthcare providers must recognize and respect the cultural beliefs and values that influence how patients and families approach healthcare decisions (Wong et al., 2019). For instance, in some cultures, family members may be viewed as the primary decision-makers, while in others, individual autonomy may be paramount. Failure to acknowledge these cultural differences can lead to miscommunication and dissatisfaction with care (Brady et al., 2019). Culturally competent communication

strategies, such as involving family members in discussions and respecting cultural norms, are essential for effective decision-making. Additionally, the complexity of the healthcare system itself can create communication barriers.

The ageing population often navigates multiple healthcare providers, specialists, and care settings, leading to fragmented communication (Rosen et al., 2018). This fragmentation can result in inconsistent messaging regarding treatment options or health status, leaving patients and families confused and uncertain about the best course of action. Integrated care models that emphasise coordinated communication among healthcare teams can help mitigate these issues and ensure that patients and families receive consistent and clear information (Haggerty et al., 2013). Effective decision-making in healthcare requires not only clear communication but also a collaborative approach that empowers patients and families. Shared decision-making (SDM) models are increasingly recognized as a best practice for engaging patients in their care (Elwyn et al., 2012). SDM emphasises the importance of incorporating patients' values and preferences into the decision-making process, which can be particularly beneficial for older adults who may have specific wishes regarding their healthcare.

Training healthcare providers in SDM techniques can enhance patient engagement and satisfaction, leading to better health outcomes (Fagerlin et



al., 2013). As already stated, communication issues significantly impact decision-making for patients and families of the ageing population. Factors such as cognitive decline, emotional challenges, cultural differences, and the complexity of the healthcare system create barriers that can impede effective communication and collaboration. However, by adopting culturally competent communication strategies, employing shared decision-making models, and fostering an environment of openness and empathy, healthcare providers can enhance the decision-making process for elderly patients and their families. Addressing these communication challenges is essential for delivering high-quality, patient-centered care in an ageing society.

Palliative care integration in primary care

Integrating palliative care into primary care for end-of-life patients offers numerous benefits by improving access, quality, and continuity of care. The integration of palliative care in primary care addresses the comprehensive needs of patients with life-limiting illnesses, providing a holistic approach that includes pain and symptom management, psychosocial support, and advance care planning (Evans et al., 2021). This integrated model is especially crucial as the need for community-based palliative care rises, given the aging population and increasing incidence of chronic, non-cancer illnesses (Mitchell et al., 2024).

One of the key outcomes of integrating palliative care into primary care is the enhancement of early identification of patients who may benefit from palliative services, which has traditionally been a challenge, especially for non-cancer conditions. By utilizing primary care teams to manage early-stage palliative care, the burden on specialized palliative care resources can be reduced, allowing specialists to focus on more complex cases (Godrie et al., 2024). This model also emphasizes continuity of care, ensuring that patients have consistent support from their usual healthcare providers, which is particularly important in preventing unwanted hospital admissions and providing care in a preferred setting, such as the patient's home (Kavalieratos et al., 2017).

The INTEGRATE Project, which was implemented in Ontario, Canada, exemplifies how building capacity for palliative care in primary care settings can significantly increase primary care providers' confidence and competence in delivering palliative care. The project showed improvements in the use of palliative care tools, early identification of patients, and the initiation of advance care planning conversations. However, it also highlighted the need for ongoing education and resources to support primary care teams in providing effective palliative care (Evans et al., 2021). This underscores the importance of training and interprofessional collaboration, which are essential for successful palliative care integration into routine primary care practices.



Moreover, addressing the equity gap in palliative care access is another critical component of integrating palliative care into primary care. Research has shown that individuals from socioeconomically deprived or ethnically diverse backgrounds are less likely to receive palliative care, leading to inequities in end-of-life care. The integration of primary and palliative care, when grounded in trusted relationships and culturally competent approaches, has the potential to address these disparities by providing more personalized and accessible care (Mitchell et al., 2024).

In conclusion, the integration of palliative care into primary care is a promising model that can improve the quality of life for patients with life-limiting conditions. It facilitates early intervention, ensures continuity of care, and helps to address inequities in access to palliative services. The successful implementation of this model requires sustained training, resource support, and a focus on tailored care for diverse patient populations.

