GERIATRIC AND GERONTOLOGICAL NURSING: HISTORICAL EVOLUTION, CONTEMPORARY PRACTICE, CURRENT DEVELOPMENTS, AND FUTURE DIRECTIONS IN HEALTHY AGING CARE

Abyad R [1] Abyad A [2],

1 Bsc, MSc International Health, General Manager, Abyad Medical Center, Lebanon
2 MD, MPH, MBA, DBA, AGSF , AFCHSE
Consultant internal medicine & Geriatric. Dar Al Shifa Hospital -Kuwait
Chairman, Middle-East Academy for Medicine of Aging. www.mea-ma.com
President, Middle East & North Africa Association on Aging & Alzheimer's www.menaaa.org
Coordinator, Middle-East Primary Care Research Network
Coordinator, Middle-East Network on Aging www.me-jaa.com/menar-index.htm
Editor, Middle-East Journal of Family Medicine www.mejfm.com
Editor, Middle-East Journal of Age & Aging www.me-jaa.com
Editor, Middle-East Journal of Nursing www.me-jn.com

Correspondence:
Dr A Abyad
Email: aabyad@cyberia.net.lb

Received: May 2026; Accepted: June 2026; Published: July 2026
Citation: Abyad R, Abyad A. Geriatric and Gerontological Nursing: Historical Evolution, Contemporary Practice, Current Developments, and Future Directions in Healthy Aging Care. Middle East Journal of Nursing 2026; 20(1): 26-47.
DOI: 10.5742/MEJN2026.9378112

Abstract

Population aging has emerged as one of the most important demographic transformations of the twenty-first century, fundamentally altering healthcare delivery, workforce requirements, and long-term care systems worldwide. As life expectancy increases and fertility rates decline, healthcare professionals are increasingly required to address the complex and multidimensional needs of older adults. Geriatric and gerontological nursing have consequently evolved into specialized disciplines that integrate biological, psychological, social, cultural, and environmental dimensions of aging. This review examines the historical development of geriatric and gerontological nursing, theoretical foundations of aging, epidemiological trends, and contemporary challenges associated with population aging. The review further explores how evolving concepts such as healthy aging, functional ability, person-centered care, and age-friendly health systems have transformed nursing practice. Evidence indicates that gerontological nursing is transitioning from a disease-oriented paradigm toward a holistic framework emphasizing resilience, autonomy, quality of life, and maintenance of function. Understanding the historical evolution and conceptual foundations of the specialty is essential for addressing future healthcare demands associated with rapidly aging populations.

Keywords: geriatric nursing, gerontological nursing, healthy aging, population aging, frailty, older adults, healthy ageing, nursing science

Introduction

1 Global Population Aging

Population aging is increasingly recognized as one of the most profound demographic phenomena in modern history (United Nations, 2023; World Health Organization [WHO], 2024). Improvements in public health, vaccination programs, sanitation, nutrition, education, and medical technology have substantially increased life expectancy across most regions of the world over the past century (Beard et al., 2016; Rowe & Kahn, 2015; Harper, 2021). Simultaneously, declining fertility rates have reshaped population structures, producing a growing proportion of older adults within both developed and developing nations (Bloom & Luca, 2016; Beard & Bloom, 2022).

The World Health Organization (2024) estimates that the global population aged 60 years and older will increase from approximately one billion individuals in 2020 to more than 2.1 billion by 2050. Furthermore, the population aged 80 years and older is projected to triple during the same period, representing the fastest-growing demographic group worldwide (United Nations, 2023). These demographic transitions are occurring at unprecedented rates in many low- and middle-income countries, where healthcare systems frequently lack adequate infrastructure to meet emerging geriatric care demands (WHO, 2023; Prince et al., 2021).

Population aging has significant implications for healthcare delivery because advancing age is associated with increased prevalence of chronic diseases, multimorbidity, frailty, disability, cognitive impairment, and long-term care requirements (Cesari et al., 2022; Hoogendijk et al., 2019; Sezgin et al., 2022; Dent et al., 2019). Consequently, healthcare systems worldwide require professionals with specialized expertise in aging processes and older adult care (Fulmer et al., 2021; Boltz et al., 2021).

2 Emergence of Geriatric and Gerontological Nursing

The increasing complexity of healthcare needs among older adults has contributed to the development of geriatric and gerontological nursing as specialized fields of professional practice (Touhy & Jett, 2022). Although the terms are often used interchangeably, important distinctions exist.

Geriatric nursing traditionally focuses on clinical management of disease, disability, and age-related health conditions affecting older adults (Capezuti et al., 2023). In contrast, gerontological nursing adopts a broader perspective that incorporates biological, psychological, social, cultural, ethical, and environmental dimensions of aging (Resnick et al., 2022; Touhy & Jett, 2022).

Gerontological nursing has evolved beyond disease management toward promotion of healthy aging, maintenance of functional independence, prevention of avoidable decline, enhancement of quality of life, and support of successful adaptation to aging-related changes (WHO, 2020; Cacchione, 2022). Contemporary practice increasingly emphasizes person-centered care, shared decision-making, interdisciplinary collaboration, and evidence-based interventions designed to maximize functional ability and well-being (Fulmer et al., 2021; Neville et al., 2026).

3 Purpose and Scope of the Review

The purpose of this review is to critically examine the historical evolution, theoretical foundations, and epidemiological context of geriatric and gerontological nursing. Particular attention is devoted to understanding how demographic transitions, scientific advances, and evolving healthcare priorities have shaped contemporary nursing practice.

This review synthesizes seminal historical contributions alongside contemporary evidence published primarily between 2020 and 2026. Through examination of historical milestones, theoretical frameworks, and demographic trends, the review provides a foundation for understanding the current and future role of gerontological nursing in addressing global aging challenges.

Historical Development of Geriatric and Gerontological Nursing

1 Early Approaches to Care of Older Adults

Historically, care of older adults occurred primarily within family networks, religious communities, and charitable institutions (Cole, 1992; Achenbaum, 2015). Prior to the emergence of modern healthcare systems, aging was commonly viewed as an inevitable process of decline rather than a distinct area of scientific inquiry (Thane, 2000). Consequently, older adults experiencing disability or dependency frequently resided in almshouses, poorhouses, or religious institutions that provided custodial rather than therapeutic care (Conrad & Schneider, 1992).

Throughout much of the eighteenth and nineteenth centuries, older individuals received limited attention within healthcare systems because infectious diseases, maternal mortality, and childhood mortality dominated public health priorities (Achenbaum, 2015). The absence of effective medical interventions further reinforced beliefs that aging-related decline was largely unavoidable (Cole, 1992).

These early attitudes significantly influenced societal perceptions of aging and contributed to ageist assumptions that persisted well into the twentieth century (Levy, 2021).

2 Florence Nightingale and the Foundations of Elder Care

Although Florence Nightingale did not explicitly establish geriatric nursing, her contributions profoundly influenced subsequent approaches to older adult care (Nightingale, 1860/1969; Dossey, 2010). Nightingale emphasized environmental factors including ventilation, cleanliness, nutrition, light exposure, and individualized observation of patients. These principles remain central to contemporary gerontological nursing practice (Dossey, 2010).

Nightingale's holistic philosophy recognized that health outcomes were influenced not only by disease processes but also by environmental and social conditions (Selanders, 2010). Modern age-friendly healthcare models similarly acknowledge the importance of environmental design, functional support, and person-centered care in promoting healthy aging (Fulmer et al., 2021).

Furthermore, Nightingale's emphasis on detailed patient assessment anticipated contemporary concepts of comprehensive geriatric assessment, which remain fundamental components of gerontological nursing practice (Capezuti et al., 2023).

3 Marjory Warren and the Birth of Modern Geriatrics

The emergence of modern geriatrics is widely attributed to the pioneering work of British physician Marjory Warren during the 1930s and 1940s (Warren, 1943; Matthews, 1984). At a time when many hospitalized older adults were regarded as incurable and were frequently confined to chronic wards, Warren systematically evaluated elderly patients and demonstrated that many conditions previously attributed to aging could be improved through rehabilitation and individualized care (Evans, 1997; Coni, 2000).

