

Section 1

Chapter

1

General principles

Overview of geriatric emergency medicine

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Geriatric emergency medicine

The care of elderly emergency department (ED) patients often presents multiple clinical, social, ethical, and economic challenges. As a result, elders commonly influence flow and tax resources in EDs to a greater degree than more acutely ill younger adults. Consider a 75-year-old woman with diabetes, hypertension, and heart disease who presents with weakness after falling at home. The initial differential diagnosis for this elderly woman includes typical and atypical presentations of many life-threatening conditions. She will likely require extensive evaluation and treatment, and her disposition may depend on, in addition to her diagnosis, her ability to manage her multiple comorbidities, her personal financial resources, her family support, and the availability of home-care providers or rehabilitation facilities in the community. In addition, treatment and disposition decisions will need to take into account her baseline functional status and her beliefs about which clinical and social interventions align with her vision of a quality life.

Emergency departments vary in their ability to care for elderly patients [1]. Clinicians at a small community hospital with close ties to primary care providers can make collaborative decisions about care and disposition, reducing both unnecessary admissions and repeat ED visits. Clinicians at a large center are more likely to have immediate access to specialists who, for example, can definitively manage an expanding subdural hematoma sustained in a fall. Larger facilities also tend to have more extensive resources, including ED social workers and case managers, to connect elders with skilled nursing and rehabilitation facilities. Regardless of the size of a given hospital, recognition by clinicians and administrators that the care of elders in the ED does not end with addressing the chief complaint is an essential step toward improving the quality of care for the rapidly growing cohort of elders in the United States (US).

Research questions related to the emergency care of elders abound, as do opportunities to improve geriatric emergency medicine (EM) education in residency programs. In the US, the population of adults over 65 years of age is growing much faster than the population as a whole, with the fastest growth observed in the “oldest old,” persons aged 85 years and above. In the US, approximately 30% of the annual Medicare budget is directed toward patients in the final year of life, with 80% of

the expenditure paying for Intensive Care Unit (ICU) level care in the final month [2]. A study from two emergency departments in the United Kingdom found that half of elder patients who died in the ED had visited the ED or had been admitted to hospital within the previous year [3]. Elders should be given an early opportunity to express their end-of-life care preferences, particularly with regard to cardiopulmonary resuscitation. Yet do-not-resuscitate orders (DNR) are often written in the last days of life [4]. Earlier discussions with patients and families regarding prognoses also allow for introduction of palliative care options. Improving the quality and efficiency of care and the satisfaction of elders and their families is an exciting challenge in EM – one that will have a significant impact on the overall quality and cost of health care nationally.

Population aging

Elders are a heterogeneous group. Individuals over 65 years old vary greatly in terms of functional status, comorbidities, risk of adverse medication effects, financial resources, social support, and treatment goals. A health-conscious individual among the oldest old may be overall better off than a much younger person with multiple comorbidities. However, on average, elder patients are more likely to come to the ED by ambulance, spend more time in the ED, require more tests, and be admitted to higher levels of care. All of these increase the cost of care for the elderly.

Today patients over 65 years old account for 13% of the US population and 20% of ED visits [5]. By 2030, elders will comprise 20% of the US population [6]. Among elders, the fastest growth is seen among the oldest old who, by 2050, will account for double the population segment compared with that in the year 2000 [7]. Given that this group has the highest ED visit rate among elders, the expansion of this age cohort will likely have a substantial impact on ED utilization. By 2050, the ratio of working adults to elderly will be 2:1, compared with 4:1 today [8].

In countries with extensive health care safety nets, working taxpayers bear an enormous financial burden that will no doubt continue to increase. The economic impact of care for the elderly depends not only on the increase in the number of persons in this age cohort, but also on changes in family structure as a

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whole. As nearly all developed countries shift toward a higher prevalence of one-child families, more individuals and couples will be the sole support for elderly parents.

Although elders are on average more financially secure today compared with a few decades ago, ED personnel increasingly find themselves talking to patients and families about the relative safety and cost of self-care at home versus alternatives, such as home health professionals and nursing homes [9]. Home health care is the second fastest-growing job category in the US [10]. The percentage of elders living in nursing homes has remained constant over the last two decades, but the population is trending toward older, more dependent patients, creating more competition for limited nursing home beds [9].

