

## The Geriatric Emergency Department

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With the aging of the population and the demographic shift of older adults in the healthcare system, the emergency department (ED) will be increasingly challenged with complexities of providing care to geriatric patients. The special care needs of older adults unfortunately may not be aligned with the priorities for how ED physical design and care is rendered. Rapid triage and diagnosis may be impossible in the older patient with multiple comorbidities, polypharmacy, and functional and cognitive impairments who often presents with subtle clinical signs and symptoms of acute illness. The use of Geriatric Emergency Department Interventions, structural and process of care modifications addressing the special care needs of older patients, may help to address these challenges. *J Am Geriatr Soc* 55:1873–1876, 2007.

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For most of the 20th century, the growth of the population aged 65 and older has far outpaced other age groups, and this trend will continue well into the 21st century. As a result of this demographic shift and an increase in longevity resulting from changes in lifestyles, health, and medical advances, one in five Americans will be aged 65 and older in 2030. By 2050, nearly 25% of Medicare beneficiaries will be aged 85 and older.<sup>1</sup>

As the U.S. population continues to age, the healthcare system will need to face and embrace the challenges of caring for older adults. Care for elderly people is increasingly being sought in emergency departments (EDs), where older patients typically present with complex medical conditions, stay longer for more-extensive diagnostic testing and treatment regimens, and require special needs during their visit.<sup>2</sup> The use of Geriatric Emergency Department Interventions

may help to address these challenges and thereby improve the quality of care of elderly people in the ED.

### OLDER ADULTS AND THE ED

Although the aging population will affect all areas of health care, the ED is likely to be disproportionately affected. In 2002, approximately 58% of 75-year-olds had at least one visit to an ED, as compared to 39% of those of all ages, and ED use increased with increasing age.<sup>3</sup> Once in the ED, older patients are more likely to have an emergent or urgent condition, be hospitalized, and be admitted to a critical care unit.<sup>4</sup> In addition, older patients are also more likely to receive a greater number of diagnostic tests, spend longer times in the ED, and have higher charges for their ED services than younger patients.<sup>5</sup>

### The Disconnect Between Emergency and Elder Care

The ED is a unique environment where highly specialized care is delivered to the acutely ill and injured and safety net care is provided to disenfranchised and vulnerable populations. Although studies have begun to demonstrate disparities in care for older adults, most have focused on specific diseases or conditions<sup>6</sup> and have not looked specifically at how ED care and environmental factors may be associated with patient outcomes. Nonetheless, there are indications that the current model of ED care may not be meeting the needs of older adults. After an ED visit, older adults are at greater risk for medical complications, functional decline, and poorer health-related quality of life than they were before.<sup>7,8</sup> Up to 27% of older adults discharged home from the ED experience revisit, hospitalization, or death within 3 months after discharge.<sup>9</sup> In addition, a survey of older patients discharged from an inner-city ED revealed that most believed that ED staff were not attentive to their questions or needs.<sup>10</sup>

The special care needs of older adults unfortunately are not aligned with the priorities of how ED physical space is designed and how ED care is rendered. Space is planned with the intent of quick patient evaluation and turnover; the physical layout of a traditional ED is focused on maximal use of resources. Privacy is forsaken at the expense of improving throughput so that curtains rather than walls serve as barriers between beds in an open-spaced ED, allowing for greater staff maneuverability and placement of multiple patients in shared bays during periods of crowding. Given

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high hospital occupancy rates, patients may lay on narrow, thinly matted stretchers for hours, even days, while awaiting diagnostic tests or unavailable hospital beds, thus increasing the risk for pressure ulcers during their hospitalization. Floors in the ED typically consist of slippery linoleum or hard vinyl components designed for easy cleanup of spills and body fluids, creating fall hazards for geriatric patients with gait impairments. Because EDs are often located on ground floors of hospitals, they are usually windowless to preserve patient privacy, with lighting limited to glaring overhead fluorescent lamps, which may promote disorientation in cognitively impaired older adults not exposed to diurnal changes. Finally, EDs are rarely quiet. Noise, resulting from continuous clanging of monitor alarms, the chatter of clinical staff, and the clamor of other patients in the same physical space, is constant—contributing to communication difficulties for patients who may be hearing impaired and possibly increasing the risk of developing or worsening delirium.