Strategies for Managing Older Adults in Primary Care

Importance and Components of Comprehensive Geriatric Assessment (CGA)

The Comprehensive Geriatric Assessment (CGA) plays a crucial role in the healthcare of older adults, particularly those experiencing frailty. CGA is important because it offers a holistic approach to care that goes beyond traditional medical assessments, recognizing the

complex interplay of physical, mental, and social factors that affect the health and well-being of elderly individuals. It enables healthcare providers to identify a wide range of issues early, implement appropriate interventions, and coordinate care in a way that enhances the patient's quality of life and reduces hospital admissions (Welsh et al., 2014; BGS Toolkit, 2019).

The Comprehensive Geriatric Assessment is a multidimensional process consisting of several key components, each addressing different aspects of an older adult's health. The first component is the physical assessment, which includes evaluating the patient's medical conditions, comorbidities, medications, and nutritional status. This helps clinicians understand the patient's overall physical health and identify any issues that may be impacting their quality of life.

The second component is the functional assessment, which focuses on the patient's ability to perform activities of daily living (ADLs) and instrumental activities of daily living (IADLs). This includes assessing mobility, balance, and the use of assistive devices. Understanding the patient's functional capacity helps in identifying areas where interventions can improve independence and reduce the risk of falls or other accidents (BGS Toolkit, 2019).

Psychological assessment is another critical component, addressing cognitive function, mood disorders, and mental health conditions such as depression and anxiety, which are



common in older adults. Early detection of cognitive decline or mood disorders is essential for preventing further deterioration in mental and physical health (Welsh et al., 2014).

Finally, the social and environmental assessment examines the patient's living conditions, social support networks, and environmental factors. This component helps healthcare providers understand the broader context in which the patient lives, ensuring that social and environmental factors that may impact the patient's well-being are addressed (BGS Toolkit, 2019).

In conclusion, CGA is vital because it provides a comprehensive understanding of an older person's health, addressing physical, functional, psychological, and social factors. This allows for the development of a personalized care plan that supports the patient's independence, reduces hospitalizations, and improves overall quality of life.

Benefits for individualised care planning

Individualised care planning, particularly when integrated with the Comprehensive Geriatric Assessment (CGA), offers a range of benefits that significantly enhance the health outcomes and quality of life for older adults. The core principle of individualized care planning is to tailor care strategies to the unique health needs, preferences, and goals of each patient, making it an essential approach in geriatric care.

One of the primary benefits is improved patient outcomes. Individualized care plans ensure that medical, functional, and psychological issues are addressed in a coordinated manner, reducing hospital admissions and re-admissions. Research has shown that patients who receive individualized care through CGA are more likely to experience improved functional status, better mental health outcomes, and reduced frailty (Sum et al., 2022). This comprehensive approach not only addresses immediate health concerns but also helps in preventing further health decline by proactively managing conditions.

Another significant benefit is enhanced patient engagement and adherence to care plans. When older adults are involved in their care planning process, they are more likely to adhere to prescribed treatments and lifestyle changes. This engagement fosters a sense of ownership over their health, leading to better compliance and satisfaction with care. Patients are more likely to follow through on interventions that reflect their personal goals, whether that's maintaining independence at home or managing a chronic condition effectively (Aggarwal et al., 2023).

Coordination of care is also a major benefit of individualized care planning. Older adults often have complex health needs that require input from multiple healthcare professionals. An individualized care plan ensures that all members of the care team are aligned, preventing gaps in care and ensuring that all aspects of a patient's health are



considered. This multidisciplinary approach leads to better communication among providers and results in a more seamless and efficient care experience for the patient (Welsh et al., 2014).

Additionally, individualized care planning improves the quality of life for older adults by addressing not only their medical needs but also their social and environmental challenges. Tailoring interventions to accommodate factors such as mobility limitations, social isolation, or inadequate support networks ensures that care is truly holistic, improving the patient's overall well-being (BGS Toolkit, 2019).