Emergency departments need to provide efficient, high-quality care to a rapidly increasing number of elderly patients and at the same time work with families, primary care physicians and other community care providers to improve out-of-hospital care for elders and decrease costly repeat ED visits and hospital admissions. Prevention of costly acute care visits will become increasingly important as the health care system shifts away from fee-for-service toward a global payment system.

Health system aim

High-quality care of geriatric ED patients contributes to the larger health system aim of maximizing active (disability-free) life expectancy. By identifying acute conditions in older patients, ED clinicians reduce death and disability. Older patients are more likely than younger patients to display atypical signs and symptoms of acute illness; yet clinical research that specifically addresses the diagnosis and treatment of emergent conditions in elderly patients is limited.

Emergency departments can further improve the health of elder patients by preventing adverse medication events and screening for cognitive and functional impairment that may lead to injury or limit older patients' ability to perform activities of daily living (ADL). However, just as elder-specific evidence for acute disease management is limited, there is a dearth of high-quality studies related to ED-based assessment of functional status and injury risk among elders [11].

Health systems are not limited to formal health care providers. Family members play an important role in promoting the health of geriatric patients. Elders who lack social support are at increased risk of repeat ED visits [12]. Interventions that reduce the burden on informal caregivers, such as arranging for home health services, may reduce ED and hospital utilization and ultimately be a cost-effective way to improve the health of elderly patients, especially given that such patients are at increased risk of functional decline following discharge from the ED [13].

While larger hospitals may have personnel in the ED who can set up home health services, smaller hospitals will likely need to work closely with primary care physicians to ensure that geriatric patients who are discharged from either the ED or inpatient wards receive appropriate evaluation for subsequent home health need. Geriatric patients who have been hospitalized within the previous six months or who suffer from depression are at increased risk of returning to the ED or having an

adverse event, such as a significant decline in functional status, long-term hospitalization, or death [12]. Although there is no evidence-based standard of care regarding the prevention of adverse events among geriatric patients following discharge from the ED, some simple screening tools, including self-reporting questionnaires, have been studied. Limited evidence suggests that ED screening for abuse, depression, substance abuse, and decline in cognition, vision or hearing can effectively identify elders at risk for adverse events after discharge from the ED or hospital [13,14]. However, it is not clear to what extent a busy ED should accept responsibility for screening, given its primary aim to evaluate and treat for acute illness. One solution is to have social workers and case managers, rather than physicians, screen elders for conditions or home situations likely to reduce active life expectancy [15,16].

The extensive needs of elders during ED visits have prompted the development of separate EDs dedicated to this population. Geriatric EM physicians specialize in managing acute illness in the elderly. An "atypical presentation" in an elderly patient may be seen as fairly typical by a clinician who specializes in the emergency care of the elderly. A section of an ED devoted to elderly patients allows these clinicians, in collaboration with ED social workers, case managers, and pharmacists, to take the time necessary to consider the effects of multiple comorbidities and polypharmacy on clinical presentations and to employ geriatric-specific screening tools without slowing the care of other patients. A central aim of geriatric EM is to develop more fair, affordable, evidence-based interventions for the prevention and treatment of conditions that reduce the active life expectancy of older persons.

Clinical challenge

Complex patients

Geriatric patients are complex, and medical evaluations of elderly patients in the ED tend to be more costly and time-intensive than evaluations of younger patients. There is a higher percentage of emergent and urgent ED presentations among elders than among younger patients [17].

The American College of Emergency Physicians (ACEP) predicts that by 2030 the number of people over age 65 in the US will be 70 million, comprising 20% of the population. This is up from the year 2000 when there were 35 million people over age 65, comprising 13% of the population. By 2030, geriatric patients will account for at least one quarter of ED visits [18]. In addition, the oldest old population in the US continues to grow. In 2010, there were 1.9 million people aged 90 and above; by 2050, according to US Census Bureau predictions, there will be 9 million Americans in this age group [19]. Geriatric patients presenting to the ED tend to have multiple comorbidities, so their evaluations are frequently not straightforward. They also have a higher likelihood of serious illness than their younger counterparts [17]. Homebound elders have a higher rate of metabolic abnormalities, cardiovascular disease, cerebrovascular disease, musculoskeletal disorders, cognitive impairment, dementia, and depression compared with the general elderly population [20]. A recent study by Grossmann et al. in

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Switzerland revealed that elderly patients presenting to the ED are under-triaged as frequently as 23% of the time, especially for the chief complaint of generalized weakness [21].

