

Physical Design Dimension of an Elder Friendly Hospital:

**An evidence-based practice review undertaken
for the Vancouver Island Health Authority**



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Executive Summary

An elder friendly hospital addresses the developmental needs of older people and aims to maintain, promote, and enhance where possible the functional abilities of older acute care patients. This report examines the physical design elements of a hospital's built environment that have been shown to meet the needs of this population. These architectural features include a hospital's wayfinding system, lighting, color, passageways, acoustic considerations, and other interior and exterior items necessary to realize maximum independent function in older people.

The report suggests that based on demographic and utilization information designers should strive to develop an adjusted built environment better suited to the needs of older people who are acutely ill in hospital. It takes into consideration a profile of older people in hospital that includes their chronic health needs, their views of hospitalization and hospital features that can potentially and unknowingly lead to harm for older people.

The report offers information based on existing evidence that suggests *what* is needed from a built environment that will support maximum functional ability in older patients and *why* those elements of design are significant. However, it does not prescribe specific design solutions; it is the creativity and innovative-thinking of the architects, decision makers, and policy makers that will determine *how* space in the proposed new acute care tower at the Royal Jubilee Hospital is organized to create a healing and therapeutic environment for older people.

Topics discussed in the report are ripe for future research, particularly as hospitals document potentially changing outcomes resulting from elder friendly design. Evidence-based articles that provide more detail about the topics contained herein also accompany the report. See Appendix B for references to these articles.

Introduction

The mission of the Vancouver Island Health Authority (VIHA) is to serve and involve the people of the islands to maintain and improve health. It asks for a “patient focused” approach to all activities and that includes ensuring a hospital environment that is sensitive to the age-related needs of older people.

Strategic health initiatives established by the VIHA (formerly Capital Health Region) in 1999 initiated the concept of an elder friendly hospital (See Appendix A for the principles established in the earlier work). The development of an elder friendly hospital serves the mission of the health region. An elder friendly hospital addresses the developmental needs of older people and aims to maintain, promote, and enhance where possible the functional abilities¹ of older acute care patients. To achieve this aim, hospital design and operations must consider four interrelated dimensions: the hospital’s social climate, policies and procedures, care systems and processes, and the physical design of its built environment (Parke, 2007; Parke & Brand, 2004; Parke & Stevenson, 1999). This report examines solely the physical design² elements of the built environment.

This report examines the needs of older hospitalized patients in relation to key design principles that have been shown to preserve functional ability in this population. The report is organized to provide the reader with background information on the needs of older patients and how the hospital environment can usurp their functional abilities.

The reader must understand that the four dimensions outlined above work together to minimize frustration among hospital employees, and functional decline in older patients. The built environment serves as a therapeutic resource that helps mitigate predictable adverse social and medical outcomes. It also helps hospital employees better serve and care for older patients, their families, and older visitors.

The report is neither conclusive nor prescriptive, but attempts to integrate knowledge from two disciplines – gerontology and architecture – in order to show that key elements in physical design can accentuate either abilities or disabilities. To serve in the design process, the report will be provided to architectural teams preparing proposals for the

1 Functional abilities are a complex arrangement of physical, cognitive, and social capabilities that enable an individual to perform self care activities independently. An individual may have varying degrees of capacity that create vulnerability and increase their risk for an adverse event.

2 Physical design means the observable built environment and all its architectural features. This includes the physical configuration, equipment, furnishings, and décor that together impede or enhance an older person’s independent function. Elements of physical design are reflected, for example, in the degree of stress experienced when determining the location and route to a treatment setting; the amount of privacy offered to patients and families; and how easily patients understand signage and find their way around the building (Kemp, 2001; Moos & Lemke, 1994; Parker, Barnes, McKee, Morgan, Torrington, & Tregenza, 2004; Ulrich, Quan, Zimring, Joseph, & Choudhary, 2004).

construction of a new acute care tower at the Royal Jubilee site of the Vancouver Island Health Authority in Victoria, British Columbia.