Warren's work challenged prevailing assumptions regarding aging, disability, and dependency (Morley, 2021). Through comprehensive assessment and interdisciplinary management, she demonstrated that older adults could achieve substantial improvements in function, independence, and quality of life (Arai et al., 2021).

The principles established by Warren, including functional assessment, rehabilitation, individualized care planning, and interdisciplinary collaboration, remain foundational to contemporary geriatric and gerontological nursing practice (Boltz et al., 2021; Capezuti et al., 2023).

Table 1. Historical Milestones in Geriatric and Gerontological Nursing

Period	Development	Impact
Pre-1850	Family and charitable elder care	Informal support systems
1850–1900	Nightingale reforms	Foundations of modern nursing
1930–1940	Marjory Warren's work	Birth of geriatrics
1950–1970	Emergence of gerontology	Scientific study of aging
1970–1990	Specialty nursing programs	Professionalization
1990–2010	Evidence-based practice movement	Research-driven care
2010–Present	Healthy aging paradigm	Functional ability focus
2021–2030	UN Decade of Healthy Ageing	Global transformation agenda

4 Emergence of Gerontology as a Scientific Discipline

The post-war period witnessed increasing recognition that aging represented a multidimensional phenomenon requiring interdisciplinary investigation (Birren & Schaie, 2011; Bengtson & Settersten, 2016). Gerontology emerged as a scientific field integrating biological, psychological, sociological, and environmental perspectives on aging (Ferrucci et al., 2021).

Research institutions, academic programs, and professional organizations dedicated to aging rapidly expanded throughout North America and Europe (Achenbaum, 2015). The establishment of the Gerontological Society of America and similar organizations promoted scientific inquiry and interdisciplinary collaboration (Birren & Schaie, 2011).

Nursing scholars increasingly contributed to this evolving body of knowledge by examining functional decline, adaptation to aging, caregiving, health promotion, and quality of life among older adults (Touhy & Jett, 2022).

5 Development of Gerontological Nursing as a Specialty

The latter half of the twentieth century marked substantial growth in gerontological nursing education, certification, research, and professional recognition (Meiner, 2023). Increased longevity and growing prevalence of chronic disease highlighted the need for specialized nursing competencies focused on older populations (American Nurses Association, 2023).

Educational programs began incorporating gerontology content into undergraduate and graduate curricula, while professional organizations developed competency frameworks for gerontological nursing practice (Resnick et al., 2022). Specialty certification programs further strengthened professional identity and promoted evidence-based care standards (Capezuti et al., 2023).

Contemporary gerontological nursing now encompasses clinical practice, education, leadership, research, policy development, and advocacy (Neville et al., 2026).

Conceptual and Theoretical Foundations

1 Understanding Aging as a Multidimensional Process

Contemporary gerontology recognizes aging as a multidimensional process involving biological, psychological, social, and environmental changes occurring throughout the lifespan (Bengtson & Settersten, 2016; Ferrucci et al., 2021). Chronological age alone inadequately reflects health status because substantial heterogeneity exists among older adults (WHO, 2020).

Individuals of identical chronological age may exhibit markedly different levels of physical function, cognitive performance, resilience, and social engagement (Rowe & Kahn, 2015; Beard et al., 2016). Consequently, modern gerontological nursing increasingly emphasizes functional ability rather than chronological age as the primary indicator of healthy aging (WHO, 2020; Cacchione, 2022).

2 Biological Theories of Aging

Numerous biological theories have been proposed to explain aging processes (López-Otín et al., 2023; Kirkland, 2022). Contemporary geroscience identifies several interconnected mechanisms, including genomic instability, telomere attrition, epigenetic alterations, mitochondrial dysfunction, cellular senescence, and chronic inflammation (Campisi, 2021; Ferrucci et al., 2021).

These biological changes contribute to increased vulnerability to chronic disease, frailty, disability, and cognitive decline (Partridge, 2021; Kirkland, 2022).

Table 2. Biological Hallmarks of Aging

Hallmark	Clinical Relevance
Genomic instability	Disease susceptibility
Telomere attrition	Cellular aging
Epigenetic alterations	Functional decline
Mitochondrial dysfunction	Reduced physiological reserve
Cellular senescence	Chronic inflammation
Stem cell exhaustion	Impaired repair mechanisms
Altered intercellular communication	Multisystem dysfunction

3 Psychological and Social Theories of Aging

Psychological theories emphasize adaptation, resilience, coping, and maintenance of well-being throughout later life (Baltes & Baltes, 1990; Tornstam, 2005). Successful aging theory suggests that older adults can maintain high levels of functioning through adaptation and engagement despite biological changes (Rowe & Kahn, 2015).

Gerotranscendence theory proposes that aging may involve positive psychological development characterized by increased wisdom, self-reflection, and life satisfaction (Tornstam, 2005). Similarly, socioemotional selectivity theory suggests that older adults prioritize emotionally meaningful relationships and experiences as perceived time horizons shorten (Carstensen et al., 2011).

These theoretical perspectives provide important foundations for person-centered gerontological nursing interventions.

Epidemiology of Population Aging

Population aging is occurring in virtually every region of the world and is increasingly regarded as one of the defining public health challenges of the twenty-first century (United Nations, 2023; WHO, 2024). Improvements in survival rates have contributed to substantial increases in life expectancy, while fertility declines have altered age structures across populations (Harper, 2021; Beard & Bloom, 2022).

The demographic transition has resulted in increasing prevalence of multimorbidity, frailty, dementia, disability, and long-term care needs (Hoogendijk et al., 2019; Cesari et al., 2022; Sezgin et al., 2022). Multimorbidity affects a majority of adults over age 65 in many countries and significantly increases healthcare utilization and expenditure (Tinetti et al., 2021).

Frailty has emerged as a major global concern, affecting approximately 10–15% of community-dwelling older adults and substantially higher proportions of institutionalized populations (Dent et al., 2019; Sezgin et al., 2022). Similarly, dementia prevalence continues to increase worldwide, with projections indicating that the number of affected individuals may exceed 150 million by 2050 (Livingston et al., 2020; Prince et al., 2021).

Table 3. Major Global Aging Indicators

Indicator	Current Trend
Life expectancy	Increasing
Population ≥60 years	Rapid growth
Population ≥80 years	Fastest-growing age group
Dementia prevalence	Increasing
Multimorbidity	Highly prevalent
Frailty	Increasing with age
Long-term care demand	Expanding globally
Healthcare expenditure	Increasing

The epidemiological realities of aging populations underscore the growing importance of geriatric and gerontological nursing. As healthcare systems confront increasing complexity associated with aging, specialized nursing expertise will remain essential for promoting healthy aging, preserving functional ability, and improving quality of life among older adults.

Scope and Roles of Geriatric and Gerontological Nursing

1 Evolution of Professional Roles

The scope of geriatric and gerontological nursing has expanded considerably over the past several decades in response to demographic aging, increasing multimorbidity, healthcare system complexity, and evolving models of chronic disease management (Boltz et al., 2021; Capezuti et al., 2023; Meiner, 2023). Historically, nursing care of older adults focused primarily on assistance with activities of daily living and management of chronic illnesses. Contemporary gerontological nursing, however, encompasses a much broader range of responsibilities that include health promotion, disease prevention, rehabilitation, palliative care, care coordination, caregiver support, policy advocacy, leadership, and research (Touhy & Jett, 2022; Resnick et al., 2022).

Modern gerontological nurses function across acute care hospitals, primary care settings, long-term care facilities, rehabilitation centers, assisted living communities, hospice programs, and community-based services (Fulmer et al., 2021; Neville et al., 2026). Their responsibilities increasingly involve management of complex health conditions that require sophisticated clinical judgment and interdisciplinary collaboration (Tinetti et al., 2021).

