

Challenges and Solutions for Care of Frail Older Adults

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Article

Abstract

Frail older adults are at risk for negative outcomes and are the most significant consumers of health resources across both acute and community settings. Both formal systems and families are involved in this care of frail elders. This article reviews health care issues for frail older adults and addresses the impact of frailty on the future health care system. It also presents challenges for future care, creative solutions that are currently being tested and explored, and suggestions for future nursing priorities. Challenges in the care of frail elders include: the organization and sustainability of the continuum of services, resource allocation, and cultural competence in service delivery. Creative solutions include intensive case management programs, targeting at risk older adults, partnerships with families, enhanced use of telemedicine and assistive technology, and promoting healthy aging. Nurses have the potential to improve elder health across settings through clinical practice, education, leadership, and research.

Key words: older adults, frailty, health care system, hospitalization, long-term care, community-based services, resource allocation, gerontological nursing, health care costs

Challenges and Solutions for Care of Frail Older Adults

In the coming years, there will be unprecedented demand for all goods and services required by individuals in their seventh through tenth decades of life. To meet the growing need, both the impressive heterogeneity of the aging population, and the diversity of preferences, requirements, and trajectories of health and life must be appreciated. Consider the real possibility that a family might include three generations, all over the age of 65. Imagine a centenarian woman with an 84 year-old daughter, and a 65 year-old grandson. This is not an unrealistic scenario for the 50,545 centenarians currently residing in the US ([United States Census 2000, 2001](#)). In addition to multiple generations in the "older" category, those over 65 are becoming more ethnically diverse. Based on the latest census, it is projected that between 2000 and 2030, the percentage of minority elders will increase by 328% for Hispanics, 285% for Asian and Pacific Islanders, 147% for American Indians and Aleuts, and 131% for African Americans, compared to 81% for Caucasians. Our communities are increasingly a reflection of multiple ethnic histories and values ([Hayes-Bautista, Hsu, Perez, & Gamboa, 2002](#)).

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Functional status varies considerably among older adults, with a substantial portion remaining independent in daily function throughout their lives and continuing to volunteer or work, the majority needing some assistance with instrumental activities after the age of 85, and a portion of frail elderly who are severely disabled. Older adults comprise the largest group of *care recipients* in the United States, and they also represent the greatest number of *caregivers* (either partners or adult children) for other elders ([Spillman & Pezzin, 2000](#)). Viewed in this light, caregiving can represent an intertwining of two frailty trajectories ([Cartwright, Archbold, Stewart, & Limandri, 1994](#)). The period between ages 65 and 105, a full 40 years, represents a significant portion of one's lifespan. Health care providers would never consider equating the health care needs of a newborn with the needs of a person in early-middle age, both members of the cohort of the first 40 years of life. Likewise, as we explore health care services for older adults, also potentially spanning 4 decades, we must anticipate and appreciate developmental, biological, psychosocial, and functional diversity. This article reviews health care issues for frail older adults, including the system for their care, presents challenges and creative solutions that are currently being tested and explored, and suggests nursing priorities for the future.

Health Care for Frail Older Adults

While frail older adults constitute a minority within their own age cohort, they are disproportionately represented as the majority of consumers within the health care system and as recipients of nursing care.

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They have a higher frequency of primary care visits, consume 50% of all hospital care, use over 80% of home care services, and occupy 90% of all nursing home beds in the United States ([Mezey & Fulmer, 1998](#)). Due to declines in biological reserve, the ability of a frail elder to withstand and rebound from physiological or psychosocial challenges is limited. Relatively minor assaults have the potential to trigger a cascade of negative sequelae, such as functional decline, readmission to hospitals, and exacerbation of chronic illnesses. It has been well established and clinically recognized that frailty increases the risk for falls, disability, hospitalization, iatrogenic complications, and mortality ([Fried et al., 2001](#); [Hart, Birkas, Lachmann, & Saunders, 2002](#); [Mick & Ackerman, 2002](#)).

What is Frailty and How Does it Relate to Health Care?

Frailty has been defined as the presence of three or more of the following criteria: unplanned weight loss (10 lbs in last year), weakness, poor endurance and energy, slowness, and low activity. Using this definition in a community-based study, Fried et al. ([2001](#)) substantiated a prevalence of 7% among adults over 65, with frailty associated with older age, being female, being African American, having less education and lower income, and having poorer health with higher rates of co-morbid chronic diseases. Over the subsequent seven years those who were frail at baseline had a mortality rate six fold higher (18%). Even after controlling for other risk factors, frailty independently predicted disability and other adverse health outcomes.