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Method

Search Strategy for Existing Literature

The researcher conducted a computerized literature review, compiling relevant evidenced-based manuscripts with the assistance of a librarian from the University of Victoria's Center on Aging. The search strategy followed these criteria: (a) English references only; (b) References specifically addressing older adults, elderly, or aged; (c) Research, peer reviewed, and meta analysis articles published between 1980 and 2007.

Several major health science databases were examined: Medline, Ageline, CINAHL, Social Science Index, Cochrane Control Trials, Cochrane Systematic Reviews, Web of Science, Academic Search Premier, and PsycINFO. The researcher also explored the Avery Index to Architectural Periodicals. Internet search engines, meta-search engines, and subject directories were also scanned.

Key word and subject term searches included: hospital design, hospital new construction, built environment, physical design principles, functional design, barrier free design, health care buildings, old age homes, long-term care, elderly, aged, and geriatric. Citations were assessed for their relevance to the needs of hospitalized older people. Items published between 2000 and 2007 were given priority.

The results of the literature search can be grouped into the following general themes: (a) architectural influence on behavior; (b) specialized building types for defined populations (e.g., dementia patients, critically ill patient in ICU); (c) the effect of ambient design features in the environment (e.g., light, noise, color); and (d) environmental assessment tools appropriate for particular environments (e.g., residential). Although limitations exist in this review, recommendations can still be drawn.

Limitations to the Available Literature

Much of the literature obtained that purported to contain age-sensitive information was general and lacked the specificity required for this report. There was also considerable methodological differences and variability in the reporting of the effect of specific

physical design elements. For example, a few studies identified items such as clocks and calendars, carpet flooring, noise reduction strategies, and large print signage as characteristic of an age-sensitive environment. However, the rationale or evidence to support these claims was often absent. The dementia care research literature was more useful but the strategies claimed to enhance functional ability lacked reliability and validity testing in an acute care setting.

Literature on Acute Care Elder (ACE) units was abundant. This literature consistently reported that a *pecially prepared environment* is a component of elder-friendliness. Evaluation of the specially prepared environment was often absent. Patient outcomes are reported in evaluation results as the combined effect of the prepared environment, patient-centered care emphasizing independence, clinical protocols preventing disability, rigorous discharge planning, and intense review of medical care to minimize adverse iatrogenic consequences. For literature specific to ACE units, see Gutman, G. (2005). *Critical elements of the physical features of an elderly friendly acute care hospital environment: A literature review undertaken for Fraser Health*. Vancouver, BC: Simon Fraser University, Gerontology Research Center.

Why Age-Sensitive Hospital Design is Important

Demographics and Utilization

Current national demographics indicate older adults are the primary users of hospital services; they make up “13% of the Canadian population, but account for a third of all acute-care hospitalizations and almost half of all hospital days” (Rotermann, 2006, p. 40). By all indications this trend will continue in the future. In the next 40 years, the population of adults aged 85 and older is projected to quadruple, suggesting a corresponding increase in the demand for hospital services.

Among older people, the hospitalization rate increases with age (Statistics Canada, 2006). In 2002-03, statistics showed that adults aged 65 and older were three times more likely than those aged 45 to 64 to be hospitalized. The largest users of hospital services were those aged 85 and older. Adults aged 65 and older accounted for 52% of the 21 million patient days and nearly one-third of all diagnostic and surgical procedures performed in hospitals during 1998-99 (Canadian Institute of Health Information, 2000). Statistics for the Vancouver Island Health Authority indicate that patients 65 and older account for 17% of the total population actually receiving service in 2006-2007.

Older adults also stay in hospital longer and have repeated admissions (Statistics Canada, 2006). The average length of stay for patients aged 65 and older was 11 days compared to those under age 65, who stayed an average of five days. People aged 85 and older stay the longest, averaging about two weeks. One-third of all older men and women in hospital between 2002-03 were admitted more than once; 20% were admitted twice and 12% were admitted at least three times (Rotermann, 2006). This is due in

part to risks associated with multiple chronic health problems (Segall & Chappell, 2000), adverse medical events (Baker et al., 2004; Thomas & Brennan, 2000; Tsilimingras, Rosen, & Berlowitz, 2003), functional disabilities (Inouye et al., 1993), and the preponderance of age-related physiological changes (Creditor, 1993; Palmer, 1995).