The growing prevalence of multimorbidity has further transformed nursing practice. Rather than focusing on single diseases, gerontological nurses frequently manage interconnected clusters of conditions such as cardiovascular disease, diabetes mellitus, osteoarthritis, chronic kidney disease, cognitive impairment, and depression (Marengoni et al., 2020; Tinetti et al., 2021). This complexity necessitates a holistic approach that prioritizes function, quality of life, and patient preferences rather than disease-specific outcomes alone (WHO, 2020; Cacchione, 2022).

2 Clinical Care Roles

Clinical practice remains the cornerstone of gerontological nursing. Nurses are responsible for comprehensive assessment, care planning, implementation of interventions, monitoring of outcomes, and coordination of services across the continuum of care (Capezuti et al., 2023).

Assessment of older adults differs substantially from assessment of younger populations because age-related physiological changes often alter disease presentation (Inouye et al., 2021). Older adults may present with nonspecific symptoms such as confusion, weakness, falls, anorexia, or functional decline rather than classic disease manifestations (Boltz et al., 2021).

Gerontological nurses therefore require advanced competencies in recognizing atypical presentations, identifying early functional decline, detecting frailty, and evaluating psychosocial determinants of health (Fulmer et al., 2021; Resnick et al., 2022).

3 Health Promotion and Disease Prevention

Contemporary gerontological nursing increasingly emphasizes health promotion and prevention rather than exclusively focusing on disease management (WHO, 2020; Beard et al., 2016). Evidence suggests that many age-related health outcomes can be modified through preventive interventions targeting physical activity, nutrition, cognitive stimulation, vaccination, medication management, and social engagement (Livingston et al., 2020; Cesari et al., 2022).

Health promotion initiatives implemented by gerontological nurses include:

- Falls prevention programs
- Chronic disease self-management education
- Vaccination campaigns
- Nutritional interventions
- Physical activity promotion
- Cognitive health programs
- Social engagement initiatives

These interventions contribute significantly to maintenance of functional ability and independence among older adults (Resnick et al., 2022; WHO, 2021).

4 Care Coordination and Transitional Care

Care transitions represent periods of increased vulnerability for older adults, particularly during movement between hospitals, rehabilitation facilities, nursing homes, and community settings (Naylor et al., 2018; Hirschman et al., 2021).

Poorly coordinated transitions are associated with medication errors, adverse events, rehospitalization, and increased mortality (Coleman et al., 2020). Gerontological nurses play critical roles in facilitating communication among healthcare providers, ensuring continuity of care, educating patients and caregivers, and monitoring outcomes following discharge (Naylor et al., 2018).

Table 5. Fried Frailty Phenotype

Criterion	Description
Weight loss	Unintentional loss
Weakness	Reduced grip strength
Exhaustion	Self-reported fatigue
Slow gait	Reduced walking speed
Low activity	Decreased physical activity

Frailty is generally diagnosed when three or more criteria are present (Fried et al., 2001).

2 Falls

Falls represent one of the leading causes of injury, disability, hospitalization, and mortality among older adults (Rubenstein, 2020; Montero-Odasso et al., 2022). Approximately one-third of adults aged 65 years and older experience at least one fall annually, with prevalence increasing among those aged 80 years and above (WHO, 2021).

Risk factors include:

- Frailty
- Sarcopenia
- Visual impairment
- Polypharmacy
- Cognitive impairment
- Environmental hazards
- Balance dysfunction

Falls often initiate a cascade of functional decline, fear of falling, reduced activity, social isolation, and institutionalization (Montero-Odasso et al., 2022). Consequently, fall prevention represents a major focus of gerontological nursing interventions.

3 Dementia

Dementia constitutes one of the most significant global health challenges associated with population aging (Livingston et al., 2020; Prince et al., 2021). Alzheimer's disease accounts for approximately 60–70% of dementia cases worldwide (Alzheimer's Association, 2024).

Dementia is characterized by progressive decline in memory, executive function, language, judgment, and functional ability (Petersen et al., 2020). As disease severity advances, affected individuals become increasingly dependent upon caregivers for daily activities and healthcare management.

Gerontological nurses play critical roles in:

- Early recognition
- Behavioural symptom management
- Family education
- Environmental modification
- End-of-life planning

Evidence increasingly supports multidomain interventions aimed at reducing modifiable dementia risk factors including hypertension, hearing loss, physical inactivity, social isolation, and diabetes mellitus (Livingston et al., 2020).

4 Delirium

Delirium is an acute neurocognitive disorder characterized by disturbances in attention, awareness, and cognition that develop over a short period and fluctuate throughout the day (Inouye et al., 2021).

Hospitalized older adults are particularly vulnerable to delirium due to age-related physiological changes, multimorbidity, polypharmacy, and acute illness (Marcantonio, 2017; Inouye et al., 2021).

Importantly, delirium is associated with:

- Increased mortality
- Functional decline
- Longer hospitalization
- Institutionalization
- Accelerated cognitive decline

Nurse-led multicomponent interventions have demonstrated effectiveness in preventing delirium among high-risk populations (Hshieh et al., 2018).

5 Polypharmacy

Polypharmacy generally refers to the use of five or more medications and is increasingly common among older adults with multiple chronic conditions (Maher et al., 2014; Tinetti et al., 2021).

Polypharmacy is associated with:

- Falls
- Adverse drug reactions
- Hospitalization
- Cognitive impairment
- Medication nonadherence

The American Geriatrics Society Beers Criteria and STOPP/START tools have become important frameworks for identifying potentially inappropriate medications among older adults (American Geriatrics Society, 2023; O'Mahony et al., 2023).

Medication optimization and deprescribing are therefore important components of gerontological nursing practice.

6 Social Isolation and Loneliness

Growing evidence demonstrates that social isolation and loneliness significantly affect physical and mental health outcomes among older adults (National Academies of Sciences, Engineering, and Medicine, 2020).

Loneliness has been associated with:

- Depression
- Cognitive decline
- Cardiovascular disease
- Functional decline
- Increased mortality

Holt-Lunstad et al. (2020) reported that chronic social isolation may have health consequences comparable to established risk factors such as smoking and obesity.

Gerontological nurses increasingly recognize social connectedness as a critical determinant of healthy aging and quality of life (WHO, 2021).

Comprehensive Geriatric Assessment

1 Conceptual Foundations

Comprehensive Geriatric Assessment (CGA) is widely regarded as the gold standard for evaluation of older adults with complex healthcare needs (Ellis et al., 2017; British Geriatrics Society, 2022).

CGA is defined as a multidimensional, interdisciplinary diagnostic and management process designed to determine medical, functional, psychological, and social capabilities in order to develop coordinated care plans (Ellis et al., 2017).

Unlike traditional disease-focused assessments, CGA recognizes that health outcomes in older adults are influenced by multiple interacting factors extending beyond medical diagnoses alone (Boltz et al., 2021).

2 Components of Comprehensive Geriatric Assessment

CGA typically includes evaluation of:

1. Medical status
2. Functional ability
3. Cognitive function
4. Psychological well-being
5. Nutritional status
6. Medication use
7. Social support
8. Environmental safety

Numerous studies have demonstrated that CGA improves functional outcomes, reduces institutionalization, and enhances quality of life (Ellis et al., 2017; Pilotto et al., 2018).

Table 6. Core Domains of Comprehensive Geriatric Assessment

Domain	Assessment Focus
Medical	Chronic disease burden
Functional	ADLs and IADLs
Cognitive	Memory and executive function
Psychological	Depression and anxiety
Nutritional	Weight and intake
Medication	Polypharmacy review
Social	Support systems
Environmental	Home safety

3 Functional Assessment

Functional status is among the strongest predictors of health outcomes in older adults (Katz, 1983; Lawton & Brody, 1969). Consequently, assessment of activities of daily living (ADLs) and instrumental activities of daily living (IADLs) represents a core component of gerontological nursing practice.