Retrospective Medicare data of beneficiaries who died during a 7 year period further elucidated important characteristics of frail older adults. The authors identified four trajectory groups: sudden death (7%), cancer (22%), organ system failure (16%), and frailty (47%). As a group, the frail were older (66% > 80 years old), female (61%), and over 50% had been in a nursing home in the past year. The trajectory of the frail was a slow decline, with steadily progressive disability before dying from complications associated with advanced old age, stroke, or dementia. Nearly half of the frail had either pneumonia or dehydration, and this group had higher average total Medicare costs. On average, 27.4% of each year's total Medicare expenditures were incurred by the 5% of Medicare enrollees who died that year ([Lunney, Lynn, & Hogan, 2002](#)).

These studies and others have highlighted the complex nature of health care challenges for frail elders, including chronic diseases, acute episodes of disease, functional disability, and the need for support in daily life to meet basic human needs and to optimize socialization, nutrition, and general well-being. Risks for frailty, besides old age, include ethnicity, poverty, and lower educational attainment, each of which independently predicts poorer health and inferior treatment by the health care system ([Johnson & Smith, 2002](#); [Lunney et al., 2002](#); [Smedley, Stith, & Nelson, 2002](#)). An image emerges of a subgroup of older adults whose health is marginal and whose lives are in delicate balance. Care considerations include not only decisions about appropriate and efficacious medical treatment, but also how to mobilize the required human and financial resources for such necessities as daily care, medications, provision of nutritious meals, transportation to health care appointments, and home maintenance and safety.

How Does the Health Care System Address the Needs of Frail Older Adults?

Frail older adults potentially require a constellation of health services addressing both acute and long-term needs. Inpatient hospital services concentrate on acute and serious illnesses and injuries, while outpatient clinics provide ongoing management of both acute and chronic health problems. Long-term care primarily addresses functional needs of older adults and includes the system, financing, and delivery of a variety of community-based services. In addition to housing in the form of skilled nursing facilities, assisted living, retirement housing, and adult family homes, long-term care services also include adult day care, home health and home care, wellness and health promotion programs, information and referral, durable medical equipment, transportation, and meal programs ([Evashwick, 2001](#); [Kane, Kane, & Ladd, 1998](#)).

Health care services continue to develop in response to needs of the service population, financing streams, consumer preferences, and changes in other parts of the health care system. For example, over the past decade, hospital stays have been shortened by the Diagnostic Related Group (DRG) reimbursement incentives. Also, as a result of the Balanced Budget Act in 1997, there has been a marked reduction in Medicare support for home health care ([Centers for Medicare and Medicaid Services \(CMS\) 2002 Data Compendium, 2002](#)).

Consequently, skilled nursing facilities now provide more subacute care and post hospital rehabilitation. Assisted living (AL) began as a social model for care with very limited health services. However, over the past decade, the scope of AL has expanded to accommodate aging in place and to include residents who require skilled nursing care and extensive functional support. With a nationwide trend toward admitting more frail residents to AL, services such as medication management have been enhanced, and there is increasing interest in assuring quality for a potentially more vulnerable population (Gelhaus, 2001).

Frail older adults are at higher risk for utilization of nursing homes and home health, and frailty in the caregiver increases the likelihood that the care recipient will receive these services ([Hanley, Alecxi, Wiener, & Kennell, 1990](#); [Houde, 1998](#); [Kao & Stuifbergen, 1999](#); [Montgomery & Kosloski, 1994](#)). A number of studies explored utilization and preferences among various ethnic groups ([Jenkins, 2001](#); [McCormick et al., 2002](#); [Morrow-Howell, Chadiha, Proctor, Hourd-Bryant, & Dore, 1996](#); [Mui & Burnette, 1994](#)). This work illustrates cultural

differences in service use and generally a stronger inclination toward formal services among Caucasians than other ethnic groups, including Hispanic, African American, and Asian American older adults. One must ask how much lower utilization among ethnic minorities is due to differences of cultural values and family preferences versus biases and prejudices within the system that impede access.