A Profile of Older People in Hospital

Older patients are a heterogeneous group; they have varying degrees of age-related physiological change, disease and illness, and corresponding functional ability and/or decline. Some older patients are like everybody else; “they seek autonomy and participation in decision-making. They do not perceive themselves as clients or patients, they are not willing to abandon their judgment for the judgment of others and [they] want to maintain control of their own destiny” (Thursz, 1995, p. iv). These older patients are able to function independently, are cognitively aware, and have abilities that support their independence in self-care. They are physically agile, able to solve problems, have a predictable hospital stay, access to social supports, and leave hospital when expected (Parke, 2007). They are able to conform to the demands of the environment, and they require few concessions by hospital employees, and hospital systems and processes.

However, existing literature also shows that some older patients have needs that do not fit well within a traditional acute care model (Longino & Murphy, 1995; Martel, Belanger, & Berthelot, 2003; National Council on Aging, 1997; Parke, 2007; Segall & Chappell, 2000; Tsilimingras et al., 2003). This group consists of frail and cognitively impaired older people who are unable to function independently while in hospital. They experience pronounced visual, hearing, physical, skeletal/muscle, or cognitive changes, have greater risk of problematic experiences, and are themselves problematic to the system. They have health care needs that consume more time than is considered reasonable for their condition while they are in hospital; they are more helpless, demand special attention, and fail to co-operate with requests and comply with regimes (English & Morse, 1988; Juliana, Orehowsky, Smith-Regoko, Sikora, Smith, & Stein, 1997; Parke, 2007). Combinations of individual and environmental factors converge to affect this group’s ability to function, cope with stress, and conform to pressures in the hospital environment.

The incongruence between the needs of these patients and the demands of the acute care environment make performing work duties troublesome for hospital employees. Parke (2007) argues that attention must shift away from the “problem” of old people and toward the consequences of converging hospital environment factors and their disabling effect on vulnerable older people. Giving attention to physical design features that enable independent function is one way to begin achieving this shift.

Chronic health needs

The chronic health needs of older adults can contribute to functional crises in activities of daily living (ADL) and/or instrumental activities of daily living (IADL) when an older person is admitted to hospital (Creditor, 1993; Palmer, 1995).

Chronic illnesses tend to accumulate with age; deterioration in mental and physical function and a rise in disability and dependence are common in older people (Longino & Murphy, 1995; Martel, Belanger, & Berthelot, 2003; Statistics Canada, 2006). In 2003, 81% of all older adults living at home had at least one diagnosed chronic health condition. Twenty-five percent of all older adults living at home, and 45% of those aged 85 and older had a long-term disability that affected ADL and/or IADL (Colin, 1999; National Advisory Council on Aging, 1999; Gilmore & Park, 2006; Statistics Canada, 2006).

Arthritis, heart disease, hypertension and stroke, respiratory illness, diabetes, dementia, and digestive problems are prevalent medical problems in older populations (Gilmore & Park, 2006; Segall & Chappell, 2000; Statistics Canada, 2006). Chronic pain and discomfort are part of the health profile of many older adults. "In 1996-97, one in four seniors (25%) living at home reported they experienced chronic pain or discomfort, compared with just under 21% of those 55 to 64 and only 12% of those between the ages of 25-54" (Colin, 1999, p. 62). Similar findings are reported by Statistics Canada (2006).

Sensory impairments are also prevalent in an aging population. For example, more than 40% of men and women living in institutions are hearing impaired; 89% of those require a hearing aid. A natural decline in smell and taste begins after age 60. Visual impairments affect 9% of older Canadians and 38% of these people become functionally impaired (Statistics Canada, 1990; 1996).

The chronic health needs of older adults can result in barriers to autonomy, chronic pain and fatigue, loss of stamina, incontinence, and impaired mobility. As functional ability declines from sensory impairments (e.g., vision and hearing), serious acute illnesses (e.g., cancer, stroke), and cognitive changes (e.g., Delirium, Alzheimer's disease, other dementias) greater attention is needed for patient safety. For example, approximately 15 to 22% of older adults will develop hospital-acquired delirium (Inouye et al., 1993). More comprehensive care is required; a corresponding built environment is needed to support a wide and variable range of functional needs in older people, with more emphasis on maximizing physical, social, and emotional independence.