Polypharmacy is a common problem among elderly patients presenting to the ED. Elders may see multiple physicians, including their primary care physician (PCP) and specialists, and each may prescribe multiple medications. Comprehensive medication lists may not be available to ED providers, complicating the evaluation and treatment of elderly patients in the emergency setting. Transitions in care make patients particularly vulnerable to medication-related problems [22]. Medications that are potentially inappropriate for elders are frequently prescribed as first-line treatment [23]. Interestingly, the majority of hospitalizations for adverse drug events in the elderly are not due to inappropriate medications, but rather to commonly used medications such as warfarin, insulin, antiplatelet agents, and oral hypoglycemics [24].

Cognitive impairment may make the obtaining of a reliable history very difficult. Patients may not be able to express themselves well as a result of dysarthria, confusion, or dementia [17]. Acute medical conditions may cause delirium, making communication with elderly patients even more difficult than when they are at their baseline [17]. Elderly patients frequently do not remember why they were sent to the ED, highlighting the importance of communication with family members, emergency medical service (EMS) providers, and chronic care facilities [17]. After discharge from the ED, the incidence of worsening morbidity and mortality is higher for elders than for younger people. For this reason, communication with PCPs, family, and long-term care facilities is essential prior to discharge. This helps ensure that the intended treatment plan is carried out, timely follow-up care is arranged, and the patient will be returned to the ED immediately if he or she decompensates.

Elders who are discharged from the ED subsequently have a high risk of unplanned readmission. Screening tools such as the Identification of Seniors at Risk (ISAR) and the Triage Risk Stratification Tool (TRST) have been developed to predict which geriatric patients are at high risk for readmission [25]. Because Medicare may penalize hospitals with high readmission rates, some US hospitals now hold elderly patients for observation rather than admitting them [26].

In Europe, short-stay geriatric units allow ED geriatric patients to be admitted for brief periods, without increasing readmissions in the subsequent month [27]. The disposition of elderly patients living at home may depend on whether informal caregivers and home health care providers can help patients maintain safe environments and manage their chronic conditions. Even minor injuries may make it unsafe for marginally functioning patients to remain in their homes. The additional burden of acute illness or injury may be too much for family members caring for these patients. This is an important assessment for the emergency physician or case manager to carry out, as additional home care resources may be needed or patients may require temporary placement in skilled nursing facilities. Elderly ED patients should also be screened for elder

abuse and neglect, which have mandated reporting requirements. With training, Emergency Medical Technicians (EMTs) can accurately identify elders at risk for abuse and neglect and notify staff at receiving hospitals [28].

Chest pain and dyspnea are the most common ED presentations among elder Americans, accounting for 11% of ED visits in this population. Elderly people often have atypical, subtle signs and symptoms of serious diseases such as myocardial infarction, surgical abdomen, and sepsis and, therefore, often require extensive work-up, even for seemingly minor complaints. Multiple trauma can be particularly devastating to elderly patients. Methodist Health System in Dallas, Texas has created a geriatric trauma unit to facilitate treatment of both acute injuries and chronic illnesses through a multidisciplinary approach [29]. Lancaster General Hospital in Pennsylvania has instituted a trauma protocol for the elderly, which attempts to promptly identify and aggressively treat occult shock. This protocol has significantly reduced mortality in geriatric trauma patients [30].

Important research questions related to the complexity of emergency care in the elderly include the following: whether medication management and functional assessment screening and intervention in the ED allow more geriatric patients to be safely discharged home; whether multidisciplinary geriatric units improve the safety and efficiency of ED disposition planning; and whether outpatient use of parenteral antibiotics can safely reduce and/or shorten hospital admissions among elderly patients [11,31].