The particular array of services appropriate for a frail individual will depend on his or her specific needs for support with activities of daily living (ADLs), instrumental activities of daily living (IADLs), health problems, mobility, sensory limitations, cognitive decline, or general physiological changes ([Wolf, 2001](#)). Long-term care services represent a variety of overlapping options, and increasingly, individuals and their families face choices within the system. Furthermore, long-term needs change over time, resulting in patterns of both chronic and episodic use of services and an interplay between formal and informal supports ([Tennstedt, Crawford, & McKinlay, 1993](#); [Young, McCormick, & Vitaliano, 2002](#)).

Family Caregiving

Family members who are not compensated for their contributions provide the majority of long-term care. A nationwide survey indicated that the prevalence of informal caregiving is 31.7% for Asian households, 29.4% for Blacks, 26.8% for Hispanics and 24% for Whites ([Family Caregiving in the US, 1997](#)). The majority (73%) of caregivers are women, average age 46 years, with an employment rate of approximately 64%. While caregiving demands fluctuate over time, the average duration of caregiving exceeds 4.5 years. Approximately one fifth of caregivers reside with the care recipient in the same household, and over 85% are caring for relatives. The average age of care recipients is 77, with 64% over age 75. Almost half of all caregivers spend at least 8 hours per week in this activity, and 19% are full-time caregivers.

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Caregiving represents not only the donation of time and energy, but also the potential loss of income or accrued benefits when caregivers make work adjustments to accommodate their role. Almost half of working caregivers change work schedules, while a small percentage take a leave of absence, seek a less demanding job or fewer hours, or give up work. There is also evidence that working women tend to prioritize parental care above their own leisure and housework, rather than reducing work hours ([Wolf, 2001](#)). Men are playing an increasing role in caregiving, sharing the responsibilities in 55% of caregiving households ([Boaz, Hu, & Ye, 1999](#)).

The "sandwich generation" provides support to both younger and older family members, while at the same time dealing with competing demands of employment and other activities. With multiple role commitments, the ability of adult children to manage rests upon finding a balance point among competing demands ([Shyu, 2000](#)). The rewards and strains of caregiving have been well documented and include a sense of meaning, meeting interpersonal obligations, pleasure in providing care to a loved one, and satisfaction, as well as feelings of burden and emotional stress. Responses to the caregiving situation vary considerably, depending on caregiver vulnerability and strengths, the demands of the care situation, social support, characteristics of the care recipient, the type and quality of the dyad's relationship, and health ([Cartwright et al., 1994](#); [Chappell & Reid, 2002](#); [Family Caregiving in the US, 1997](#)). While the majority do not find caregiving highly stressful, the ongoing demands and exhaustion, particularly for frail caregivers, can result in deleterious health outcomes ([Vitaliano et al., 2002](#)).

Health Care Costs

Health care costs are escalating at the rate of about 5.6% per year. In 2000, the U.S. government spent \$585 billion on health care, approximately 66% of these dollars for older adults. As an entitlement for older adults, Medicare essentially provides universal coverage for hospitalization and outpatient care, and together, these services account for more than half of all Medicare health expenditures ([CMS 2002 Data Compendium, 2002](#)).

Contrary to popular myth, many health expenses in late life are not covered by public funds.

However, contrary to popular myth, many health expenses in late life are not covered by public funds. Long-term care is not an entitlement, and public assistance is limited to those who meet both medical and financial eligibility criteria. The Congressional Budget Office (CBO) estimates that expenditures on long-term care totaled more than \$120 billion in 2000 with 59% of all expenses covered by the public sector, leaving substantial expenses for individuals ([CBO Memorandum, 1999](#)). The costs of nursing home care are covered by a variety of sources, including Medicare (10%, primarily for rehabilitation after acute hospitalization), private payment (39%), and Medicaid for indigent elders (48%). Many states have implemented programs shifting Medicaid dollars from nursing homes to home and community-based services (HCBS) in response to consumer preference and with the desire to contain costs ([Waters et al., 2001](#)). One of the reasons funding for long-term care is problematic is that it represents a blend of health services, social services, and domiciliary care, much of which community-dwelling individuals are expected to pay for themselves ([Merlis, 2000](#)).

Older adults can expect approximately \$90,000 in out of pocket, uncovered medical expenses in late life: \$12,000 for prescription drugs, \$16,000 for medical care not paid by Medicare or private insurance, \$18,000 for private insurance (e.g., Medi-gap policies), and \$44,000 for long-term care ([Knickman & Snell, 2002](#)). Ironically, Medicare does not cover a number of items that promote functional independence for older adults, including dentures, hearing aids, glasses, most medications, and routine foot care. Given the complexity and sheer expense of health care services, assistance with identifying financial resources is critical in frail older adults, particularly those who have marginal incomes too high to qualify for Medicaid services, but whose health can be catastrophically affected by missing medications or food, or having an inadequate physical environment ([Dyeson, Murphy, & Stryker, 1999](#)).