In summary, individualized care planning delivers a patient-centered approach that enhances health outcomes, improves patient engagement, coordinates care effectively, and ultimately leads to a better quality of life for older adults.

Medication Management

Strategies for reducing polypharmacy (e.g., regular medication reviews)

Managing polypharmacy in older adults is crucial for reducing adverse drug events (ADEs), hospitalizations, and improving overall quality of life. Several strategies have been identified to address polypharmacy effectively in primary care settings, particularly through careful deprescribing and medication review practices (Hoel et al., 2021; Rankin et al., 2018).

One key strategy is conducting comprehensive medication reviews. This process involves a thorough evaluation of all medications a patient is taking, including prescription drugs, over-the-counter medications, and supplements (Jandu et al., 2024). The goal is to identify potentially inappropriate medications (PIMs) and eliminate those that offer little benefit or pose a higher risk than reward. The Beers Criteria and STOPP/START tools are commonly used to guide this process (Hoel et al., 2021). By systematically reviewing each drug's indication, dosage, and potential interactions, clinicians can reduce the overall medication burden while ensuring the necessary treatments are maintained.

Another effective strategy is deprescribing, which involves the deliberate reduction or discontinuation of medications that are no longer needed or pose significant risks (Rankin et al., 2018). Deprescribing is particularly important in reducing the use of high-risk drugs such as benzodiazepines, opioids, and anticholinergics, which are commonly linked to adverse outcomes like falls, cognitive impairment, and increased mortality in older adults (Hoel et al., 2021). Collaborative efforts between primary care providers and pharmacists play a crucial role in ensuring the safe tapering and discontinuation of these medications.

Patient education and involvement are also critical components of managing polypharmacy. Ensuring that patients understand the purpose of each medication, potential side



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effects, and the importance of adherence to the prescribed regimen can improve outcomes (Jandu et al., 2024). Open communication between healthcare providers and patients fosters trust and enables patients to actively participate in decisions regarding their medication regimen.

Lastly, using electronic health records (EHRs) to monitor prescriptions and flag potential drug interactions is another key strategy. EHRs can help track patient medications across different providers and settings, reducing the risk of duplicative or conflicting prescriptions (Hoel et al., 2021).

In summary, effective strategies for reducing polypharmacy in older adults in primary care include comprehensive medication reviews, deprescribing unnecessary medications, involving patients in decision-making, and utilizing technology to monitor and manage prescriptions. These strategies help to mitigate the risks associated with polypharmacy and improve patient outcomes.

Use of guidelines and tools (e.g., Beers Criteria, STOPP/START criteria)

The use of guidelines and tools like the Beers Criteria and STOPP/START criteria plays a crucial role in optimizing medication management in older adults, particularly in reducing polypharmacy and preventing adverse drug events (ADEs). These tools provide healthcare professionals with a structured approach to evaluate and

minimize the use of potentially inappropriate medications (PIMs), while ensuring that essential treatments are not overlooked.

The Beers Criteria, first developed by Dr. Mark Beers in 1991, is an explicit list of medications considered inappropriate for use in older adults due to the high risk of adverse effects (Hoel et al., 2021). This guideline highlights medications that may cause sedation, confusion, or falls in the elderly, which are critical concerns given the physiological changes associated with aging (Jandu et al., 2024). The Beers Criteria has undergone several updates to incorporate new evidence, helping clinicians avoid drugs that could exacerbate existing comorbidities in older adults.

On the other hand, the STOPP/START criteria focus not only on identifying PIMs (STOPP) but also on detecting prescribing omissions (START) that could benefit the patient's overall health (O'Mahony et al., 2015). The criteria are divided by physiological systems, making it easier for clinicians to apply them during medication reviews. For instance, the STOPP criteria identify drugs that increase the risk of falls or exacerbate cognitive impairment, while the START criteria prompt the inclusion of necessary medications like anticoagulants or antihypertensives when appropriate (Rankin et al., 2018).

Implementation of these tools is supported by the use of electronic health records (EHRs) and decision-support systems, which can help flag



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potentially inappropriate prescriptions and alert clinicians when medication reviews are due (Lunghi et al., 2022). Additionally, collaboration between healthcare providers, such as pharmacists and physicians, ensures that medications are regularly reviewed and adjusted according to the patient's evolving needs.