Functional decline often precedes overt clinical deterioration and may provide early indicators of emerging health problems (Boltz et al., 2021).

4 Cognitive Assessment

Cognitive screening is essential because cognitive impairment frequently remains undiagnosed during early stages (Borson et al., 2021). Common assessment tools include:

- Mini-Mental State Examination
- Montreal Cognitive Assessment
- Mini-Cog
- Saint Louis University Mental Status Examination

Early detection facilitates timely intervention, caregiver support, and care planning (Petersen et al., 2020).

Evidence-Based Nursing Interventions

The movement toward evidence-based practice has significantly transformed gerontological nursing over the past three decades (Melnyk & Fineout-Overholt, 2023). Contemporary interventions are increasingly guided by systematic reviews, clinical practice guidelines, randomized trials, and implementation of science research.

1 Physical Activity Interventions

Physical activity is consistently recognized as one of the most effective interventions for promoting healthy aging (WHO, 2020; Izquierdo et al., 2021). Exercise programs improve:

- Strength
- Mobility
- Balance
- Cognitive function
- Cardiovascular health
- Quality of life

Resistance training is particularly effective in addressing sarcopenia and frailty (Dent et al., 2019; Izquierdo et al., 2021).

2 Nutritional Interventions

Malnutrition remains highly prevalent among older adults and is associated with increased morbidity and mortality (Volkert et al., 2019).

Evidence supports:

- Adequate protein intake
- Vitamin D supplementation
- Mediterranean dietary patterns
- Oral nutritional supplementation when indicated

Nutrition-focused interventions are particularly important for prevention and management of frailty and sarcopenia (Cesari et al., 2022).

3 Cognitive Health Promotion

Research increasingly supports multidomain interventions targeting cognitive health (Livingston et al., 2020).

Effective approaches include:

- Physical activity
- Social engagement
- Cognitive stimulation
- Hearing loss management
- Cardiovascular risk reduction

Such interventions may delay cognitive decline and reduce dementia risk among vulnerable populations.

Table 7. Evidence-Based Interventions in Gerontological Nursing

Intervention	Primary Outcomes
Exercise	Strength, mobility, function
Nutrition support	Frailty prevention
Medication review	Reduced adverse events
Cognitive stimulation	Cognitive maintenance
Fall prevention	Reduced injuries
Caregiver education	Improved support capacity
Transitional care	Reduced readmissions
Social engagement	Reduced loneliness

4 Person-Centered Care

Person-centered care has become a defining principle of contemporary gerontological nursing (McCormack & McCance, 2017; WHO, 2020). This approach prioritizes individual preferences, values, goals, and lived experiences rather than focusing solely on disease management.

Evidence indicates that person-centered approaches improve satisfaction, engagement, quality of life, and healthcare outcomes among older adults (McCormack & McCance, 2017; Fulmer et al., 2021).

The transition from disease-centered care to person-centered care represents one of the most significant paradigm shifts in modern gerontological nursing.

Long-Term Care and Institutional Care

1 The Growing Importance of Long-Term Care

The rapid growth of aging populations has intensified global demand for long-term care (LTC) services. Long-term care encompasses a broad range of medical, personal, social, rehabilitative, and supportive services designed to assist individuals who experience significant declines in intrinsic capacity and functional ability (WHO, 2021; Organisation for Economic Co-operation and Development [OECD], 2023). The need for LTC is expected to increase substantially over coming decades due to increasing life expectancy, rising prevalence of chronic disease, expanding numbers of older adults living with dementia, and changing family structures that may limit the availability of informal caregivers (Prince et al., 2021; OECD, 2023).

Historically, long-term care was provided primarily by family members. However, demographic transitions, urbanization, migration, declining household size, and increased female workforce participation have altered traditional caregiving patterns worldwide (Colombo et al., 2011; WHO, 2021). Consequently, healthcare systems are increasingly required to develop formal care structures capable of meeting growing demands.

The World Health Organization's framework for healthy aging emphasizes that long-term care should not be viewed merely as custodial support but rather as an essential component of health systems designed to optimize functional ability, autonomy, and dignity throughout later life (WHO, 2020; Beard et al., 2016).

2 Models of Long-Term Care

Long-term care services exist along a continuum that includes home-based care, community-based services, assisted living facilities, nursing homes, rehabilitation centers, and hospice programs (Stone, 2022; OECD, 2023).

Home-based care has gained increasing prominence because many older adults prefer to remain within familiar environments for as long as possible (Wiles et al., 2012). Aging in place has been associated with improved psychological well-being, enhanced autonomy, and greater satisfaction compared with institutional care (WHO, 2021).

Community-based models emphasize integration of healthcare, social services, rehabilitation, and caregiver support to facilitate independent living (Goodwin et al., 2014). Such models align closely with contemporary healthy aging frameworks that prioritize maintenance of function rather than disease management alone (WHO, 2020).

Table 8. Major Long-Term Care Models

Component	Description
What Matters	Individual goals and preferences
Medication	Appropriate medication management
Mentation	Prevention of delirium, dementia, depression
Mobility	Preservation of function and movement

3 Nursing Homes and Residential Care

Nursing homes continue to provide essential services for individuals with advanced functional dependency, severe frailty, complex multimorbidity, or advanced dementia (White et al., 2020; Stone, 2022). However, nursing home care has undergone substantial transformation over recent decades.

Contemporary nursing home models increasingly emphasize person-centered care, resident autonomy, quality of life, and culture change initiatives (Koren, 2010; White et al., 2020). Research demonstrates that institutional environments promoting resident choice, social engagement, and meaningful activities are associated with improved outcomes compared with traditional custodial models (Castle et al., 2020).

The COVID-19 pandemic exposed significant vulnerabilities within nursing home systems worldwide, including staffing shortages, infection control challenges, and disparities in resource allocation (Grabowski & Mor, 2020; Comas-Herrera et al., 2021). These experiences have stimulated renewed attention to workforce development, quality improvement, and emergency preparedness within long-term care settings.

4 The Role of Gerontological Nurses in Long-Term Care

Gerontological nurses serve central roles in long-term care systems. Their responsibilities extend beyond direct clinical care to include leadership, quality improvement, staff education, family support, and interdisciplinary coordination (Capezuti et al., 2023).

Key nursing responsibilities include:

- Comprehensive assessment
- Medication management
- Falls prevention
- Pressure injury prevention
- Dementia care
- Palliative care
- Caregiver education
- Quality monitoring

Research consistently demonstrates that adequate nurse staffing levels are associated with improved resident outcomes, reduced hospitalizations, and enhanced quality of care (White et al., 2020; Spilsbury et al., 2021).

Current Developments in Geriatric and Gerontological Nursing

1 The WHO Decade of Healthy Ageing (2021–2030)

The United Nations Decade of Healthy Ageing represents one of the most influential contemporary initiatives shaping gerontological nursing practice worldwide (WHO, 2020; Cacchione, 2022). The initiative was established in response to growing recognition that healthcare systems must move beyond disease-oriented models toward approaches that support functional ability, autonomy, and well-being throughout older age.

The Decade of Healthy Ageing identifies four major action areas:

1. Combating ageism.
2. Creating age-friendly environments.
3. Delivering integrated care.
4. Expanding access to long-term care.

These priorities align closely with contemporary gerontological nursing values emphasizing person-centered care, social inclusion, and functional health promotion (WHO, 2020; Neville et al., 2026).

2 Healthy Aging and Functional Ability

A major conceptual shift in contemporary aging research involves movement away from disease-focused definitions of health toward frameworks emphasizing functional ability (Beard et al., 2016; WHO, 2020).

Functional ability refers to the capacity to perform activities and pursue goals that individuals value. This concept integrates intrinsic capacity, environmental supports, social participation, and personal preferences (WHO, 2020).

Consequently, gerontological nursing increasingly focuses on maintaining mobility, cognition, psychological well-being, social engagement, and independence rather than exclusively treating disease processes (Cacchione, 2022).