Together these factors make older adults more vulnerable to adverse functional outcomes linked to increased age, general health status, medical problems, function and cognitive status, and nutritional state (Clark, 2001; Karp & Koval, 1998; Thomas & Richie, 1995). This is due in part to a decrease in physiological functional reserve, a natural consequence of the aging process (Creditor, 1993; Tsilimingras et al., 2003). Longino and Murphy (1995) point out that people with chronic health needs are vulnerable and continually at risk for adverse physical and social outcomes; a contributing variable in their experience is the degree of risk that exists in the environments they inhabit.

Research specific to hospitals indicates that vulnerability increases susceptibility to adverse outcomes in individuals with any of the following: vision impairment, severe illness, cognitive impairment, dehydration, malnutrition, greater than three medications, immobility, substance abuse/misuse, and advancing age (Boult et al., 1993; Heruti, Lusky, Barell, Ohry, & Adunsky, 1999; Inouye, 2000; Inouye et al., 1993; Liebergall et al., 1999; Tsilimingras et al., 2003; Wakefield, 2002 ; Winogard et al., 1991). Hospitalization itself is shown to be an independent risk factor (Inouye & Charpentier, 1996). The risk of experiencing adverse medical events, developing functional disabilities, or acquiring unfavorable physical and/or social outcomes while in hospital increases as age and the preponderance of chronic health needs increases (Baker et al., 2004; Creditor, 1993; Inouye et al., 1993; Palmer, 1995; Thomas & Brennan, 2000; Tsilimingras, Rosen, & Berlowitz, 2003).

Special attention is warranted for medically ‘frail’ older adults because their vulnerability is often not only associated with multiple inter-related, acute or chronic illnesses but with physical disabilities and/or cognitive impairments that need supportive care in conjunction with acute interventions (Canadian Medical Association, 2000). In British Columbia it is estimated that more than 50,000 people have dementia and many older people are living in the community with an undiagnosed dementia. Prevalence of dementia rises with age, and projections indicate this trend will continue (Gilmore & Park, 2006; Government of British Columbia, 2004).

Cognitive impairment is a critical factor in the physical environment design because it represents brain function; it enables the person to remember, follow directions, solve problems, perform independent self-care, and communicate. People with impaired cognitive function are more sensitive to factors in their environment. They are the individuals who often also have greatest difficulty with the hospital’s architectural features and bureaucratic conditions (Parke, 2007). This is particularly true for those coming to hospital from long-term care facilities for treatment of their acute illnesses.

Older Adults’ Views of Hospitalization

Being an older patient in hospital is a complex and dynamic process. Research shows that older adults are often unhappy with their hospital experiences (Anderson, Allan, & Finucane, 2000; Attree, 2001; Bull, Jervis, & Her, 1995; Higgins, et al., 1997). These findings have emerged from studies conducted in rehabilitation settings (Cowger, 1994), acute care medical/surgical areas (Forbes et al., 1997), cardiology (Shih & Shih, 1999), the emergency department (Watson et al., 1999), long stay geriatric settings (Higgs, MacDonald, & Ward, 1992), the community (Gallagher & Hodge, 1999), and with home services (Samuelsson & Brink, 1997).

Older adults report problems, complaints, and concerns in three general areas: care processes, communication, and the structure and treatment setting of the built environment (Dady & Rugg, 2000; Douglas & Douglas, 2004; Forbes et al., 1997; Kihlgren, Nilsson, Skovdahl, Palmblad, and Wimo, 2004; Mistiaen et al., 1997; Shih & Shih, 1999;

van der Smagt-Duijnsteet et al., 2000). In addition, studies undertaken by Bull, Jervis, and Her (1995), Higgs et al. (1992), Lyytinen, Liippo, Routasalo, and Arve (2002), and Wells (1997) all found that older patients reported problems with admission and discharge processes, facility design, participation in decision-making, lack of control and influence over their care, and they wished for greater say and choice in care procedures.