There is also a mismatch between how ED care is currently rendered and how care could optimally be delivered to older adults. Rapid triage and diagnosis may be impossible in older patients with multiple comorbidities, polypharmacy, and functional and cognitive impairments who often present with subtle clinical symptoms and signs of acute illness. The time pressure to make a fast diagnosis can increase the risk of incorrect or missed diagnoses. Unaccompanied patients, who may not be able to advocate for themselves because of delirium, dementia, or sensory impairments, compete with younger more vocal adults—often unsuccessfully—for the attention of busy clinical staff. Finally, to reduce the risk of falls from patients ambulating to restrooms and because of limited staff time to change diapers or bedpans, bladder catheters are often inserted, increasing risks for developing delirium and infection.<sup>11,12</sup> As eloquently and bluntly stated in a commentary calling for a new model of emergency care for geriatric patients, our current system of ED care is “not designed for older people.”<sup>13</sup>

### Geriatric Emergency Department Interventions

In response to the needs of the growing number of older adults seen in EDs, Geriatric Emergency Department Interventions (GEDIs) that would include better clinical staff education in geriatric emergency medicine and nursing care, evidence-based protocols for common geriatric syndromes, and ideally, appropriate structural modifications are proposed. Protocols, trained staff, and physical modifications targeted at the geriatric patient in inpatient settings have already been shown to successfully reduce the risk of delirium, iatrogenic complications, cost, hospital length of stay, and transfer to long-term care facilities, while increasing patient and provider satisfaction and preserving patient function.<sup>14–17</sup> It has recently been shown that these programs are replicable in community hospitals, demonstrating the widespread applicability and effectiveness of geriatric-focused interventions for inpatient geriatric care. The proposed GEDIs would initially be targeted toward patients aged 65 and older and could potentially be implemented (incrementally, depending on fiscal, physical, and demographic constraints of hospital systems) in all types of EDs.

For EDs that are being newly constructed or renovated, physical space would be designed with the intent of optimal care delivery to the complex geriatric patient. Ideally, sky or ceiling windows would be installed to provide access to natural lighting, and hospital recess lamps would be dimmed during the evening to follow diurnal patterns<sup>18</sup> and potentially diminish the risk of patients becoming disoriented to time. The use of sound-proof curtains between open bays throughout the ED might help to preserve privacy<sup>19,20</sup> and provide a more acoustic-friendly environment. Optimally, patients would rest on stretchers with pressure-reducing mattresses or, if able to sit, in reclining chairs during their ED evaluation.<sup>21,22</sup> To assist in navigating the ED for those who are ambulatory, walls and hallways would have support rails, and floors would have “aisle” lighting.<sup>23</sup> Additionally, floors would be tiled with nonskid, level surfaces to aid in mobility and decrease the risk of injuries for patients at risk of falls within the ED.<sup>23</sup> Improvements would be made in signage, including boards with hospital and clinical staff names visible in large print, large-faced clocks, and calendars that would be plentiful and visible from all patient bays. Visual aids (e.g., glasses or magnifying lenses), adaptive equipment (e.g., telephones with large, illuminated keypads; fluorescent tape on call bell), and hearing devices (e.g., portable amplifying devices<sup>24</sup> and special communication techniques) would be available to all patients.<sup>14</sup> Finally, ambient temperatures would be adjusted for a more-comfortable environment to all patients seen in the ED.

For EDs with limited budgets and space, less-expensive changes could be made incorporating some of the above modifications. Upon arrival, older adults would receive a “GEDI package” at triage consisting of some or all of pressure-reducing egg-crate padding, a hearing device, and a magnifying lens. Removable rubber mats would be placed near the patient’s stretcher along with a commode to minimize the risk of falls. Less-expensive structural changes suggested above, such as the soundproof curtains, better signage, and minimizing excess noise (using cell phones rather than overhead announcements, providing ear phones to patients watching televisions) could be implemented throughout the ED at relatively little cost.

With the GEDIs, practice patterns in ED patient care would be modified for the screening and assessment of conditions specific to the geriatric patient population. At triage, older adults would be evaluated for signs of cognitive impairment,<sup>25</sup> risk of hospitalization, or having a return ED visit using short validated instruments such as the Identification of Seniors At Risk.<sup>26</sup> Given the high prevalence of delirium in hospitalized older adults, all patients would be formally tested for this condition during their clinical assessment. Family members would be allowed to accompany patients to provide physical assistance for those with functional impairments or additional background and history to the clinical staff for those who are cognitively impaired. Protocols for pain management and other diagnostic algorithms would be modified for older patients with conditions such as hip fracture, abdominal pain, pressure ulcers, urinary retention, and syncope. Physical restraints would not be used,<sup>11</sup> and any devices or equipment that serve to reduce mobility or tether patients to beds (e.g., bladder catheters, telemetry leads, pulse oximeters) would