Expensive care

Care of the geriatric emergency patient tends to be more expensive than that of their younger counterparts for a variety of reasons. Geriatric patients are more likely to arrive by ambulance than younger ED patients. The hospital admission rate is higher among elder patients, as is the proportion of these patients who require ICU-level care. More than 75% of geriatric patients who present to the ED in their final month of life are admitted to the hospital [32,33]. Many emergency medicine physicians feel less confident in the management of older patients and desire more training in the field of geriatric emergency medicine [34]. This has prompted efforts to increase exposure to geriatric topics in EM residency training, including through high-fidelity simulations of atypical presentations in the elderly. Because of the higher incidence of serious disease and increased likelihood of subtle presentations of life-threatening illness, more tests are ordered in elderly patients than in younger people. This expensive care is counter to the American push to decrease health care expenditures at all levels, including emergency care.

Research questions include whether more expensive care with more testing and higher rates of inpatient and ICU-level care translates into a decrease in morbidity and mortality for elderly patients. Another important research question is whether EMS can perform accurate home assessments prior to transferring patients to the hospital without delaying their medical care [35].

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Chaotic environment

The ED environment per se can work against efficient care of the elderly patient. The noise and activity level may disorient and agitate even reasonably well-functioning elderly people. Staff in EDs may find it challenging to accommodate the needs of the geriatric patient [36]. Geriatric patients may not be able to tolerate lying on stretchers for extended periods of time and often have increased toilet needs compared with younger people [32]. Furthermore, trying to get down from the stretcher and walk to the bathroom unassisted is a frequent cause of falls in the ED. Patient falls have been targeted by the Centers for Medicare and Medicaid Services as an event which should never happen in the hospital [37]. Overtaxed nurses and nursing assistants may be unable to provide the care demanded by the geriatric patient in a busy ED. Similarly, emergency physicians, who are accustomed to performing a goal-directed history and physical exam focused on a single chief complaint, may not have the time to perform the comprehensive evaluation that many elder patients require. This may cause the emergency physician to miss important findings that signal a more serious clinical problem than originally suspected.

Since the creation of the first geriatric emergency department at Holy Cross Hospital in Silver Spring, Maryland in 2008, other hospitals have followed suit, including St. Joseph's Regional Medical Center in New Jersey, St. Joseph Mercy Ann Arbor Hospital in Michigan, Mt. Sinai Medical Center in New York, and Newark Beth Israel Medical Center in New Jersey [38]. There are currently at least 35 geriatric emergency departments in the US [39]. These geriatric EDs address the special needs of the geriatric patient, with a quieter environment, more comfortable stretchers, and a higher staff-to-patient ratio. They often have better access to social services and case management than the typical ED. The patient satisfaction ratings are very high in geriatric EDs, and many more geriatric EDs are in the planning stage across the US [40]. Geriatric EDs will be discussed in more detail in Chapter 2.

Chronically ill elders should be connected with palliative care services. Palliative care can be initiated in the ED for patients who do not desire aggressive resuscitation [41]. Many patients who would prefer to die at home with their loved ones are transferred to the ED when a near-terminal event occurs, and EDs should link these patients with palliative care providers [42]. It is important to note that palliative care is no longer administered only as a last resort; it also includes open communication with and support for patients and families and provision of pain management for patients who are being treated for any serious illness [43]. Unfortunately, pain in the elderly patient presenting to the ED is often undertreated. Further research is needed to determine the extent to which geriatric emergency departments and initiation of palliative care services in the ED improve patient and family satisfaction.

Families

A review of the literature by Luppa et al. identified six factors that predict nursing home placement in the elderly: increased

age, low self-rated health status, functional and cognitive impairment, dementia, placement in a nursing home in the past, and multiple prescription medications. Predictors less strongly supported by evidence include male gender, depression, limited education, low economic status, and a history of stroke, hypertension, incontinence, or prior hospitalizations [44]. Nursing home care is often both expensive and impersonal, and in many cases sustainable home care is a better option for the elder patient and his or her family.

Home care requires additional resources for most families, including visiting nurses, visiting nursing assistants, lab collection at home, and nurse practitioner and physician home visits [45]. In order for elders to remain in their homes and continue to be active members of their communities, not only are additional medical and social services required, but these services must be integrated [46]. Education of the patient and family regarding safe home care should include instruction on accident and fall prevention. The importance of home assessments and fall prevention cannot be overestimated, as a fall may represent a sentinel event leading to rapid decline in function [47].