Similarly, Yen, Chen, and Chou (2002) report that the concerns of hospitalized older adults are multi-dimensional, involving physical condition (i.e., treatment-related physical concerns, and disease-related physical concerns), promptness and effectiveness of nursing services, health professionals attitudes (i.e., caring attitudes, interactions with hospital staff, and responsibilities), and the environment (i.e., infection control, spacing, temperature and noise, limited choice). In a related study, Li (2005) found four categories of worry experienced by caregivers during hospitalization of older family members. These categories included worry about the older person's condition, care provided by the professional team, care requirements provided by the family following discharge home, and finances. Although not specifically related to the built environment, this study suggests that hospitalization is a family-centered event characterized by emotional turmoil, concerns for the older patient, and future impact on the family. Consequently, the built environment must support relationships between older patients and their primary family contacts.

Hospital as a Built Physical Environment

Traditionally, the physical environment of the hospital has been built to support the technology and equipment needed by health care professionals to do their work. Upon admission, for example, all action, investigations, and treatment of symptoms are coordinated around the patient's diagnosis. On the surface, this may not present a problem. This environment enables physicians and other health care professionals to deal efficiently with the patient's acute physiological problems using a scientific-objective paradigm to treat the disease, and attempt to cure it (Dietz, 1995; Chappell et al., 2003). This paradigm, however, does not capture the functional abilities, psychosocial needs, and risks of being an older person with chronic health concerns because these concerns – such as arthritis, cardiovascular disease, degenerative neurological afflictions, dementias, and frailty – are not amenable to cure through technologically based interventions (Thorne, 1993).

The hospital environment creates stress in older adults by challenging their adaptive ability (Ulrich et al., 2004). The unfamiliar hospital environment, with its medical jargon, unfamiliar equipment, and disruption of life-long routines and habits, are significant sources of stress. Hospitalization also interrupts social support networks. "Healthy people are able to attenuate the impact of their environments by leaving or changing them; sick people ... have neither the control nor the ability to alter unpleasant or dissatisfactory settings" (Shumaker & Reizenstein, 1982, p. 190). The older person, when frail, ill, and weak has less energy to manage and cope with the demands of hospitalization. They may also lack the social supports needed to maneuver through the hospital system.