Overall, the use of the Beers Criteria and STOPP/START criteria helps reduce polypharmacy, prevent ADEs, and ensure that older adults receive the most appropriate and effective treatments tailored to their specific health needs.

Addressing Geriatric Syndromes

Prevention strategies and screening tools for geriatric syndromes

Prevention strategies and screening tools for geriatric syndromes are essential for addressing the complex needs of older adults and improving their quality of life. Geriatric syndromes, including falls, frailty, cognitive impairment, polypharmacy, and depression, often result from the interaction of multiple medical, psychological, and social factors. Implementing prevention strategies and using screening tools can help detect these syndromes early, allowing for timely intervention.

One of the most widely recognized strategies is screening for frailty. Frailty is associated with poor outcomes, including falls, disability, and hospitalization. The FRAIL scale is a simple and validated tool used to identify frailty in older adults. It consists of five questions related to

fatigue, resistance, ambulation, illness, and loss of weight. Identifying frailty early can help in planning interventions such as exercise programs and nutritional support, which can prevent the progression of frailty to disability (Little, 2017).

Falls prevention is another critical area in geriatric care. Falls are a leading cause of morbidity and mortality in older adults. Screening tools such as the Timed Up and Go (TUG) test and the Gait Speed test are commonly used to assess fall risk. These tools measure the time it takes for an older adult to rise from a chair, walk a short distance, and return. A slower gait speed has been linked to higher fall risk. Interventions such as strength and balance training, environmental modifications, and medication review can significantly reduce fall risk (Magnuson et al., 2019).

Cognitive screening is also vital in preventing the progression of cognitive impairment to dementia. Tools like the Mini-Cog and the Montreal Cognitive Assessment (MoCA) are widely used to detect early signs of cognitive decline. Early identification allows healthcare providers to address modifiable risk factors, such as medication adjustments, managing cardiovascular risks, and promoting cognitive training exercises (Ghimire & Dahal, 2024).

Lastly, polypharmacy prevention involves regular medication reviews using tools like the Beers Criteria and STOPP/START criteria. These tools help identify potentially inappropriate



medications (PIMs) that may contribute to adverse drug reactions and geriatric syndromes. Deprescribing unnecessary medications is a key strategy to reduce the risks associated with polypharmacy (Hoel et al., 2021).

In conclusion, using validated screening tools like the FRAIL scale, TUG test, Mini-Cog, and Beers Criteria, combined with tailored interventions, can significantly reduce the incidence and impact of geriatric syndromes in older adults.

Collaboration with specialists and multidisciplinary teams

Collaboration with specialists and multidisciplinary teams is essential in managing the complex healthcare needs of older adults, particularly those with multiple chronic conditions and geriatric syndromes. This collaborative approach brings together healthcare professionals from diverse disciplines to create comprehensive, individualized care plans, addressing physical, psychological, and social factors that impact older patients.

One of the key benefits of multidisciplinary collaboration is the integration of different expertise to address complex health issues. For example, geriatricians, pharmacists, physical therapists, social workers, and other specialists work together to manage polypharmacy, mobility issues, and social isolation, which are common challenges in older adults (de Gans et al., 2023). This collaboration ensures that all aspects of the patient's health are considered,

from medication management to physical rehabilitation and mental health support. In addition, it reduces fragmented care, leading to better outcomes, such as reduced hospitalizations and improved functional status (Albarqi, 2024).

Effective communication and coordination within multidisciplinary teams are crucial for ensuring that care plans are well-organized and patient-centered. Studies have shown that when healthcare providers communicate effectively and share information regularly, patient outcomes improve significantly. Regular multidisciplinary team meetings, where patient cases are discussed comprehensively, ensure that care is aligned with the patient's goals and that any changes in the patient's condition are promptly addressed (Doornebosch et al., 2024). These meetings also involve the patient and their caregivers, ensuring that care decisions reflect the patient's preferences and values (Ghimire & Dahal, 2024).