Maintaining continence may allow for continued home care in the elderly population, and programs promoting continence may delay long-term care facility placement [48]. Before an elderly person loses decision-making capacity, a health care proxy should be identified. The health care proxy is often the next of kin or closest family member, but this should be established prior to the occurrence of a catastrophic event. Also, advance directives should be discussed with the patient and family and health care proxy while the elder still has the ability to express his or her wishes. This makes it easier for the health care proxy to make a reasonable decision when a catastrophic event occurs. The decision to withhold medical care is very difficult for a loving family member, and establishing the patient's wishes in advance can be extremely helpful in a time of crisis.

Research questions related to the involvement of family members in the care of the elderly include what percentage of elder Americans have a health care proxy, what percentage have advance directives, and whether families and medical care providers make decisions in accordance with advance directives when serious medical illness strikes. It is also important to develop home care models that effectively reduce ED visits, hospitalizations, and long-term care placements [45,49].

Special challenges

Certain groups within the elder population are especially challenging. Low-income inner city and rural families often lack health insurance and additional resources needed to care for an elderly person at home. Racial disparities in health care in the US may affect access to adequate home care. Many immigrants are uninsured and unaware of available resources to enable home care of elders. Elderly people who do not receive medical care on a regular basis are unlikely to have a health care proxy or advance directive, often leaving their families in crisis when they sustain serious medical illnesses or injuries. Additional research is needed to identify patterns of home care

versus placement in skilled nursing facility based on geography and demographics.

Palliative care in the ED

Palliative care for chronically ill older patients reduces pain, dyspnea, and depression [41,50]. It also reduces ED visits and hospital stays and increases patient and family satisfaction [41]. Most older people prefer to die at home [42]. However, many die in emergency rooms or intensive care units. Older patients who die in the ED often have recent visits to the same ED or admissions to the same hospital [3], yet few have advance directives or contact with palliative care services. ED services that link chronically ill older adults with palliative care, home care, and hospice services improve well-being and reduce ED visits and deaths in the hospital [42,51]. Research priorities related to ED palliative care include clinician education, ED-specific screening tools, outcomes for palliative care initiated in the ED, and appropriate, cost-effective alternatives to inpatient admission for geriatric patients who cannot safely return home [52].

Interfacing with PCPs and care facilities

Strong communication between EDs and PCPs can reduce hospital admissions. Primary care providers can see geriatric patients either in the clinic or the patients’ homes and treat many acute illnesses and exacerbations of chronic diseases before they lead to costly ED visits and hospitalizations. When elder patients require hospital-level care, primary care providers can notify EDs in advance of the reason for the visit and, perhaps more importantly, note which aspects of the anticipated follow-up care they can provide upon discharge. In some instances, clinicians in the ED may be able to rule out a life-threatening condition and allow a patient to return home if they are able to arrange expedited follow-up with the primary care provider.

Collaboration between ED clinicians and hospital care providers is also essential. While ED clinicians may screen elders likely to be discharged for conditions that would increase their risk of repeat ED visits or adverse events at home, they may reasonably defer screening and prevention planning for elders who are being admitted to the hospital. Inpatient providers can reduce repeat ED visits and hospitalizations among elders by carefully reviewing patients’ medication lists for undertreatment, potential adherence problems, and adverse medication events, as well as by screening for depression and malnutrition and by communicating with outpatient providers [53]. Additional research on ways to improve communication among ED clinicians, hospital providers, and community primary care clinics is needed to increase the likelihood that geriatric patients who are discharged from the ED or hospital are able to return home as active as or even more active than before the hospital visit.

Geriatric emergency medicine education

Emergency departments in the US need to continue to increase their ability to provide consistent, high-quality care for geriatric patients [54,55]. The dramatic increase in volume of ED visits by elder patients expected over the next decade threatens to

strain clinician knowledge and department resources further, putting elders at increased risk for less than optimal outcomes. Emergency physicians should be comfortable evaluating and treating geriatric patients; yet many find it more difficult to care for elder patients than for younger adults and feel they received inadequate geriatric-specific training during residency [56,57]. Hogan et al. (2010) developed a set of competencies which residency programs, as well as geriatric EM fellowships, can use to develop curricula. Broadly, geriatric EM competencies include the ability to recognize atypical presentations, manage trauma and cognitive disorders, assess the risks and benefits of interventions in elderly patients, manage medications, participate in safe transitions of care, and contribute to the long-term management of comorbid conditions [54].