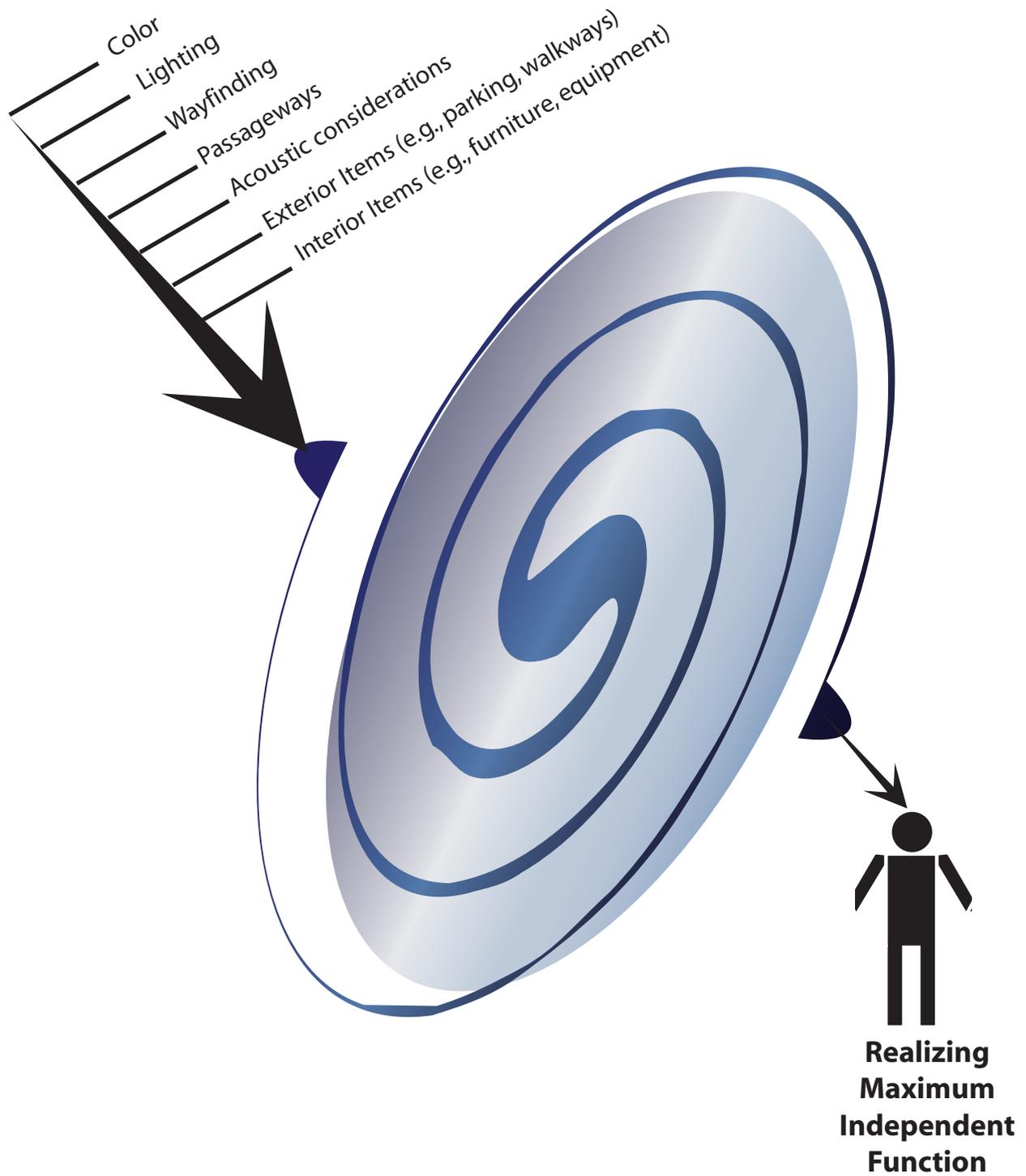
Overall, gerontological literature suggests that an adjusted built environment is needed in hospital to support a different approach to providing acute care for older people. At present, the organizational culture in hospitals is technologically dependent on an expert model that deals with short-term, acute biologically-based illnesses (Longino & Murphy, 1995). Hospital customs and traditions shaped by this agenda place time-limited, acute interventions ahead of chronic health interventions. In contrast, older people typically require simultaneous treatment for three or four different chronic health problems *along with* any acute problems. These patients require a multi-disciplinary, holistic and more humanistic approach to care, more intensive rehabilitation, and a longer recovery time. Dominance of the acute care agenda obscures older peoples' chronic health and functional needs, placing them at risk for poor clinical and social outcomes. To address the special needs of older people, a gerontologically sensitive physical environment is proposed. Key elements of this type of environment are presented in the next section of the report.

Gerontologically Sensitive Physical Environment Design

A gerontologically sensitive hospital compensates for the older person's declining capacities. The design in such a hospital a setting that can protect and, where possible, maximize independent function in older hospitalized patients. An adjusted acute care physical environment takes account of the interior and exterior areas of a hospital – from entry to the property, the parking lot, and all architectural features including the physical configuration, equipment, furnishings, and décor. This is achieved by integrating key interior and exterior design elements (See Figure 1).

Attention to these design elements enhances access without restraint, and lessens the degree of stress and anxiety perceived or experienced by older patients and visitors. Together these design elements mitigate age-related physiological changes such as sensory and perceptual losses, while compensating for older adults' cognitive decline and loss of physical strength.

Figure 1



Integrating Gerontological Principles with Critical Design Features

Table 1 describes the relationship between the needs of older people and the design features of the physical environment that are critical to creating a gerontologically sensitive hospital.³ Items in Column one address what older hospitalized people need, want, and expect. Column two provides corresponding design features that facilitate a positive outcome, one that is associated with a good experience in hospital.

Universal design principles apply; however, the design features noted in Figure 1 have been extrapolated from the literature and evaluated for their specific contribution to maximizing and protecting the functional abilities of older patients in hospital acute care medical and surgical areas. The design elements transposed to column two are concrete examples of what architects could address in their design of the new Royal Jubilee hospital tower.