Moreover, multidisciplinary collaboration improves the quality of life (QoL) for older patients by addressing not only their medical needs but also their social and emotional well-being. Studies have shown that patients who receive care from multidisciplinary teams experience better physical functioning, mental health, and overall satisfaction with their care (Albarqi, 2024). This approach helps prevent unnecessary hospital readmissions, enhances patient engagement, and fosters a more holistic approach to care, which is especially beneficial in



managing the multimorbidity often seen in older adults (de Gans et al., 2023).

In conclusion, collaboration with specialists and multidisciplinary teams is a vital strategy for improving the care of older adults. It ensures comprehensive care, enhances communication among healthcare providers, and significantly improves patient outcomes and quality of life.

Enhancing End-of-Life Care

Advanced care planning and discussions

Advanced care planning (ACP) is a process that enables individuals to make informed decisions about their future healthcare preferences, particularly in the event that they become unable to communicate those preferences due to illness or incapacity. This proactive approach is essential for ensuring that patients receive care that aligns with their values and preferences, especially at the end of life. Despite its importance, several barriers hinder effective ACP discussions, including lack of awareness, insufficient communication skills among healthcare providers, and cultural differences. This literature review explores the significance of ACP, the factors influencing its implementation, and the outcomes associated with effective ACP discussions. The importance of ACP lies in its potential to enhance patient autonomy and satisfaction with care. According to Detering et al. (2010), patients who engage in ACP are more likely to receive care that aligns with their

wishes and experience less anxiety about their future healthcare. In a systematic review, Sudore and Fried (2010) found that ACP discussions can lead to improved quality of life, reduced hospitalizations, and increased use of palliative care services. By facilitating conversations about values and preferences, ACP empowers patients to take an active role in their healthcare decisions, which can lead to a more meaningful and personalized care experience.

Despite the clear benefits of ACP, several barriers impede its effective implementation. One major obstacle is the lack of awareness and understanding of ACP among patients and families. Many individuals are unfamiliar with the concept of ACP and may not see the need to engage in these discussions until a health crisis occurs (Harris et al., 2018). This gap in knowledge highlights the necessity for public education campaigns to raise awareness about the importance of ACP and to encourage individuals to plan for their future healthcare needs. Healthcare providers also face challenges in initiating ACP discussions. A study by Torke et al. (2013) revealed that many clinicians feel uncomfortable discussing end-of-life issues with patients, often due to concerns about causing distress or fear. This discomfort can result in missed opportunities for meaningful conversations about patient values and preferences (Fried et al., 2009).

Additionally, limited training in communication skills related to ACP can hinder healthcare providers' ability to facilitate these discussions



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effectively (Levin et al., 2017). Educational programs aimed at equipping healthcare professionals with the necessary skills to conduct ACP discussions are crucial for improving the quality of care. Cultural differences further complicate ACP discussions.

Various cultural beliefs and practices influence how individuals approach end-of-life care and their willingness to engage in ACP (Wong et al., 2019). For example, some cultures may prioritize family involvement in decision-making, while others may emphasize individual autonomy. Understanding and respecting these cultural differences is vital for healthcare providers in order to create an inclusive environment for ACP discussions (Brady et al., 2019). Culturally sensitive approaches to ACP can foster trust and open communication, ultimately leading to better alignment of care with patient values.

The timing of ACP discussions is another critical factor influencing their effectiveness. Research suggests that initiating conversations about ACP early in the course of illness, rather than in crisis situations, leads to more meaningful and impactful outcomes (Hoffman et al., 2017). Early discussions allow patients to reflect on their values and preferences, and they provide an opportunity for families to engage in the planning process together. Moreover, regular revisitation of ACP plans ensures that they remain relevant as patients' conditions and preferences evolve over time (Sudore et al., 2018).

The advanced care planning is an essential component of patient-centered care that enhances autonomy and aligns healthcare with individual values. However, barriers such as lack of awareness, discomfort among healthcare providers, cultural differences, and timing issues must be addressed to improve the implementation of ACP discussions. By fostering a culture of open communication and providing education and training for both patients and healthcare providers, the healthcare system can better support individuals in making informed decisions about their future care.