3 Age-Friendly Health Systems

Age-friendly health systems have emerged as a major innovation in healthcare delivery for older adults (Fulmer et al., 2021). Developed through collaboration between healthcare organizations and geriatric experts, these systems seek to align care delivery with the specific needs of aging populations.

Table 9. The Age-Friendly Health System 4Ms Framework

Component	Description
What Matters	Individual goals and preferences
Medication	Appropriate medication management
Mentation	Prevention of delirium, dementia, depression
Mobility	Preservation of function and movement

Research demonstrates that implementation of age-friendly principles improves patient outcomes, reduces complications, and enhances care quality (Mate et al., 2021; Fulmer et al., 2021).

4 Telehealth and Remote Monitoring

The COVID-19 pandemic accelerated adoption of telehealth technologies across healthcare systems worldwide (Monaghesh & Hajizadeh, 2020). Telehealth has proven particularly valuable for older adults who face transportation barriers, mobility limitations, or geographic isolation (Kruse et al., 2022).

Applications include:

- Chronic disease monitoring
- Medication management
- Cognitive assessment
- Mental health support
- Rehabilitation services
- Caregiver education

Evidence suggests that telehealth can improve access, enhance continuity of care, and reduce avoidable hospitalizations among older populations (Kruse et al., 2022; Batsis et al., 2021).

5 Artificial Intelligence in Elder Care

Artificial intelligence (AI) is increasingly influencing gerontological nursing practice and aging research (Topol, 2019; Sun et al., 2024). AI systems can analyze large datasets, identify risk patterns, and support clinical decision-making.

Potential applications include:

- Fall prediction
- Delirium detection
- Medication management
- Early dementia screening
- Predictive analytics
- Personalized care planning

Emerging evidence suggests that AI-assisted systems may enhance efficiency and support proactive intervention, although concerns regarding privacy, transparency, bias, and ethical governance remain significant (Topol, 2019; Sun et al., 2024).

6 Smart Technologies and Aging in Place

Technological innovations are increasingly supporting independent living among older adults (Peek et al., 2019; Sixsmith & Gutman, 2020).

Examples include:

- Wearable monitoring devices
- Smart home systems
- Fall detection sensors
- Medication reminders
- Virtual assistants
- Remote monitoring platforms

These technologies may contribute to improved safety, earlier detection of health problems, and reduced caregiver burden (Peek et al., 2019).

Education, Workforce, and Leadership

1 Workforce Challenges

One of the greatest challenges confronting healthcare systems is the shortage of professionals trained in geriatric and gerontological care (Institute of Medicine, 2008; WHO, 2020).

Despite increasing demand, relatively few nurses pursue careers in gerontological nursing (Chen et al., 2025). Factors contributing to workforce shortages include:

- Limited educational exposure
- Ageist stereotypes
- Perceived complexity of care
- Workforce aging
- Insufficient faculty preparation

These challenges threaten healthcare systems' capacity to meet future demands associated with population aging (Neville et al., 2026).

2 Gerontological Nursing Education

Educational institutions increasingly recognize the importance of integrating gerontology throughout nursing curricula (American Association of Colleges of Nursing, 2021).

Contemporary curricula emphasize:

- Healthy aging
- Frailty management
- Dementia care
- Palliative care
- Interprofessional collaboration
- Age-friendly healthcare

Educational reforms seek to ensure that all nurses, not only specialists, possess competencies necessary for caring for older adults (Kim et al., 2025).

Table 10. Core Competencies in Gerontological Nursing

Competency Domain	Key Skills
Assessment	Comprehensive evaluation
Clinical Care	Evidence-based intervention
Communication	Patient and family engagement
Leadership	Quality improvement
Ethics	Advocacy and autonomy
Research	Evidence translation
Health Promotion	Prevention strategies
Collaboration	Interdisciplinary teamwork

3 Leadership and Advanced Practice

Advanced practice nurses increasingly serve leadership roles in geriatric care delivery, policy development, and healthcare system redesign (Boltz et al., 2021).

Responsibilities include:

- Clinical consultation
- Program development
- Research leadership
- Policy advocacy
- Workforce development

Strong nursing leadership is increasingly recognized as essential for achieving goals associated with healthy aging and age-friendly healthcare systems (Neville et al., 2026).

Ethical and Legal Considerations

1 Respect for Autonomy

Respect for autonomy remains a fundamental ethical principle in gerontological nursing (Beauchamp & Childress, 2019). Older adults retain the right to participate actively in healthcare decisions regardless of age.

Contemporary practice increasingly emphasizes shared decision-making and supported autonomy rather than paternalistic models of care (McCormack & McCance, 2017).

2 Ageism

Ageism has emerged as a major global public health concern (Levy, 2021; WHO, 2021). Negative stereotypes regarding aging may influence healthcare decisions, resource allocation, and treatment recommendations.

Research indicates that ageism contributes to poorer physical health, reduced access to healthcare services, lower quality of care, and diminished psychological well-being (Levy, 2021).

Combating ageism is therefore a major priority within contemporary gerontological nursing practice.

3 Elder Abuse

Elder abuse includes physical, psychological, sexual, and financial abuse as well as neglect (Yon et al., 2019).

Gerontological nurses play important roles in:

- Identification
- Screening
- Documentation
- Reporting
- Advocacy

Recognition of elder abuse has become increasingly important as populations age globally (WHO, 2021).

Future Directions

The future of gerontological nursing will likely be shaped by major scientific, technological, demographic, and policy developments.

Emerging priorities include:

Precision Gerontology

Integration of biomarkers, genomics, and personalized interventions to optimize aging trajectories (Kirkland, 2022; López-Otín et al., 2023).

Geroscience

Development of interventions targeting biological mechanisms of aging rather than individual diseases (Ferrucci et al., 2021; Partridge, 2021).

Artificial Intelligence

Expansion of predictive analytics and decision-support systems (Sun et al., 2024).

Digital Health

Growth of telehealth, remote monitoring, wearable technologies, and smart homes (Peek et al., 2019; Kruse et al., 2022).

Age-Friendly Communities

Development of environments that support participation, accessibility, and social inclusion (WHO, 2021).

Workforce Expansion

Investment in education, faculty development, and advanced practice roles to address future workforce demands (Kim et al., 2025; Neville et al., 2026).

Conclusion

Population aging represents one of the most significant societal transformations of the twenty-first century. Geriatric and gerontological nursing have evolved from modest beginnings in charitable care systems into sophisticated specialties grounded in evidence-based practice, interdisciplinary collaboration, and person-centered care. Historical developments, ranging from Nightingale's environmental philosophy to Marjory Warren's pioneering rehabilitation model, established foundations that continue to influence contemporary practice.

Current gerontological nursing emphasizes healthy aging, functional ability, resilience, autonomy, and quality of life. The specialty now encompasses health promotion, chronic disease management, frailty prevention, dementia care, long-term care, palliative care, leadership, policy advocacy, and research. Emerging innovations including age-friendly health systems, artificial intelligence, telehealth, precision gerontology, and digital health technologies are expected to further transform care delivery in coming decades.

As global populations continue to age, gerontological nurses will remain essential in promoting dignity, independence, and well-being among older adults. Continued investment in education, research, workforce development, and policy innovation will be critical for ensuring that healthcare systems are prepared to meet the complex needs of aging societies.

References

Achenbaum, W. A. (1995). Crossing frontiers: Gerontology emerges as a science. Cambridge University Press.

Alzheimer's Association. (2024). 2024 Alzheimer's disease facts and figures. Alzheimer's & Dementia, 20(5), 3708–3821.

American Association of Colleges of Nursing. (2021). The essentials: Core competencies for professional nursing education. American Association of Colleges of Nursing.

American Geriatrics Society Beers Criteria® Update Expert Panel. (2023). American Geriatrics Society 2023 updated AGS Beers Criteria® for potentially inappropriate medication use in older adults. Journal of the American Geriatrics Society, 71(7), 2052–2081. https://doi.org/10.1111/jgs.18372

American Nurses Association. (2019). Gerontological nursing: Scope and standards of practice (3rd ed.). American Nurses Association.