There are only a few geriatric emergency medicine fellowships in the US, compared with more than 100 geriatric subspecialty training programs for internists [58,59]. The vast majority of geriatric EM training occurs in residency programs. Given that both residents and attending physicians benefit from additional training in the care of the elderly, close teaching collaborations with geriatric medicine departments should be developed. Such collaborations would allow emergency physicians to learn from geriatricians, who have significant experience in the care of the elderly, but perhaps more importantly, they would lay the foundation for better continuity of care between emergency departments and primary care offices. Close collaboration between emergency physicians and geriatricians can facilitate safe transitions for elders with acute illnesses from their homes to acute care settings, rehabilitation facilities, and back to their homes. Such continuity of care is critical if the health system is to meet the needs of a dramatically increasing elderly population.

Summary

The aging US population will present numerous challenges to the health care system in the coming decades. EDs will need to prepare by improving education in geriatric emergency medicine for nurses and physicians and devoting additional resources to the care of elderly ED patients. Patients with atypical presentations of serious disease need to be identified rapidly and treated aggressively. Elders with chronic illnesses and functional decline need social services and case management, with input from families and primary care physicians, to determine appropriate disposition, establish advance directives, and connect with palliative care services. Measures that reduce costly hospital admissions and repeat ED visits will help hospitals continue to provide high-quality care to elder patients as the health care system shifts toward global payment. Innovation in response to these challenges may lead to a new paradigm of caring for the elderly emergency department patient in the US.

Pearls and pitfalls

Pearls

- Currently, elders comprise 13% of the population and 20% of ED visits in the US By 2030, 20% of the US population

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- will be over age 65 and will account for over 25% of ED visits.
- There is a role for screening elderly patients for impaired functional status prior to discharge from the ED. Case managers and social workers can carry out many screening responsibilities.
 - Emergency department visits provide an opportunity to discuss advance directives, establish health care proxies, and connect elder patients and their families with palliative care services.

Pitfalls

- Elderly patients frequently have atypical presentations of serious disease.
- Geriatric patients discharged from EDs or inpatient wards have high rates of repeat ED visits and subsequent readmission to the hospital.
- Polypharmacy is a common problem among elderly patients presenting to EDs.

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Section 1

General principles

Chapter

2

The geriatric emergency department

Mark Rosenberg and Lynne Rosenberg

Introduction

Populations have been experiencing longevity and improved health in recent decades, forcing professions around the globe to struggle to keep up with the effects of this demographic tsunami. Health care in particular has had to grapple with shifting paradigms of aging, replacing the outdated notion of 65 and older as “old age.” Once viewed as a homogenous cohort, it is now recognized that people 65 years of age and older are a heterogeneous population that can be further divided into at least three categories: young-old (65–74), the old (75–84), and the oldest old (85+).

The emergency medicine (EM) literature reflects the discussion and strategies to embrace this segment of the population while recognizing that resources are limited [1–5]. Interestingly, this discussion has been consistent for the past 30 years. In 1982, Gerson noted the potential impact the shift in demographics would have on the emergency medical system and urged a national data reporting system to prepare for the increased demands on emergency medical and advanced life support services [6]. Lowenstein et al. noted trends related to health and demographics that stimulated public interest in the aging population which remain applicable today: the increasing size of the population, the additional financial and personal support required as the population ages, and that they are the largest consumers of health care and account for a disproportionate share of expenditures for health care [4]. Thirty years ago, 19% of emergency patients were 65 years of age and older [4], had a longer length of stay in the emergency department (ED) [5], higher ED charges [5], more diagnostic tests [5], higher rates of hospitalization [3,5], and high rates of recidivism [1,2,4]. Researchers concluded that the health community needed to “prepare now to meet the growing needs of the frail, chronically impaired elderly” [4] since EDs were already facing overcrowding and limited resources on a daily basis [2]. Past recommendations included evaluating how emergency care is delivered to the elderly and possibly considering a “geriatric emergency health center” similar to trauma centers or pediatric emergency departments [1].