Role of hospice and palliative care services

Hospice and palliative care play critical roles in enhancing end-of-life care by focusing on providing comfort, dignity, and emotional support for terminally ill patients and their families. Both services prioritize the alleviation of pain and symptoms while offering psychological, social, and spiritual support to ensure a dignified and peaceful dying process.

Hospice care is typically reserved for patients in the final months of life and emphasizes comfort over curative treatment. It involves a multidisciplinary approach, integrating medical, emotional, and spiritual care that extends to the patient's family members, supporting them through caregiving and bereavement (Tabler et al., 2015). Studies have shown that caregivers often express high satisfaction with the hospice care provided to their loved ones, particularly in terms of the



compassionate and holistic approach of hospice teams. However, caregivers' own bereavement needs may sometimes be under-addressed, highlighting a potential area for improvement in hospice services (Tabler et al., 2015).

Palliative care, on the other hand, can begin much earlier in the disease trajectory, often alongside curative treatments, and is not limited to end-of-life situations. It aims to improve the quality of life for patients with serious illnesses, whether or not they are terminal (Berthold et al., 2022). Palliative care also addresses complex symptom management, emotional distress, and the practical needs of both patients and families. Research shows that early integration of palliative care can result in better symptom control and improved overall well-being for patients, particularly those with chronic or life-limiting conditions such as cancer or neurological diseases (Liao et al., 2023). This early intervention helps to prevent unnecessary hospitalizations and reduces healthcare costs by focusing on patient-centered care (Liao et al., 2023).

Both hospice and palliative care models have been shown to significantly reduce healthcare utilization, including hospital admissions, emergency room visits, and intensive care unit stays. They also lead to cost reductions, particularly when patients are enrolled earlier in their disease progression (Liao et al., 2023).

In Canada, for example, integrating palliative care into primary care

settings has been effective in providing timely and appropriate end-of-life care, improving healthcare provider confidence, and promoting the use of palliative care tools (Evans et al., 2021).

However, barriers to accessing these services persist, particularly for underserved populations. Studies have identified significant inequalities in hospice care access, with the oldest old, ethnic minorities, and those with non-cancer conditions being underrepresented in hospice populations (Tobin et al., 2022). Addressing these disparities is essential to ensuring equitable access to end-of-life care for all individuals.

In conclusion, hospice and palliative care significantly enhance end-of-life care by focusing on symptom relief, emotional and spiritual support, and overall quality of life. Early integration of palliative care and improving access to hospice services, particularly for marginalized groups, are crucial steps toward more compassionate and equitable care for terminally ill patients and their families.

Family involvement and support

Family involvement and support are crucial components in enhancing end-of-life (EOL) care. Research consistently highlights that family members play a significant role in ensuring patients receive quality care, making informed decisions, and providing emotional support to both the patient and the healthcare team. This involvement not only improves the quality of care but also helps to



ensure that patients' preferences and wishes are respected as they approach the end of life.

One of the primary ways family involvement enhances EOL care is through decision-making support. Many patients lose the ability to make decisions toward the end of their lives, making family members essential in the process (Sudore et al., 2014). Families help interpret advance directives and ensure that the care provided aligns with the patient's preferences. Family members often serve as surrogate decision-makers, facilitating crucial discussions with healthcare providers about treatment plans, palliative care, and hospice services. Research has shown that when family members are actively involved, patients are more likely to receive palliative care consultations, spiritual support through chaplain visits, and be placed under a "do not resuscitate" (DNR) order, all of which are associated with higher quality EOL care (Sudore et al., 2014).

Communication between healthcare providers, patients, and families is central to achieving successful outcomes in EOL care. Effective EOL communication addresses medical conditions, prognosis, treatment options, and patient preferences. Family involvement in these conversations helps alleviate the emotional burden and provides clarity for both patients and caregivers (Pun et al., 2023). However, poor communication or lack of family inclusion can lead to suboptimal care outcomes, such as unnecessary or aggressive treatments, misaligned care goals, and increased healthcare

costs (Pun et al., 2023). Family-centered communication frameworks, like the COMFORT and SPIKES models, have been developed to facilitate these essential conversations and ensure that family members are adequately informed and involved.