Arai, H., Ouchi, Y., Toba, K., Endo, T., Shimokado, K., Tsubota, K., Matsuo, S., Mori, H., Yumura, W., Yokode, M., Rakugi, H., & Ohshima, S. (2015). Japan as the front-runner of super-aged societies: Perspectives from medicine and medical care in Japan. Geriatrics & Gerontology International, 15(6), 673–687. https://doi.org/10.1111/ggi.12450

Baltes, P. B., & Baltes, M. M. (Eds.). (1990). Successful aging: Perspectives from the behavioral sciences. Cambridge University Press.

Batsis, J. A., DiMilia, P. R., Seo, L. M., Fortuna, K. L., Kennedy, M. A., Blunt, H. B., Bagley, P. J., Brooks, J., Brooks, E., Kim, S. Y., Masutani, R. K., & Bartels, S. J. (2021). Effectiveness of ambulatory telemedicine care in older adults: A systematic review. Journal of the American Geriatrics Society, 69(6), 1621–1633. https://doi.org/10.1111/jgs.17148

Beard, J. R., & Bloom, D. E. (2015). Towards a comprehensive public health response to population ageing. The Lancet, 385(9968), 658–661. https://doi.org/10.1016/S0140-6736(14)61461-6

Beard, J. R., Officer, A., de Carvalho, I. A., Sadana, R., Pot, A. M., Michel, J. P., Lloyd-Sherlock, P., Epping-Jordan, J. E., Peeters, G. M. E. E., Mahanani, W. R., Thiyagarajan, J. A., & Chatterji, S. (2016). The World report on ageing and health: A policy framework for healthy ageing. The Lancet, 387(10033), 2145–2154. https://doi.org/10.1016/S0140-6736(15)00516-4

Beauchamp, T. L., & Childress, J. F. (2019). Principles of biomedical ethics (8th ed.). Oxford University Press.

Bengtson, V. L., & Settersten, R. A. (Eds.). (2016). Handbook of theories of aging (3rd ed.). Springer.

Birren, J. E., & Schaie, K. W. (Eds.). (2011). Handbook of the psychology of aging (7th ed.). Academic Press.

Bloom, D. E., & Luca, D. L. (2016). The global demography of aging: Facts, explanations, future. In J. Piggott & A. Woodland (Eds.), Handbook of the economics of population aging (Vol. 1, pp. 3–56). Elsevier. https://doi.org/10.1016/bs.hespa.2016.06.002

Boltz, M., Capezuti, E., Fulmer, T., & Zwicker, D. (Eds.). (2021). Evidence-based geriatric nursing protocols for best practice (6th ed.). Springer Publishing Company.

Borson, S., Scanlan, J. M., Watanabe, J., Tu, S. P., & Lessig, M. (2006). Simplifying detection of cognitive impairment: Comparison of the Mini-Cog and Mini-Mental State Examination in a multiethnic sample. Journal of the American Geriatrics Society, 53(5), 871–874. https://doi.org/10.1111/j.1532-5415.2005.53269.x

British Geriatrics Society. (2019). Comprehensive geriatric assessment toolkit for primary care practitioners. British Geriatrics Society.

Cacchione, P. Z. (2022). The World Health Organization leads the Decade of Healthy Ageing. Clinical Nursing Research, 31(4), 563–564. https://doi.org/10.1177/10547738221086675

Campisi, J. (2013). Aging, cellular senescence, and cancer. Annual Review of Physiology, 75, 685–705. https://doi.org/10.1146/annurev-physiol-030212-183653

Capezuti, E., Malone, M. L., Katz, P. R., & Mezey, M. D. (Eds.). (2020). The encyclopedia of elder care: The comprehensive resource on geriatric health and social care (4th ed.). Springer Publishing Company.

Carstensen, L. L., Turan, B., Scheibe, S., Ram, N., Ersner-Hershfield, H., Samanez-Larkin, G. R., Brooks, K. P., & Nesselroade, J. R. (2011). Emotional experience improves with age: Evidence based on over 10 years of experience sampling. Psychology and Aging, 26(1), 21–33. https://doi.org/10.1037/a0021285

Castle, N. G., & Ferguson, J. C. (2010). What is nursing home quality and how is it measured? The Gerontologist, 50(4), 426–442. https://doi.org/10.1093/geront/gnq052

Cesari, M., Calvani, R., Marzetti, E., & Picca, A. (2022). Frailty in older persons. Clinics in Geriatric Medicine, 38(3), 293–303. https://doi.org/10.1016/j.cger.2022.04.001

Cole, T. R. (1992). The journey of life: A cultural history of aging in America. Cambridge University Press.

Coleman, E. A., Parry, C., Chalmers, S., & Min, S. J. (2006). The care transitions intervention: Results of a randomized controlled trial. Archives of Internal Medicine, 166(17), 1822–1828. https://doi.org/10.1001/archinte.166.17.1822

Colombo, F., Llena-Nozal, A., Mercier, J., & Tjadens, F. (2011). Help wanted? Providing and paying for long-term care. OECD Publishing. https://doi.org/10.1787/9789264097759-en

Comas-Herrera, A., Zalakaín, J., Lemmon, E., Henderson, D., Litwin, C., Hsu, A. T., Schmidt, A. E., Arling, G., Kruse, F., & Fernández, J. L. (2021). Mortality associated with COVID-19 in care homes: International evidence. International Long-Term Care Policy Network.

Coni, N. (1998). Medicine and the elderly: A history. Cambridge University Press.

Conrad, P., & Schneider, J. W. (1992). Deviance and medicalization: From badness to sickness (2nd ed.). Temple University Press.

Dent, E., Martin, F. C., Bergman, H., Woo, J., Romero-Ortuno, R., & Walston, J. D. (2019). Management of frailty:

Opportunities, challenges, and future directions. The Lancet, 394(10206), 1376–1386. https://doi.org/10.1016/S0140-6736(19)31785-4

Dossey, B. M. (2010). Florence Nightingale: Mystic, visionary, healer. Nursing Science Quarterly, 23(1), 14–18. https://doi.org/10.1177/0894318409353793

Ellis, G., Gardner, M., Tsiachristas, A., Langhorne, P., Burke, O., Harwood, R. H., Conroy, S. P., Kircher, T., Somme, D., Saltvedt, I., Wald, H., O'Neill, D., Robinson, D., Shepperd, S., & Devlin, J. (2017). Comprehensive geriatric assessment for older adults admitted to hospital. Cochrane Database of Systematic Reviews, 2017(9), CD006211. https://doi.org/10.1002/14651858.CD006211.pub3

Evans, J. G. (1997). Marjory Warren and the origin of British geriatrics. Journal of the Royal Society of Medicine, 90(12), 687–689. https://doi.org/10.1177/014107689709001214

Ferrucci, L., Gonzalez-Freire, M., Fabbri, E., Simonsick, E., Tanaka, T., Moore, Z., Salimi, S., Sierra, F., & de Cabo, R. (2020). Measuring biological aging in humans: A quest. Aging Cell, 19(2), e13080. https://doi.org/10.1111/acel.13080

Forciea, M. A. (2014). Geriatric medicine: History of a young specialty. AMA Journal of Ethics, 16(5), 385–389. https://doi.org/10.1001/virtualmentor.2014.16.05.mhst1-1405

Fried, L. P., Tangen, C. M., Walston, J., Newman, A. B., Hirsch, C., Gottdiener, J., Seeman, T., Tracy, R., Kop, W. J., Burke, G., & McBurnie, M. A. (2001). Frailty in older adults: Evidence for a phenotype. The Journals of Gerontology: Series A, 56(3), M146–M156. https://doi.org/10.1093/gerona/56.3.M146

Fulmer, T., Mate, K. S., & Berman, A. (2018). The age-friendly health system imperative. Journal of the American Geriatrics Society, 66(1), 22–24. https://doi.org/10.1111/jgs.15076

Goodwin, N., Dixon, A., Anderson, G., & Wodchis, W. (2014). Providing integrated care for older people with complex needs: Lessons from seven international case studies. The King's Fund.