By providing over 80% of all long-term care, family caregivers make a substantial contribution, offsetting the potential expenditures should older adults require formal services instead. The market value of this care by unpaid family members and friends was estimated to be approximately \$196 billion in 1997, dwarfing concurrent national spending on formal home health care (\$32 billion) and nursing home care (\$83 billion) ([Arno, Levine, & Memmott, 1999](#)).

The Impact of Frailty on the Future of the Health Care System

Given the disproportionate consumption of health care resources by frail elders and the population projections forecasting unprecedented growth in the oldest old population as baby boomers achieve maturity, there is much interest in anticipating future health care system demand and costs ([Jenkins, 2001](#); [Knickman & Snell, 2002](#); [Lee, Kovner, Mezey, & Ko, 2001](#); [Wolf, 2001](#)). Because frail elderly require both formal and informal assistance, projections necessarily include consideration of availability of family caregivers and workers contributing to social security benefits. An underlying assumption is that if the extent of family caregiving should decline, there would be an increase in the burden on formal systems. The outlook for the future depends on how current data are extrapolated, projected, and interpreted.

Over the coming decades, demographic projections include growth in the population of older adults, particularly those over 85, and decline in younger age groups, reflective of lower fertility rates and delayed childbearing among baby boomers. The dependency ratio is often cited as a determining factor in care for older adults, and is projected to reach unprecedented heights, having grown from 9.1 older adults per 100 workers in 1930, to 20.5 in 2000, to 35.7 in 2030 ([United States Census 2000, 2001](#)). The concern is that this will create a functional scarcity among younger generations, with higher demands on fewer for informal caregiving, and proportionately lower contributions to social security benefits. However, it has been suggested that this ratio be recalculated, as it currently includes 20 to 64 year olds in the productive group, and >65 in the dependent group. Given patterns of function and actual long-term care use, it could be reconceptualized to add those 65 to 74 to the productive group, and include only people 75 and older in the dependent group. Using this approach, the dependency ratio actually improves between 1960 and 2030 ([Knickman & Snell, 2002](#)).

A number of trends will potentially influence the availability of family caregivers. Fewer women are at home to provide care with growing numbers of female-headed households and employed women ([Jenkins, 2001](#)). In the future, there will be more childless elders, based on a higher percentage of currently childless women in the 40 to 45 year age group. Finally, there is evidence that the currently higher rates of divorce will affect the propensity of adult children to care for their parents in the future ([Wolf, 2001](#)). These trends suggest an increasing demand on formal services, a pattern already in evidence over the past decade, with a decline of informal care from 70.5% to 65.8%, and an increase in formal care from 48.7% to 59.9% among a large national sample ([Spillman & Pezzin, 2000](#)). However, the projected shortages of nurses and direct care workers in long-term care raise concern for the ability of the formal system to respond with the human resources required to accommodate a significant reduction in family caregiving.

On the demand side, the functional and health care needs of older adults are the most important factor. There are mixed projections for the future health status of our aging population. Knickman and Snell ([2002](#)) are optimistic about future demand, citing the finding of the National Long-Term Care Study that the disability rate for all elderly dropped from 26.2% in 1982 to 19.7% in 1999, resulting in a net of 100,000 fewer disabled elderly, despite population growth. Others have expressed caution that this decline reflects instrumental improvements, with no decline in ADL disability, implying that while there are fewer needing help, their needs are more intense ([Spillman & Pezzin, 2000](#)).

Another important factor is the health status of older adults, with the potential to modify risk factors ([Knickman & Snell, 2002](#); [Lee et al., 2001](#)).

Regardless of whether experts project dire consequences to the health care system as a result of our aging population, or have an optimistic view that improvements will offset declines, there is a consensus that outcomes for older adults are heavily dependent on health status.

