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# Cultivating Responsive Systems for the Care of Acutely and Critically Ill Older Adults

## Abstract

This article examines the importance of creating acute care systems that are responsive to the needs of acutely and critically ill and injured older adults. Four attributes of the responsive system are examined: elasticity, enabling, ease, and equanimity. An analytic literature review provides the basis for recommended practices by responsive professionals in responsive systems. Implications for practice, research, education, and policy are provided.

## Keywords

elderly, geriatric, hospitalization, acute illness, critical illness, functional recovery

## Disciplines

Critical Care Nursing | Medicine and Health Sciences | Nursing

Cultivating Responsive Systems for the Care of Acutely and Critically Ill Older Adults

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**SYNOPSIS:**

This article examines the importance of creating acute care systems that are responsive to the needs of acutely and critically ill and injured older adults. Four attributes of responsive system are examined: elasticity, enabling, ease, and equanimity. An analytic literature review provides the basis for recommended practices by responsive professionals in responsive systems.

Implications for practice, research, education and policy are provided.

Hospitals, as large organizations, are designed to meet the needs of the majority of patients – resulting in an environment that is not always tailored to the total care needs of specific sub-segments of the patient population. In many ways, this approach is sensible and used to create efficient systems. The physical environment is typically designed in ways that assume patients' functional mobility. This approach to hospital design may not adequately meet the needs of older adults who may have limitations in mobility, sensation, cognition, and communication. For example, in some institutions strings for lights are located so far behind the bed that only an adult with full range of motion and functional sensation can reach and self-regulate the light in the room. Human resource policies are often similarly designed to maximize efficiency. Staffing is typically determined by patient acuity systems that assume adults have full independence unless the disease process dictates otherwise. These levels of assessment and monitoring may not adequately capture those dependency needs of many older adult patients because these dependency needs are unrelated to the chief complaint leading to hospitalization.

Like the challenges inherent in creating a health care system that is responsive to the needs of all patients, it is difficult to design a health care environment that is responsive to the needs of all older adults. Older adulthood encompasses a four to five decade age range, indicating heterogeneity of characteristics and needs that pose challenges for professional nurses. Although individualized care is central to professional nursing, limitations in support systems, reimbursement, adequate staffing, and the physical work environment may preclude maximal responsiveness to the individualized needs of this heterogeneous patient population. Cultivating a responsive acute care environment, both structurally and professionally, designed to provide optimal care for the acute and critically ill older adult population requires specific attention to the complexity of their unique care needs.

## ATTRIBUTES OF RESPONSIVENESS:

Four attributes characterize the professional nursing environment that is responsive to the needs of the older adult population. These are elasticity, enabling, ease, and equanimity.

*Elasticity* is the ability of a system to stretch beyond its normal state and return to its original state with resiliency. A system that fully meets the needs of older adults must allow the professional nurse to meet both disease and non-disease needs of older adults with flexibility that is sufficient to maintain and/or enhance patients' independence throughout hospitalization.

*Enabling* is the quality by which nurses incorporate the cognitive, sensory, physiologic, psychological, functional and moral status of the older adult into individualized plans of care.

An enabling environment supports professional nurses in self-directed decision making, meeting self-identified goals of care, and surrogate decision-making when necessary. *Ease* is the characteristic by which the system supports professional nurses to respond to the dynamic variations in individual characteristics and care needs of older adults. Care should be responsive to the dynamic changes within a given older adult as well as responsive to distinct needs across the heterogeneous groups of older adults. The system must recognize the unique characteristics of each older adult and their individualized needs without making cursory clinical assessments or prescribing care plans based solely on overarching preconceptions of the older adult population.

*Equanimity* is the quality of a responsive system that supports professional nurses to portray a calmness and 'normalcy' of care provision even while flexing the elastic system to address the dynamic needs of older adults. A system with equanimity allows professional nurses to adjust the patient environment and care plan to facilitate an equal opportunity for optimal functional recovery among all patients that present to the health system with an acute illness or injury.