Grabowski, D. C., & Mor, V. (2020). Nursing home care in crisis in the wake of COVID-19. JAMA, 324(1), 23–24. https://doi.org/10.1001/jama.2020.8524

Harper, S. (2014). Ageing societies: Myths, challenges and opportunities. Routledge.

Hirschman, K. B., Shaid, E., McCauley, K., Pauly, M. V., & Naylor, M. D. (2021). Continuity of care: The transitional care model. Online Journal of Issues in Nursing, 20(3), 1.

Holt-Lunstad, J. (2021). Loneliness and social isolation as risk factors: The power of social connection in prevention. American Journal of Lifestyle Medicine, 15(5), 567–573. https://doi.org/10.1177/15598276211009454

Hoogendijk, E. O., Afilalo, J., Ensrud, K. E., Kowal, P., Onder, G., & Fried, L. P. (2019). Frailty: Implications for clinical practice and public health. The Lancet, 394(10206), 1365–1375. https://doi.org/10.1016/S0140-6736(19)31786-6

Hshieh, T. T., Yue, J., Oh, E., Puelle, M., Dowal, S., Travison, T., & Inouye, S. K. (2015). Effectiveness of multicomponent nonpharmacological delirium interventions: A meta-analysis. JAMA Internal Medicine, 175(4), 512–520. https://doi.org/10.1001/jamainternmed.2014.7779

Inouye, S. K., Westendorp, R. G. J., & Saczynski, J. S. (2014). Delirium in elderly people. The Lancet, 383(9920), 911–922. https://doi.org/10.1016/S0140-6736(13)60688-1

Institute of Medicine. (2008). Retooling for an aging America: Building the health care workforce. National Academies Press. https://doi.org/10.17226/12089

Izquierdo, M., Merchant, R. A., Morley, J. E., Anker, S. D., Aprahamian, I., Arai, H., Aubertin-Leheudre, M., Bernabei, R., Cadore, E. L., Cesari, M., Chen, L. K., de Souto Barreto, P., Duque, G., Ferrucci, L., Fielding, R. A., García-Hermoso, A., Gutiérrez-Robledo, L. M., Harridge, S. D. R., Kirk, B., ... Vellas, B. (2021). International exercise recommendations in older adults: Expert consensus guidelines. The Journal of Nutrition, Health & Aging, 25(7), 824–853. https://doi.org/10.1007/s12603-021-1665-8

Katz, S. (1983). Assessing self-maintenance: Activities of daily living, mobility, and instrumental activities of daily living. Journal of the American Geriatrics Society, 31(12), 721–727. https://doi.org/10.1111/j.1532-5415.1983.tb03391.x

Kirkland, J. L., & Tchkonia, T. (2020). Senolytic drugs: From discovery to translation. Journal of Internal Medicine, 288(5), 518–536. https://doi.org/10.1111/joim.13141

Koren, M. J. (2010). Person-centered care for nursing home residents: The culture-change movement. Health Affairs, 29(2), 312–317. https://doi.org/10.1377/hlthaff.2009.0966

Kruse, C. S., Heinemann, K., & Barlow, A. (2022). Facilitators and barriers to the adoption of telemedicine during the first year of COVID-19: Systematic review. Journal of Medical Internet Research, 24(1), e31752. https://doi.org/10.2196/31752

Lawton, M. P., & Brody, E. M. (1969). Assessment of older people: Self-maintaining and instrumental activities of daily living. The Gerontologist, 9(3), 179–186. https://doi.org/10.1093/geront/9.3_Part_1.179

Levy, B. R. (2022). Breaking the age code: How your beliefs about aging determine how long and well you live. William Morrow.

Livingston, G., Huntley, J., Sommerlad, A., Ames, D., Ballard, C., Banerjee, S., Brayne, C., Burns, A., Cohen-Mansfield, J., Cooper, C., Costafreda, S. G., Dias, A., Fox, N., Gitlin, L. N., Howard, R., Kales, H. C., Kivimäki, M., Larson, E. B., Ogunniyi, A., ... Mukadam, N. (2020). Dementia prevention, intervention, and care: 2020 report of the Lancet Commission. The Lancet, 396(10248), 413–446. https://doi.org/10.1016/S0140-6736(20)30367-6

López-Otín, C., Blasco, M. A., Partridge, L., Serrano, M., & Kroemer, G. (2023). Hallmarks of aging: An expanding universe. Cell, 186(2), 243–278. https://doi.org/10.1016/j.cell.2022.11.001

Maher, R. L., Hanlon, J., & Hajjar, E. R. (2014). Clinical consequences of polypharmacy in elderly. Expert Opinion on Drug Safety, 13(1), 57–65. https://doi.org/10.1517/14740338.2013.827660

Marcantonio, E. R. (2017). Delirium in hospitalized older adults. New England Journal of Medicine, 377(15), 1456–1466. https://doi.org/10.1056/NEJMcp1605501

Marengoni, A., Angleman, S., Melis, R., Mangialasche, F., Karp, A., Garmen, A., Meinow, B., & Fratiglioni, L. (2011). Aging with multimorbidity: A systematic review of the literature. Ageing Research Reviews, 10(4), 430–439. https://doi.org/10.1016/j.arr.2011.03.003

Mate, K. S., Berman, A., Laderman, M., Kabcenell, A., & Fulmer, T. (2018). Creating age-friendly health systems: A vision for better care of older adults. Healthcare, 6(1), 4–6. https://doi.org/10.1016/j.hjdsi.2017.05.005

Mate, K. S., Fulmer, T., Pelton, L., Berman, A., Bonner, A., Huang, W., & Zhang, J. (2021). Evidence for the 4Ms: Interactions and outcomes across the care continuum. Journal of Aging and Health, 33(7–8), 469–481. https://doi.org/10.1177/0898264321991658

Matthews, D. A. (1984). Dr. Marjory Warren and the origin of British geriatrics. Age and Ageing, 13(5), 257–258. https://doi.org/10.1093/ageing/13.5.257

McCormack, B., & McCance, T. (2017). Person-centred practice in nursing and health care: Theory and practice (2nd ed.). Wiley-Blackwell.

Meiner, S. E., & Yeager, J. J. (2019). Gerontologic nursing (6th ed.). Elsevier.

Melnyk, B. M., & Fineout-Overholt, E. (2023). Evidence-based practice in nursing & healthcare: A guide to best practice (5th ed.). Wolters Kluwer.

Monaghesh, E., & Hajizadeh, A. (2020). The role of telehealth during COVID-19 outbreak: A systematic review. BMC Public Health, 20, Article 1193. https://doi.org/10.1186/s12889-020-09301-4

Montero-Odasso, M., van der Velde, N., Martin, F. C., Petrovic, M., Tan, M. P., Ryg, J., Aguilar-Navarro, S., Alexander, N. B., Becker, C., Blain, H., Bourke, R., Cameron, I. D., Camicioli, R., Clemson, L., Close, J., Delbaere, K., Duan, L., Duque, G., Dyer, S. M., ... Task Force on Global Guidelines for Falls in Older Adults. (2022). World guidelines for falls prevention and management for older adults: A global initiative. Age and Ageing, 51(9), afac205. https://doi.org/10.1093/ageing/afac205

Morley, J. E. (2004). A brief history of geriatrics. The Journals of Gerontology: Series A, 59(11), 1132–1152. https://doi.org/10.1093/gerona/59.11.1132

National Academies of Sciences, Engineering, and Medicine. (2020). Social isolation and loneliness in older adults: Opportunities for the health care system. National Academies Press. https://doi.org/10.17226/25663

Naylor, M. D., Hirschman, K. B., Toles, M. P., Jarrín, O. F., Shaid, E., & Pauly, M. V. (2018). Adaptations of the evidence-based transitional care model in the U.S. Social Science & Medicine, 213, 28–36. https://doi.org/10.1016/j.socscimed.2018.07.023

Nightingale, F. (1969). Notes on nursing: What it is, and what it is not. Dover Publications. Original work published 1860.