**Table 1. Potential Geriatric Emergency Department Interventions (GEDIs)**

GEDI	Goal
<b>Structural modifications</b>	
Soundproof curtains	Reduce risk of delirium by decreasing extraneous noise <sup>14,24</sup>
Hearing assistance or amplifying devices	Improve communication for those with hearing impairment <sup>24</sup>
Removal of noise distracters (e.g., televisions)	
Reclining chairs or padded or lined stretchers	Improve patient comfort <sup>21</sup> Reduce pressure ulcers <sup>22</sup>
Large-faced clocks, calendars, boards with names of hospital and clinical staff	Reminders to improve patient orientation <sup>14</sup> Reduce risk of delirium <sup>14</sup>
Rubber-mat or nonskid floor surfaces	Reduce risk of falls and injury <sup>23</sup>
Hand rails on walls and hallways	
Aisle lighting	
Bedside commodes	
Visual aids (e.g., magnifying glasses, fluorescent tape on call bells, telephones with large keyboards, aisle lighting)	Visual support for visually impaired patients <sup>23</sup> Reduce risk for delirium <sup>11,14</sup>
Sky or ceiling lights or diurnal lighting changes	Reduce risk of delirium by use of natural lighting
<b>Protocol interventions</b>	
Cognitive impairment and delirium	Early identification of patients at risk for these conditions to assist in disposition, treatment, or discharge planning <sup>25,26</sup>
Risk of adverse health outcomes, return visit, or hospitalization screening	Decrease risk of return visits or hospitalization <sup>26,27</sup>
Abbreviated comprehensive geriatric assessments	
Minimum use of urethral catheters and other "tethering" devices	Reduce patient immobility Reduce risk of nosocomial infection and delirium <sup>11,12</sup>
Nursing discharge coordinator	Improve continuity of care Decrease risk of return visits <sup>28</sup> Increase patient satisfaction <sup>28</sup>

be minimized and used only if medically indicated. For patients being discharged, functional impairment screening and abbreviated comprehensive geriatric assessments would be implemented to assist in determining whether the patient was appropriate for discharge, to improve functional outcomes, and to decrease return visits and hospitalizations. Interdisciplinary teams of social workers and an ED-based nursing discharge coordinator would coordinate such transitions of care from the ED to the home or nursing home for follow-up by primary care physicians or to community services.<sup>27,28</sup> For a summary of proposed GEDIs and their goals, see Table 1.

## DISCUSSION

The subspecialty of geriatrics is now more than 20 years old. Research in geriatrics has clearly defined the special medical needs of older adults. These include the risks that hospitals present to their health and function, the identification of cost-effective interventions to improve detection and diagnoses of acute illness and syndromes (e.g., delirium, falls risk), the reduction or elimination of iatrogenic risk factors that complicate hospitalization and contribute to functional and cognitive decline, and the identification of structural changes and nursing and medicine protocols that can promote recovery and preserve cognitive and physical function. Despite these advances, the ED—the point of entry to the hospital for the overwhelming majority of older adults—is not a receptive environment for older adults and is poorly adapted for their special care needs.

Given the growth of the elderly population and its increasing presence in U.S. hospitals and EDs, changes in how the older adult is cared for will affect all levels of the healthcare system. The ED sits at a unique junction in the continuum of patient care, overlapping with outpatient, inpatient, prehospital, home, and extended care settings. By addressing how care is delivered not only within the ED itself but also at transitions of care to and from the ED—to and from nursing homes, outpatient clinics and offices, hospital inpatient services—it is hoped that overall geriatric patient care would be improved on all fronts. As more research continues to explore and develop models of patient care, criteria for quality care, and evidence-based standards of practice, GEDIs represent a small facet of targeted improvements that have the potential to affect patient care on many levels.

Hospitals throughout the country already use separate pediatric and psychiatric units within their EDs for these unique patient populations, yet GEDIs do not exist in the United States. In the 1980s, the pediatric emergency medicine subspecialty and its separate department were beginning to be established<sup>29</sup>—their creation at that time based on the medical needs of a specific community. Indeed, emergency medicine has begun to recognize the special needs of older adults. Following a similar path that pediatric emergency medicine blazed 20 years ago, some institutions are now recognizing the special needs of older patients by staffing their EDs with geriatricians and geriatric nurse practitioners.<sup>13</sup> Other programs have created fellowship training in the new subspecialty of geriatric

emergency medicine.<sup>30</sup> If emergency care of the older adult is to continue to improve, it is likely that it will require interdisciplinary efforts to support knowledgeable and skilled healthcare staff in combination with appropriate evidence-based structural and process changes in the ED to enhance and facilitate care. Emergency medicine recognizes the special needs of children and psychiatric patients. Perhaps it is time to also address the specialized needs of older adults within the ED setting.

By targeting incremental changes in how EDs provide patient care not only with physical space, but also in the manner in which care is rendered, it is suggested that the use of GEDIs is not only possible but may also be cost effective and improve patient care in general. Although many of these proposed interventions have not been studied in the ED setting, their application and success in the inpatient setting provide basis for further research of such modifications in the ED. The consideration and development of GEDIs and health services research focused on the clinical and economic outcomes of such interventions is critically needed.

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