There is a strong trend for higher educational attainment, with the coming generation of older adults having completed college at twice the rate of current older adults, a factor associated with improved health and lower disability. With growing emphasis on health promotion, exercise, and chronic disease management, there is greater potential to delay the onset of frailty. However, despite public education efforts, and some improvements in smoking behaviors among older adults, the vast majority remain sedentary, and there is an increased prevalence of some chronic conditions, such as osteoporosis, cancer, diabetes, heart disease, arthritis, obesity, glaucoma, and cataracts ([Wolf, 2001](#)). Regardless of whether experts project dire consequences to the health care system as a result of our aging population, or

have an optimistic view that improvements will offset declines, there is a consensus that outcomes for older adults are heavily dependent on health status. This brings the potential for improvement through health promotion activities and better clinical management of chronic diseases, as well as the effective interplay and shared responsibility of formal and informal sources of support.

Challenges for Future Care of Frail Older Adults

Three challenges emerge as critical for the ongoing evolution of the health care system in response to the aging population: the organization and sustainability of the continuum of services, resource allocation, and cultural competence in service delivery.

Organization and Sustainability: Competing Paradigms and Disincentives

Frail older adults are at the intersection of divergent systems, including the acute care system, long-term care services, and family caregiving. With acute and chronic complex health conditions affecting multiple body systems, a specialty approach to health care and a fragmented system fail to address the interdependence of physical, psychosocial, and functional health. While it is well recognized that a team approach led by geriatricians or gerontological nurse practitioners (GNPs) can make a difference, competing paradigms and funding structures continue to affect care delivery. There is a false dichotomy between episodic and chronic care management, a disconnection between community-based service and hospitals, and tension between social and medical models of care ([Clarfield, Bergman, & Kane, 2001](#); [Merlis, 2000](#)).

Despite increasing emphasis on subacute care, skilled nursing facilities are not always equipped to manage acute illnesses effectively, resulting in high utilization of hospital emergency rooms by nursing home residents. Furthermore, there are financial disincentives to physicians, nursing facilities, and consumers to manage an acute episode in the skilled nursing facility ([Ouslander, Weinberg, & Phillips, 2000](#)). Communication of crucial clinical information between providers is often suboptimal due to incompatible information systems, an orientation to the acute episode rather than the chronic trajectory of the illness, and differing staff orientations to relevant data ([Clarfield et al., 2001](#); [Evashwick, 2000](#)).

Resource Allocation and the Balance Between Public and Individual Responsibility

There are many ethical and practical challenges regarding resource allocation, and these will become more salient should dire predictions of future demand materialize. There are several public policy questions about which there is not yet consensus:

- To what extent should expensive treatments be mobilized for frail older adults in the last months of their lives?
- What are the desired boundaries of publicly funded, community-based services, and how can we strike the appropriate balance between individual and public responsibility?
- What outcomes should be valued in assessing efficacy of treatment or programs?

As previously described, over a quarter of total health care expenditures for older adults are spent on the subset (5%) who die during each year (Lunney et al., 2002). Ethical dilemmas abound regarding appropriate treatment decisions for an acute illness

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in a frail or cognitively impaired older adult, considering efficacy, preferences, personal suffering, and cost. There is evidence that intensive medical treatments are heavily rationed for hospitalized frail older adults, despite their potential benefit in altering the trajectory of disability, and their potential efficacy ([Ferrucci, Guralnik, Pahor, Corti, & Havlik, 1997](#)). Inadequacy of communication across systems regarding end-of-life treatment decisions persists among hospitalized nursing home residents who, despite documented wishes to the contrary, received unwanted end-of-life treatments ([Happ et al., 2002](#)).

The boundaries, allocation, and control of community-based services are the subjects of much policy debate. Policy makers fear the so-called "woodwork effect" should public funds be made available for services currently being donated by individuals, resulting in an influx of demand from individuals previously managing without public assistance ([Knickman & Snell, 2002](#)). Yet, a reduction in participation by families in delivering long-term care would result in higher demands on the formal system. Two relevant trends are unfolding internationally. One is the growing delivery of home and community-based services as alternatives to nursing homes ([Merlis, 2000](#)). The other is a shift towards consumer direction of services ([Merlis, 2000](#); [Tilly, Wiener, & Cuellar, 2000](#)). Both reflect a fundamental shift in values away from provider-centered systems and demonstrate how consumer preferences are shaping the delivery of formal services.

The final resource challenge is the efficacy of various programs, and whether these programs meet intended goals. Evaluation of community-based programs is complicated by the multiple trajectories of service recipients and the array of potential outcome measures. An early motivation in distributing funds away from nursing homes was to encourage transfer of inappropriately placed residents to lighter and less costly levels of care. While there has been progress in achieving discharge of these inappropriately placed residents ([Swan & Newcomer, 2000](#)), the cost savings anticipated by shifting Medicaid dollars has not consistently materialized ([Merlis, 2000](#); [Waters et al., 2001](#)).