Family members also provide critical emotional and practical support. The burden of caregiving, particularly in palliative and EOL care, often falls on family members. This responsibility can be emotionally and physically draining. Family involvement in caregiving offers the patient a sense of continuity, comfort, and emotional closeness, which are essential elements of a dignified death (Momeni et al., 2022). Families often report that they feel more empowered and less alienated from the healthcare process when healthcare professionals adopt a family-centered approach, addressing their needs and concerns along with those of the patient (Momeni et al., 2022). This approach not only benefits the patient but also improves family members' emotional well-being during and after the caregiving process.

In conclusion, family involvement is essential in enhancing the quality of EOL care. Through active participation in decision-making, communication, and caregiving, family members help ensure that care aligns with the patient's preferences and that their emotional, spiritual, and practical needs are met. Healthcare systems should continue to encourage family-centered approaches to EOL care to optimize



outcomes for both patients and their loved ones.

Final Conclusion

Challenges and effective strategies

Managing the health of older adults in primary care involves addressing several critical challenges and implementing effective strategies to improve outcomes. One key challenge is frailty, which increases the risk of hospitalizations and poor health outcomes. Polypharmacy, or the use of multiple medications, can lead to adverse drug reactions, medication non-adherence, and harmful interactions, complicating care. Geriatric syndromes such as falls, delirium, incontinence, and cognitive decline further increase the likelihood of disability and hospitalization in this population. Additionally, ensuring that end-of-life care aligns with patient preferences can be difficult without proper advanced care planning and palliative care integration. The complexity of managing these multiple health concerns also necessitates strong interdisciplinary coordination among healthcare providers.

To address these challenges, several strategies have proven effective. Comprehensive Geriatric Assessments (CGAs) enable personalized care plans by evaluating physical, cognitive, psychological, and social factors, which is crucial for managing frailty. Regular medication reviews help reduce polypharmacy by discontinuing unnecessary medications and simplifying treatment regimens. Early screening and

intervention for geriatric syndromes like falls and delirium are essential for maintaining functionality and preventing further complications. Facilitating advanced care planning discussions ensures that older adults' preferences for end-of-life care are respected, while integrating palliative care into primary care settings enhances patient-centered care. Lastly, interdisciplinary collaboration between family physicians, geriatric specialists, pharmacists, and palliative care teams ensures that older adults receive holistic and coordinated care, ultimately leading to better health outcomes.

The importance of addressing these issues in primary care for better health outcomes: Addressing frailty, polypharmacy, geriatric syndromes, and end-of-life care within the primary care setting is critical to improving the health outcomes of older adults. The use of Comprehensive Geriatric Assessments, regular medication reviews, early intervention for geriatric syndromes, and a focus on advanced care planning in end-of-life care are all essential strategies for optimising care. Furthermore, interdisciplinary collaboration among healthcare providers is key to delivering comprehensive, patient-centred care. By addressing these issues, primary care can play a pivotal role in improving the quality of life and health outcomes for older adults.

Recommendations

Based on the findings of this literature review, the following recommendations are made:



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- Family medicine practitioners should prioritize polypharmacy management in older adults, focusing on medication adherence and end-of-life care.
- Advanced care planning, clear communication with patients and families, and integration of palliative care services into primary care practice should be emphasized.
- Improved care delivery strategies should be developed to address the coexistence of polypharmacy, geriatric syndromes, and end-of-life care.
- Further research is needed to explore the impact of polypharmacy on medication adherence and end-of-life care, as well as to identify effective strategies for improving these outcomes.

Limitations

This literature review has several limitations, including:

- The reviews were limited to older adults, and the findings may not generalize to other populations.
- The included studies were published in English, and the findings may not be representative

of the experiences of older adults in other languages.

Future Research

Future research should focus on exploring the impact of polypharmacy on medication adherence and end-of-life care, as well as identifying effective strategies for improving these outcomes. It is also essential to investigate the role of other factors, such as healthcare provider behaviour, patient preferences, and socioeconomic status, in the context of polypharmacy and end-of-life care.



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