**LITERATURE BACKGROUND:**

In order to create a health care environment that maximizes its ability to respond appropriately to the diverse needs of the older adult population, we analyzed the body of research that investigates older adult patients. It is important to remember that there is tremendous variability among older adults across age-groupings and within age-groupings. This variability exists in number and type of health problems, availability of social support, functional ability, and care needs [1]. One study suggested that variables such as low levels of education, not traditionally accounted for in research related to hospital outcomes can independently predict poor functional recovery [2]. Likely, future research will provide evidence of yet greater diversity in the characteristics and intricacies of the acutely and critically ill older adult patient population.

The current body of literature strongly suggests that functional decline in older patients is not solely driven by the chief complaint and disease for which they are admitted to the hospital. Whatever the cause, up to half of hospitalized older adults have a loss of or diminishment of at least one ADL (activity of daily living) over the course of their hospitalization [3]. Functional decline in acutely ill older adults is the end-product of a complex array of factors, including age, diagnosis, social isolation, physical deconditioning, depression, and the burden of co-morbid conditions. [4, 5, 6].

Atypical presentations of illness in older adult patients may be more common than typical presentations [7]. New illnesses and injuries may present as changes in mobility, falls, musculoskeletal weaknesses, incontinence, confusion, and mood disturbances. Often these indicators are difficult to assess if caregivers do not have a thorough record of pre-hospitalization status. Poly-pharmacy in older adults can negatively affect health and functional status and

complicate initial assessment. The number of medications prescribed is increasing in older adults [7], and along with the use of non-prescription drugs, may result in worsening health status and a decrease in function [8].

The way care is structured for hospitalized older adults can significantly affect functional decline. Systems that fail to encourage early mobilization can contribute to poor functional recovery. Enforced immobility during hospitalization is strongly associated with functional decline [9, 10, 11, 12]. Research demonstrates a correlation between low mobility in older adult patients and the rate of other adverse outcomes such as increased mortality and discharge to an institution [11], providing a compelling reasons to maximize mobilization. Sometimes immobility is required to maximize healing and recovery from particular disease processes and injuries. However, forced immobility may be more often an artifact of institutional habit rather than an intentional therapeutic intervention. One study found that in the low mobility group of hospitalized older adult patients, 60% had no documented reason for the prescribed bed rest that contributed to involuntary limitations in mobility [11]. Even when immobility is not being enforced, it is important to consider other factors, such as providing hospital gowns that allow for adequate coverage and limit embarrassment in order to facilitate ambulation beyond the confines of the hospital room [13].

In order to facilitate better functional mobility and recovery in older adult patients, health care providers need to adequately address pain. Elderly patients have high rates of chronic and acute pain which can affect function, mobility, and contribute to depression, sleep disturbances, and cognitive dysfunction [14]. Acute pain during hospitalization may be the result of a new problem but can also result from an exacerbation of a chronic disease or injury. Adequate management of pain can improve outcomes as shown in a study of older adult patients who

underwent surgical repair of hip fractures. Among study participants, better pain control decreased length of hospital stay, increased early mobilization and increased functional recovery [15].

Maintaining consistency in long-held eating and elimination patterns is exceptionally important for older adults admitted to hospitals with acute illness or exacerbation of chronic diseases. Though older adults have decreased calorie requirements when compared to younger adults, it is estimated that 20% to 60% of hospitalized and institutionalized older adult patients suffer from protein-calorie malnutrition (defined as serum albumin less than 3.5 g/dL) [7]. Older adults frequently have long-established food likes and dislikes and food tolerances and intolerances. These individual nutritional needs are often derived from long-term trial and error of older adults to regulate their digestive and elimination responses. Yet rarely in the hospital setting is there adequate attention to the provision of nutritionally dense food and facilitation of patient choices that encourage older adult patients to better meet their own nutritional needs. Likewise, especially when faced with incontinence and/or forced immobility, older adult patients can lose control over their own elimination processes.

Physiological processes are not solely responsible for older adult patients' risk of functional decline during hospitalization. Functional decline can result from psychological and neurological comorbidities as well as psychological and neurological complications of physical illness and injury. Cognitive screening that demonstrates cognitive impairment at baseline is strongly associated with functional decline during hospitalization [16]. Sands et al. report that cognitive impairment among older adult patients as measured using a simple cognitive screening tool at admission is as associated with significant decline in ADLs, IADLs and mobility at 90 days post-hospitalization [16].