Column three identifies possible outcomes from integrating a gerontological principle with a design feature. In the future, these potential outcomes can be translated to indicators that may measure the impact of an adjusted acute care physical environment – one that optimizes performance, reduces risk of injury, and protects functional abilities in older populations.

³ Although this report focuses on the needs of older adults, it is understood that hospital employee safety in optimizing gerontological care is important in ensuring quality hospital service and remains an essential element of physical design that is not captured in this report.

Table 1: Evidenced-based Principles for a Gerontologically Sensitive Hospital Environment¹

Gerontological Principle	Evidence-based Physical Design Elements that Maximize Function	Potential Outcome
<p>Older adults need an environment that fosters:</p> <ul style="list-style-type: none"> (a) Confidence (b) Autonomy (c) Independence in Activities of Daily Living (d) Problem solving 	<p>An adjusted built environment provides:</p> <ul style="list-style-type: none"> • Equipment to compensate for disabilities and self-care • Space to walk and move independently with or without assistive devices • An in-patient bed located in close proximity to a toilet/bathroom, with space to accommodate mobile assistive devices and equipment • Color that emphasizes what is important and de-emphasizes what is not important (e.g., focus particular attention on items in the environment that have potential to convey useful information, and help locate areas) • Clearly delineated treatment areas • Way finding and signage with appropriate contrasting color, lettering size and font type, and other orientation cues 	<p>Older patients and older visitors:</p> <ul style="list-style-type: none"> • Require less assistance • Have confidence to express needs • Experience diminished de-conditioning • Gain improved self care ability and health information learning • Experiences greater comfort and less anxiety
<p>Older adults need an environment that promotes harm reduction by:</p> <ul style="list-style-type: none"> (a) Facilitating safe mobility, (b) Reducing stress and anxiety (c) Supporting cognitive ability (d) Enabling restful sleep 	<p>An adjusted built environment provides:</p> <ul style="list-style-type: none"> • Sufficient space to prevent and reduce clutter in hallways • Adequate storage for larger equipment used by older people • Areas for walking and locations to walk to including rest areas • Parking and arrival pathways or sidewalks with limited distance to major entrance ways • Exterior covered drop-off and parking areas • A layout that minimizes trips and falls (e.g., appropriate floor finishes, shaped and sized hand rails, stair ways) 	<p>Older Patients and older visitors experience:</p> <ul style="list-style-type: none"> • Enhanced independent activities of daily living • Decreased risk of falling • Diminished de-conditioning • Appropriate length of stay • Decreased iatrogenic problems (e.g., incontinence)

¹ Corresponding references that support the selection of each design feature are provided in Appendix B. These articles also provide detailed explanation of each component and their relevance to older people. They also serve as the rationale for the design suggestions made in the second column of Table One.

	<p>ways)</p> <ul style="list-style-type: none"> • Proper lighting (e.g., various degrees of illumination, glare reduction strategies, prevention of shadows and distorted features, natural light when possible) • Furniture designed for safe seating (e.g., height, color, texture, arm rests, seat angle) to promote ease of use – the ability to sit and stand without assistance • Accessible equipment – fixed and assistive (e.g., beds that lower, walkers (of various types), pocket hearing amplifiers, mobility aids, bed alarms, patient lifts) • Way finding, signage (e.g., appropriate color, size and font type, location in relation to lighting, finished surface on glare) • Color coding of landmarks for easy identification or as a barrier for out of bound areas depending on older patient profile • Ambient temperature control • Bathrooms designed (e.g., non-slip flooring, grab bars; space for maneuverability of large equipment lighting, fixtures) to aid access and independent self-care. • Flooring to ensure safety (e.g., avoid patterns, sharp color contrasts) • Stairways, handrails and flooring prepared to accommodate mobility needs (e.g., constructed to clearly delineated surfaces accommodate vision and physical strength changes) • Doorway widths to accommodate two people walking side by side with assistive devices, (e.g., wheel chair or walker) and enhance maneuverability • Designated area for eating and exercise 	<p>(e.g., incontinence)</p> <ul style="list-style-type: none"> • Improved problem solving • Improved sleep and rest with diminished use of hypnotics • Less disruptive behavior and the use of certain medications • Increased ability to return home to community living
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<p>Older adults need an environment that promotes:</p> <p>(a) Family contact and care giving</p> <p>(b) Knowledge acquisition for self-care</p>	<p>An adjusted built environment provides:</p> <ul style="list-style-type: none"> • Space for social interaction and learning • Areas to visit with privacy • Furniture arranged for culturally sensitive eye to eye contact and safe seating • Rooms furnished with foldout bed to encourage family support • Telephone access with volume control and large numbers • Noise reduction and other acoustic considerations for privacy, social interaction, and calming anxious or older delirious patients (e.g., noise absorbing ceiling tiles; innovative flooring options, elimination of overhead paging, quiet wheeled equipment) • Consideration for innovative teaching and learning technology 	<p>Older patients and older visitors:</p> <ul style="list-style-type: none"> • Maintain community competency and relationships with family and friends • Experience reduced relational conflict • Communicate their care needs, expectations, and values • Acquire self care knowledge • Experience less anxiety • Maintain independence • Return to home following an appropriate length of stay
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Conclusion