O'Mahony, D., Cherubini, A., Guiteras, A. R., Denkinger, M., Beuscart, J. B., Onder, G., Gudmundsson, A., Cruz-Jentoft, A. J., Knol, W., Bahat, G., van der Velde, N., Petrovic, M., & Curtin, D. (2023). STOPP/START criteria for potentially inappropriate prescribing in older people: Version 3. European Geriatric Medicine, 14(4), 625–632. https://doi.org/10.1007/s41999-023-00777-y

Organisation for Economic Co-operation and Development. (2023). Health at a glance 2023: OECD indicators. OECD Publishing. https://doi.org/10.1787/7a7afb35-en

Partridge, L., Deelen, J., & Slagboom, P. E. (2018). Facing up to the global challenges of ageing. Nature, 561(7721), 45–56. https://doi.org/10.1038/s41586-018-0457-8

Peek, S. T. M., Luijkx, K. G., Rijnaard, M. D., Nieboer, M. E., van der Voort, C. S., Aarts, S., van Hoof, J., Vrijhoef, H. J. M., & Wouters, E. J. M. (2016). Older adults' reasons for using technology while aging in place. Gerontology, 62(2), 226–237. https://doi.org/10.1159/000430949

Petersen, R. C., Lopez, O., Armstrong, M. J., Getchius, T. S. D., Ganguli, M., Gloss, D., Gronseth, G. S., Marson, D., Pringsheim, T., Day, G. S., Sager, M., Stevens, J., & Rae-Grant, A. (2018). Practice guideline update summary: Mild cognitive impairment. Neurology, 90(3), 126–135. https://doi.org/10.1212/WNL.0000000000004826

Pilotto, A., Cella, A., Pilotto, A., Daragjati, J., Veronese, N., Musacchio, C., Mello, A. M., Logroscino, G., & Panza, F. (2017). Three decades of comprehensive geriatric assessment: Evidence coming from different healthcare settings and specific clinical conditions. Journal of the American Medical Directors Association, 18(2), 192.e1–192.e11. https://doi.org/10.1016/j.jamda.2016.11.004

Prince, M., Wimo, A., Guerchet, M., Ali, G. C., Wu, Y. T., & Prina, M. (2015). World Alzheimer report 2015: The global impact of dementia. Alzheimer's Disease International.

Resnick, B., Boltz, M., Galik, E., & Pretzer-Aboff, I. (2020). Restorative care nursing for older adults: A guide for all care settings (2nd ed.). Springer Publishing Company.

Rockwood, K., & Mitnitski, A. (2007). Frailty in relation to the accumulation of deficits. The Journals of Gerontology: Series A, 62(7), 722–727. https://doi.org/10.1093/gerona/62.7.722

Rowe, J. W., & Kahn, R. L. (2015). Successful aging 2.0: Conceptual expansions for the 21st century. The Journals of Gerontology: Series B, 70(4), 593–596. https://doi.org/10.1093/geronb/gbv025

Rubenstein, L. Z. (2006). Falls in older people: Epidemiology, risk factors, and strategies for prevention. Age and Ageing, 35(Suppl. 2), ii37–ii41. https://doi.org/10.1093/ageing/afl084

Selanders, L. C. (2010). The power of environmental adaptation: Florence Nightingale's original theory for nursing practice. Journal of Holistic Nursing, 28(1), 81–88. https://doi.org/10.1177/0898010109360257

Sezgin, D., Liew, A., O'Donovan, M. R., & O'Caoimh, R. (2020). Pre-frailty as a multi-dimensional construct: A systematic review of definitions in the scientific literature. Geriatric Nursing, 41(2), 139–146. https://doi.org/10.1016/j.gerinurse.2019.08.004

Sixsmith, A., & Gutman, G. (2013). Technologies for active aging. Springer. https://doi.org/10.1007/978-1-4419-8348-0

Spilsbury, K., Devi, R., Griffiths, A., Akrill, C., Astle, A., Goodman, C., Gordon, A., Hanratty, B., Hodkinson, P., Marshall, F., Meyer, J., & Thompson, C. (2021). SEeking AnsweRs for Care Homes during the COVID-19 pandemic: A systematic review of outbreaks of COVID-19 in care homes. BMC Geriatrics, 21, Article 682. https://doi.org/10.1186/s12877-021-02646-0

Stone, R. I. (2022). The direct care worker: The third rail of home care policy. Annual Review of Public Health, 43, 119–137. https://doi.org/10.1146/annurev-publhealth-052620-023944

Sun, Q., Ge, H., Liu, J., & Xu, C. (2024). Artificial intelligence for aging and longevity research: Recent advances and future perspectives. Aging Research Reviews, 93, Article 102147. https://doi.org/10.1016/j.arr.2023.102147

Thane, P. (2000). Old age in English history: Past experiences, present issues. Oxford University Press.

Tinetti, M. E., Fried, T. R., & Boyd, C. M. (2012). Designing health care for the most common chronic condition—multimorbidity. JAMA, 307(23), 2493–2494. https://doi.org/10.1001/jama.2012.5265

Tornstam, L. (2005). Gerotranscendence: A developmental theory of positive aging. Springer Publishing Company.

Touhy, T. A., & Jett, K. F. (2022). Ebersole and Hess' gerontological nursing and healthy aging (6th ed.). Elsevier.

United Nations, Department of Economic and Social Affairs, Population Division. (2022). World population prospects 2022: Summary of results. United Nations.

United Nations, Department of Economic and Social Affairs, Population Division. (2023). World social report 2023: Leaving no one behind in an ageing world. United Nations.

Volkert, D., Beck, A. M., Cederholm, T., Cereda, E., Cruz-Jentoft, A., Goisser, S., Hooper, L., Kiesswetter, E., Maggio, M., Raynaud-Simon, A., Sieber, C. C., Sobotka, L., van Asselt, D., Wirth, R., & Bischoff, S. C. (2019). ESPEN guideline on clinical nutrition and hydration in geriatrics. Clinical Nutrition, 38(1), 10–47. https://doi.org/10.1016/j.clnu.2018.05.024

Warren, M. W. (1943). Care of the chronic aged sick. The Lancet, 241(6246), 822–823. https://doi.org/10.1016/S0140-6736(00)56213-4

White, E. M., Wetle, T. F., Reddy, A., & Baier, R. R. (2021). Front-line nursing home staff experiences during the COVID-19 pandemic. Journal of the American Medical Directors Association, 22(1), 199–203. https://doi.org/10.1016/j.jamda.2020.11.022

Wiles, J. L., Leibing, A., Guberman, N., Reeve, J., & Allen, R. E. S. (2012). The meaning of "aging in place" to older people. The Gerontologist, 52(3), 357–366. https://doi.org/10.1093/geront/gnr098

World Health Organization. (2015). World report on ageing and health. World Health Organization.

World Health Organization. (2017). Integrated care for older people: Guidelines on community-level interventions to manage declines in intrinsic capacity. World Health Organization.

World Health Organization. (2020). Decade of healthy ageing: Baseline report. World Health Organization.

World Health Organization. (2021). Global report on ageism. World Health Organization.

World Health Organization. (2022). World health statistics 2022: Monitoring health for the SDGs, sustainable development goals. World Health Organization.

World Health Organization. (2023). Progress report on the United Nations Decade of Healthy Ageing, 2021–2023. World Health Organization.

World Health Organization. (2024). Ageing and health. World Health Organization.

Yon, Y., Mikton, C. R., Gassoumis, Z. D., & Wilber, K. H. (2017). Elder abuse prevalence in community settings: A systematic review and meta-analysis. The Lancet Global Health, 5(2), e147–e156. https://doi.org/10.1016/S2214-109X(17)30006-2