Ill older adults are already physically and or mentally distressed, and displacing them from their usual environments and routines makes it more likely that delirium and behavioral problems will surface during hospitalization [17]. Acute delirium places older adults at high risk for negative hospital outcomes. Delirium may be dynamic and rapidly varying throughout the course of hospitalization, with subtle presentations that may be misdiagnosed. Reported rates of delirium among hospitalized older adults range from 12% to as high as 60% [18]. Acute delirium is associated with poor functional recovery [19] and when unrecognized or misdiagnosed, the effect on function can be profound [20]. Multiple studies have found delirium associated with higher mortality [18] as well as poorer functional status and mobility decline [19].

Co-morbid psychiatric disorders and new onset of psychiatric disorders are associated with prolonged length of hospitalization [21]. Depressive symptoms may become manifest in older adults when recovery slows or functional abilities deteriorate. Physical functioning is an essential component for adults to perform independently in the many dimensions of their lives. Older adults who experience functional decline or who fail to recovery in the expected trajectory are at risk for depression. [22]. In a study of older adults who underwent major abdominal surgery, pain, depression and fatigue were significantly related to functional status as well as patients' perceptions of their recovery [23]. In a study of hospitalized male veterans, aged 65 and older, patients with the highest risk of physical function decline were those with the highest baseline physical performance status but who self-reported at least a moderate level of limitations on physical functioning [6]. Thus, perception of the impact of health on one's own physical functioning is associated with the risk for functional decline as a result of acute illness [6].

Professional nurses' ability to identify and respond to both physiological and psychological needs of acutely ill and injured older adults relies heavily on their ability to spend time at the bedside. Adequate levels of nurse staffing is associated with reduction in negative outcomes in older adults. In short- and long-term care of older adults, higher staffing levels are related to fewer re-hospitalizations for preventable causes [24]. Structural barriers such as inadequate staffing limit the time and investment by professional nurses to individualize care, maximize elasticity within the system, and enable quality care.

#### RESPONSIVE PROFESSIONAL NURSES WITHIN A RESPONSIVE SYSTEM:

The current body of literature demonstrates the great complexity of disease processes and care needs among older adult patients. While acknowledging that it is a significant challenge, health care institutions need to do a better job at building responsive systems that embody the characteristics of: elasticity, enabling, ease and equanimity. The recommendations that follow are intended to assist professional nurses in protecting physiologic reserve and encouraging better functional recovery of acutely ill and injured older patients.

First, responsive systems must address the multifaceted risk and etiology of functional decline in hospitalized elderly. To do so, the professional nurse enlists the support of the older adult's family and peer network and multidisciplinary team (including but not limited to social workers, nutritionists, and physical and occupational therapists) to maximize function. Health systems must also encourage positive collegial relationships between physician and nursing staff so that care plans that encourage greater functional recovery are implemented in a timely manner (i.e. orders are current and appropriate in terms of mobility control, eating and elimination patterns, sleep patterns, and pain control).

Second, responsive nursing care must routinely include regular and correctly executed assessment of older adult patients. Assessment of function should be carried out as regularly as an additional vital sign with the recognition that variations from baseline indicate the need for closer examination of the etiologies of functional changes [25]. Utilization of regular mobility assessment tools can enable nurses to assess, quantify, and communicate mobility levels and changes in mobility more accurately [10, 26]. As much as possible, health systems should employ standardized instruments to enhance assessment which have been tested and found to be valid, reliable and responsive for the older adult population. For example, the Functional Pain Scale has been shown to reflect changes in pain in frail older adults better than other pain scales [27].

Nursing assessments should always be interpreted in the context of the older adult patients. Even values or findings that fall within normal limits may not be 'normal' for the older adult. Assessment must be attuned to unusual clusters of symptoms that, when coupled with an unexplained change in function, may indicate the presence of an occult illness. In addition, nursing assessment must be sensitive to the effects of new medication regimens, continually assessing for changes in mental, physical, psychological and functional status.