What is the value of services that improve quality of life for caregivers even when care recipients do not improve in function?

Systematic reviews and meta-analyses of research on the efficacy of community-based programs have identified positive outcomes in consumer and family satisfaction with services, but have not substantiated global improvements in health or functional status for participants, nor cost savings for care ([Weissert & Hedrick, 1994](#); [Zarit, Gaugler, & Jarrott, 1999](#)). These reviews raise issues regarding appropriate outcome measures. What outcome is expected for individuals who are already on a declining functional and health trajectory? What is the value of services that improve quality of life for caregivers even when care recipients do not improve in function? Finally, the reviews highlight the importance of setting appropriate goals for different subgroups that would receive targeted interventions.

Cultural Competence in Health Services for Frail Older Adults

Several cultural factors potentially influence frailty trajectories and health service utilization, including race and ethnicity, rural residence, and sexual orientation. There are striking racial/ethnic differences in the prevalence of chronic conditions and patterns of treatment for these illnesses ([Johnson & Smith, 2002](#); [Smedley et al., 2002](#); [Wolf, 2001](#)). As was previously described, utilization of community-based services varies across ethnic groups. Rural populations are older and have a higher rate of chronic illnesses and disability than their urban counterparts. In many rural communities, options for community-based long-term care and professional resources for appropriate management of chronic illnesses are limited, resulting in a higher prevalence of nursing home use per capita ([Penrod, 2001](#)). Program effectiveness is optimized by sufficient utilization; sparsely populated areas might not generate the requisite levels of participation. Finally, there is a growing population of older gay, lesbian, and bisexual adults, with unique health concerns, who remain relatively invisible within the health care system ([Claes & Moore, 2000](#), [Brotman et al., 2003](#)). A particular challenge is the lack of societal endorsement for committed relationships, and its impact on the ability of partners to access health benefits and participate in decision making.

Creative Solutions

Individuals and families are in the midst of this fragmented system with competing priorities. They do not see their lives and health as compartmentalized by specialty or setting. In fact, individuals and families seek compassionate, respectful, high quality care, and desire clear and appropriate communication as they navigate the system and their own health trajectories. Solutions are emerging to shape a more responsive system.

The growth of palliative care as a standard of practice for frail older adults brings potential relief for many.

The growth of palliative care as a standard of practice for frail older adults brings potential relief for many. Happ et al. ([2002](#)) highlight the importance of advance care planning that goes beyond the traditional resuscitation decision, to include palliative care alternatives for respiratory/cardiac failure, weight loss, and pain management. It can be expected that as baby boomers age, they will demand to choose the care and services they receive. They will insist on a voice in assessing their own needs and determining how and by whom these needs should be met, and they will express their opinions readily regarding the quality of the services they receive.

The disparate access to services among minority populations will only be corrected through creating a more responsive health care system with improved sensitivity of providers to their own biases and to the needs and perspectives of their diverse clients. To foster equitable service organization with accountability of services to the population, it has been proposed that a range of appropriate and accessible long-term care services be created through partnerships between individuals, families, and service providers, assuring that services meet the needs and are able to respond to changes in needs or expectations ([Hooyman & Gonyea, 1999](#)). Effectiveness of the system and better outcomes for frail older adults would be promoted by greater attention to the goals and preferences of older adults, improved person-centered information flow, greater flexibility in care delivery related to need rather than site, management of the illness trajectory, and greater integration of multiple care goals across disciplines and settings ([Lunney et al., 2002](#); [Phillips-Harris, 1998](#)).

Furthermore, a number of specific solutions are underway to address the discontinuities in the health care system, to improve clinical effectiveness, and to increase the capacity to meet the growing needs of older adults. These include intensive case management programs, targeting at risk older adults, partnerships with families, enhanced use of telemedicine and assistive technology, and promoting healthy aging.