A gerontologically sensitive hospital aims to create an environment that meets or exceeds the functional needs of older people. Safety, security, independence, support, competence, and physical and psychological comfort are possible for older patients, their family members, and older visitors when wayfinding, lighting, color, passageways, acoustic considerations and other interior and exterior features such as furniture, equipment, parking and walkways are adjusted in the built environment. This report explains why and how such an environment can be realized in the acute care setting of a hospital.

The report introduced key elements of design critical to maximizing independent function in older patients and visitors. Functional ability is assumed to include physical, cognitive, and social dimensions in a person's life. When designers know more about the special characteristics that accompany older people to hospital, the built environment can be adjusted by following the guiding principles noted in the second column of Table 1. These principles as defined in this report help in setting priorities and detecting weaknesses in traditional hospital design. Corresponding details for the items noted in Table 1 and Figure 1 are found in additional resources located in Appendix B.

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Appendix A



Elder Friendly Hospital *A Regional Strategic Initiative*

August 2000



The Elder Friendly Hospital initiative is a Capital Health Region project to improve care and services to hospitalized older adults. Adults over the age of 65 make up approximately 21% of the region's population and account for 62% of acute care hospital admissions. Seniors have diverse health care needs and require multiple, interdependent services that cross all health care sectors. The hospital environment may unknowingly contribute to adverse clinical and social outcomes in seniors.

Vision:

A hospital responsive to the developmental needs of seniors.

Mission:

The hospital, as part of the community, recognizes there may be adverse consequences of hospitalization in older adults and will work to predict and prevent remediable problems that may occur when the hospital fulfills its responsibility to provide acute and episodic health care services to the population in the Capital Health Region.

An Elder Friendly Hospital has:

Care processes and services that consider gerontological developmental issues:

- Assessment and high risk screening
- Achievement of the right length of stay
- Appropriate discharge planning
- GP involved in coordination of hospital care
- Patient and family centered team processes
- Diagnostic investigations and procedures that reflect age related changes and abilities

Hospital Systems, Policies and Procedures that reflect a culture, attitude, and atmosphere that values older adults:

- Recruitment of staff knowledgeable in the care of older adults and their families
- A physical environment properly equipped to support the abilities of older adults and their families

Communication and listening processes that take into account the older adults and their families experience of coming to hospital, being in hospital, leaving hospital.

Principles of Hospital Care for Older Adults

- Family involvement at all stages of care
- Consistent, ongoing interdisciplinary assessment of the older adult, their family and social circumstances
- A holistic focus that combines a gerontological developmental approach with a hospital diagnostic approach to care
- Recognition for life long patterns and developmental needs
- Early identification of risk factors and problems to:
 - prevent the preventable
 - reverse the reversible
 - support and palliate
- Respect for the older adult's ability to make choices about the services they receive in hospital
- Creation of an environment that supports their abilities and recognizes the need for expertise and knowledgeable staff to assist the older adult and their family with the transitions that are necessary to leave hospital.

Appendix B

Supporting Evidence, Table One Column Two

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