Third, a responsive system recognizes the need for individualization of nursing care. Using the information from careful assessment to ensure that patient safety is protected, individualize aspects of hospitalization like meal choice and nutrition to support long-established self-regulation of diet and elimination patterns [28]. Nursing should also support and develop innovative approaches to older adults that minimize involuntary immobility [11] and maximize mobility and walking. A responsive system has in place a structured classification of mobility rating [12] that focuses on high risk older adults (i.e. women, those with limited education,

multiple co-morbidities, pain and fatigue) who are less likely to walk independently while in hospital [2, 14, 21, 29], and develop innovative programs to enhance the mobility of older adults, such as the “Walking for Wellness Program” [9].

Fourth, nursing must recognize and minimize the impact of comorbid psycho-cognitive disorders and the psycho-cognitive sequelae of acute illness and injury in older adults. Create an environment that minimizes confusion by incorporating family and important others into the care process, infusing familiarity into the unfamiliar environment, and conversing with the older adult about topics and events that are relevant and important to the individual [17]. Recognize that accumulating negative conditions seriously challenge the ability of older adults to adapt [30]. Responsive nurses take active steps to reduce negative conditions, such as physical restraint, foreign environments, and limited sensory input [18].

Nurses must recognize that while cognitive impairment has been shown to be associated with lower levels of activities of daily living [31], it does not preclude achieving benefits from rehabilitation therapies [32]. Therefore, a responsive system consists of proactive nurses who assess older adults frequently and rigorously in order to recognize subtle changes in cognitive status that may indicate delirium. The Confusion Assessment Method for the ICU (CAM-ICU) is a valid and reliable tool with which to assess vulnerable older adults [33]. Further, regular screening with tailored instruments like the Geriatric Depression Scale (GDS) for depressive symptoms in hospitalized older adults is important since depressive symptoms can influence ability to perform activities of daily living [31].

Fifth, responsive nursing care for older adult patients requires professional development and education both within and outside the workplace. To care for the ever growing population of older adults with acute illness and injury, nurses need to access to the most innovative and

efficacious geriatric assessment tools and evidence-based interventions. Education of professional nurses should also include content about systems thinking so that nurses will gain knowledge and experience about identifying systems that are functioning as facilitators or inhibitors of quality care for older adults. Professional nursing education must also include content about change process so that the professional nurses can negotiate the systems that do not optimize elder care.

Finally, there needs to be broad changes in hospital systems to support professional nurses in their care of acutely and critically ill older adult patients. Hospitals must regularly and carefully evaluate care provided to older adult patients in their institutions in key areas such as: mobility, eating and elimination patterns, sleep patterns, pain control, and the management of psycho-cognitive comorbidities, and institute system-wide changes when necessary based on these evaluations. Nursing structure and systems in hospitals also need to support the professional nurse at the bedside with both the time (which may require increased staffing of nursing units) and the authority to alter systems of care in order to best meet the individual needs of the acutely ill/injured older adults. One way to bridge the gap between current hospital practices and those that optimize elder care, is to employ models of practice that incorporate advanced practice nurses with expertise in gerontology to maximize functional recovery and minimize duration of acute hospitalization [3, 34].

#### CONCLUSION:

In order to create health care systems that are responsive to the unique and individual needs of acutely and critically ill/injured older adult patient, professional nurses need to be provided with the tools for appropriate assessment, the authority to make appropriate changes in

care plans based on these assessments, and continuous opportunities for relevant professional development. To provide the optimal environment in which professional nurses can provide optimal care, hospitals need to be willing to make evidence-based system-wide changes in institutional design, staffing needs, and models of clinician collaboration.

To assist hospitals and health care systems to make changes that optimize elder care in their institutions, the research community must continue to provide administrators with evidence-based best practices. Future research must disentangle older adults from the general adult patient population and incorporate models of the ‘older adult’ embedded in the system to explore the complexity of care and interventions that improve outcomes. In addition, quality improvement analyses should include sub-analyses of older adults (from all adults and across decades of life) in order to identify problem areas and design improvement in care processes to best meet the needs of these patients.

At the policy level, funding for research needs to extend beyond the biomedical model to include the complex social, institutional, family, and community determinants of older adult health. National organizations setting standards for hospitals must develop evidence-based standards that are specific to the needs of acutely and critically ill and injured older adults. It is important that policy and program development at the federal, state, and hospital level do not aggregate older adults into one homogeneous group. Rather, policy and programs should be designed to recognize the inherent variability and complexity of health care problems and needs within the older adult patient population.

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