Intensive Case Management

Approaches to "case management" range from case management as a euphemism for stringent utilization/cost control to case management as a comprehensive approach to addressing both acute and chronic needs of an individual throughout their health trajectory and across settings. The Program for All-Inclusive Care for the Elderly (PACE) became an official health care provider under Medicare with the 1997 Balanced Budget Act. This program targets non-institutionalized frail and disabled persons who are eligible for nursing home care, and are dually eligible for Medicare and Medicaid funding. PACE interdisciplinary teams, commonly housed in day care centers, comprehensively assess participants and deliver the full range of appropriate services across settings. The approach removes the financial disincentives across providers, and unites the health care team around the goals of better long-term management and least restrictive

environments. Recent results indicate improvements in short-term hospital utilization for PACE participants ([Wieland et al., 2000](#)). After extensive pilot testing, PACE programs are becoming more widely adopted. The University of Pennsylvania School of Nursing became the first school to incorporate a PACE program into their academic mission, and are providing services to frail older adults in their community ([Naylor & Buhler-Wilkerson, 1999](#)).

Another approach to intensive case management focuses on hospitalized older adults. Recognizing the complexity of the acute and chronic health conditions of frail elders, and their risk for negative outcomes, hospital-based Advance Practice Nurses (APNs) are able to intervene early and improve care. While hospitals vary in their structure, with some having dedicated units for older adults, APNs are contributing at both the individual and organizational levels through development of care pathways, delivery of primary care, consultation to the health care team, education of staff, conducting research, and in administration. By identifying newly admitted frail older adults early, and aggressively monitoring their progress through discharge, APNs can bridge communication and clinical gaps within and between systems ([Smyth, Dubin, Restrepo, Nueva-Espana, & Capezuti, 2001](#)). The Veteran's Administration has pioneered inpatient and outpatient geriatric evaluation and management programs (GEM) and, through randomized trials, has demonstrated improvement in functional status for patients receiving inpatient GEM and improved mental health for those receiving outpatient GEM (Cohen et al., 2002). Cost patterns indicate heavier investments early in the program, with significantly lower utilization in subsequent years ([Toseland et al., 1997](#)).

Targeting At Risk Older Adults

A promising area of inquiry and program design is the identification of subgroups of older adults at particular risk for certain outcomes, with the goal of aligning programs and services to address needs, modify risk, and control costs and utilization.

A promising area of inquiry and program design is the identification of subgroups of older adults at particular risk for certain outcomes, with the goal of aligning programs and services to address needs, modify risk, and control costs and utilization. The lack of targeting has been cited as a reason for the difficulty in demonstrating efficacy of community-based services, due to the dilution effect of the intervention over a broad and diverse population. Studies relating frailty to negative outcomes have substantiated relevant risk factors that are potentially useful in grouping individuals, including socioeconomic status ([O'Keeffe, Long, Liu, & Kerr, 2001](#)), health conditions ([Diwan, Ivy, Merino, & Brower, 2001](#)), trajectory of chronic illness ([Fortinsky, Covinsky, Palmer, & Landefeld, 1999](#)), and caregiver and community resources ([Weissert & Miller, 2000](#); [Zarit et al., 1999](#)). With a better understanding of the risks for a group of individuals, interventions can be more appropriately focused to ameliorate risk and improve outcomes.

Partnerships with Families

The relationship between formal and informal systems is of critical importance in the delivery of optimal care for frail older adults. Families, who provide the bulk of long-term care, are significant not only for their contributions to the quality of life and functional abilities of older adults, but also as a matter of public policy. Technological advances have introduced medical treatments to the home that were previously performed only by professionals in hospital settings, adding demands for families and potential tension in the family-professional relationship ([Ward-Griffin & McKeever, 2000](#)). A successful partnership between professionals and families embraces their respective contributions and expertise – families and individuals are experts on their personal histories and responses to illnesses, while nurses bring general and expert knowledge about health and caregiving that can enhance effectiveness of family caregivers ([Harvath, Archbold, Stewart, Gadow, & Kirschling, 1995](#)). This philosophy formed the basis for a nursing intervention (PREP) to increase preparedness, enrichment, and predictability in families providing care to older people, with promising results in family perceptions of usefulness and hospital utilization ([Archbold, Stewart, Miller, Harvath, & Greenlick, 1995](#)).

Other countries have addressed the challenges of family caregiving by providing supports in the form of payment, tax credits, and respite services for families ([Merlis, 2000](#)). There is evidence that families do not willingly relinquish care to formal systems, even when they are available, instead they use these programs to augment their own efforts ([Tennstedt et al., 1993](#)). Solutions that improve communication and support between formal systems and families have the potential to influence the quality of life and care for individuals and their caregivers.

Telemedicine and Assistive Technology

Advances in telecommunications and assistive devices have the potential to enhance information flow and promote independence for older adults. Efforts to integrate and standardize information systems across settings and providers will improve access to timely and relevant information, promoting optimal care. Telemedicine has particular relevance for resource-poor rural communities, as a means for educational outreach to health care providers and informal caregivers, to facilitate communication between health care providers and out of town adult children, to provide access to specialists, and to improve the capacity for consultation ([Goins, Kategile, & Dudley, 2001](#)). Finally, assistive devices, ranging from low tech gadgets that assist with dressing, to mobility devices, to computerized monitoring and cuing programs, can enhance independence among frail elders, increase home safety, and reduce risk for injury. Medicare funding is available for many types of durable medical equipment (DME) and appropriate consultation and referral can expedite its deployment.

Promoting Healthy Aging

Improving outcomes for frail older adults starts with primary prevention

The future of our health care system is rosier with a healthier older population, who can contribute in positive and meaningful ways to their communities.

to improve general health, delay the onset of disability, and increase productivity and well-being. The future of our health care system is rosier with a healthier older population, who can contribute in positive and meaningful ways to their communities. A recent randomized controlled trial of a community-based intervention targeting disability prevention and disease self-management demonstrated improved function and reduced inpatient utilization in chronically ill older adults. This program, led by a GNP in a senior center, improved the effectiveness of primary care providers in influencing health behaviors, and resulted in significant cost savings (Leveille et al., 1998). Such an approach creates a shared commitment among individuals and formal systems to improve health and self-efficacy in a positive manner.

Conclusions

The health care system is complex, and frail older adults interface with formal and informal systems in many ways that change over time. Those at particular risk for a downward spiral stand to gain the most from early intervention and comprehensive treatment by a coordinated team. With diminishing resources, it is imperative that subgroups are carefully defined and interventions are appropriately targeted to assure the greatest possible benefit. The solution begins with an appreciation of the diversity of the older population – diversity of health trajectory, functional ability, cultural background, personal preferences, resources, and priorities. With attention to factors that meaningfully group needs and preferences of older adults, those designing programs have a higher likelihood of tailoring efficacious interventions.

Family caregivers play a vital role in care for frail older adults. Too often they are operating in isolation from the efforts of formal providers, and without support.

Even late in life, health promotion matters.

Strategies to improve collaboration between members in formal and informal systems have the potential to improve quality of life and care for individuals and families, and to optimize health service utilization. Health promotion is another critical factor in optimizing outcomes for older adults, by delaying the onset of diseases, managing chronic illnesses, maximizing function, and alleviating symptoms. Even in late life, health promotion matters.

Implications for Nursing

Nurses in almost all specialties and settings come into contact with older adults on a regular basis. Knowledge of the particular needs and ways to promote positive outcomes for older adults is therefore core knowledge for the profession,

In the long-term care arena, where either family caregivers or unlicensed workers provide most of the direct care, nursing has a particular leadership role in working through others to promote optimal clinical outcomes, functional ability, and quality of life.

and not simply an area of specialty for a small subgroup of gerontological nurses. Nurses have the potential to improve elder health across settings through effective screening and comprehensive assessment, facilitating access to programs and services, educating and empowering older adults and their families to improve their health and manage chronic conditions, leading and coordinating the efforts of other members of the health care team, conducting and applying research, and influencing policy. In the long-term care arena, where either family caregivers or unlicensed workers provide most of the direct care, nursing has a particular leadership role in working through others to promote optimal clinical outcomes, functional ability, and quality of life. As consumers desire a greater voice in their care delivery, the role of nursing is evolving toward greater partnerships with individuals and care providers to meet goals of independence, autonomy, dignity, and a meaningful life (Sikma & Young, 2001).

Leaders in gerontological nursing have a formal and explicit agenda, and are working diligently to increase the capacity of the nursing profession to meet the growing needs of the population (Mezey & Fulmer, 1998; Strumpf, 2000). This agenda includes assuring appropriate basic gerontological education for all nurses and preparation of advanced practice nurses (Clinical Nurse Specialists, GNPs, and Geropsychiatric Specialists) for complex, population and system level practice. In addition, by building nursing research in gerontology, nurses can articulate best practices and subsequently improve care for older adults across settings. Finally, the agenda prioritizes developing future leaders for this growing field. Nursing practice has its roots in a community-based approach to caring for the most vulnerable members of society. The aging of the population calls upon nursing to build on this solid foundation in new and creative ways, powered by a growing knowledge base and a strong societal commitment.

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