Where are we today?

As predicted, the appropriateness, effectiveness, cost, and outcome of emergency care provided to this cohort are of special concern [4]. Emergency departments continue to be the gateway to the acute health care system as well as long-term health care, and provide emergency treatment and primary care as needed [4]. In recent years, the ED has been utilized as a safety net to provide medical care or as a point of transition between levels of medical care [7].

Older patients continue to use the ED more frequently than younger patients, representing up to 24% of the general ED population [8]. Similar to 30 years ago, older patients continue to have longer lengths of stay in the ED [8–10], require more diagnostic tests [8,9], have higher rates of admission [8], and a higher ICU admission rate [7–9].

Advances in education have resulted in geriatric fellowships and core geriatric modules in most EM curriculums of health professionals. However, the geriatric patient as a whole experiences poorer clinical outcomes [9] due to misdiagnosis [7] and lack of appropriate outpatient resources [8]. Other contributing factors include the current paradigm of the ED with a focus toward rapid assessments and dispositions versus the complexities and needs of the geriatric patient (Table 2.1).

Barriers

Barriers to emergency medical care for older populations are significant. Stereotypes of confused, dependent elderly may contribute to the reluctance to engage these patients when they present for treatment in the ED. Health professionals, in general, are often not comfortable with older patients [1,8] regardless of abundant educational programs and research studies focused on the geriatric population and their specific need.

Many obstacles to emergency care are intrinsic within the ED model of care. The ED is not an environment conducive to eliciting a comprehensive history and work-up for these patients. The complexity of an older patient presenting for emergency treatment may not be taken into consideration as

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Table 2.1. Two paradigms of emergency care

General ED population	Geriatric ED population
<input type="checkbox"/> Single complaint	<input type="checkbox"/> Multiple problems: medical, functional, social
<input type="checkbox"/> Acute	<input type="checkbox"/> Acute on chronic, sub-acute
<input type="checkbox"/> Diagnose and treat	<input type="checkbox"/> Control symptoms
	<input type="checkbox"/> Maximize function
	<input type="checkbox"/> Enhance quality of life
<input type="checkbox"/> Rapid disposition	<input type="checkbox"/> Continuity of care

patients are often referred to as a “bed number” or presenting complaint. Older patients spend more time in the ED [9,11], necessitating additional use of valuable personnel resources as well as preventing the use of an ED bed for an extended period of time. The current ED model is not optimal for older patients because it does not allow the ED staff the time to recognize the presentation of older patients nor the support to provide optimal care [9].

Defining the goal

When considering a change in the delivery of emergency care it is essential to define the goals of the program. Will hospital administration support the design of a physical space within the ED for geriatric patients? Or do space limitations and budget require shifts in policy to accommodate the geriatric emergency population? When considering how to deliver emergency care to this population it is essential to know the characteristics of the older people living in the community as well as the medical resources available. What is the current percentage of the community population aged 65 and older? Are they living independently in the community or residing in a residential facility? What is the overall goal of this project: to increase or decrease admissions, maintain independence, or to provide better emergency care for seniors? What is the marketing strategy? Is this for marketing, quality care, or both?

Discussions surrounding these questions and topics will provide the framework for improving emergency care for the geriatric population. Maintaining focus and perspective may be difficult when collaborating with architects, consultants, and other vendors. It is not always prudent to build bigger and better rather than evaluate existing resources and current utilization of space and personnel. Ultimately, the primary function, regardless of infrastructure, is to deliver quality emergency care to the surrounding community.

Considering a geriatric emergency department

Reasons to consider a geriatric ED include the impact of global demographic changes, the influence of contributing factors from changing health care regulations, and clinical

outcomes for older ED patients. The aging of the population is a global experience in terms of increasing longevity and percentages of total population. More importantly, the demographics of the specific community each ED serves need to be discussed in terms of age group percentages, available resources, and clinical outcomes. Contributing factors, unrelated to demographics, focus on changes within the practice of medicine. There is a shrinking primary care pool in terms of the population as a whole, compounded by a 50% reduction in Family Practice (FP) residents, a deficit of 25,000 gerontologists by 2030, and a decrease in the number of Internal Medicine (IM) residents moving into primary care [8]. Many physician practices are no longer accepting new Medicare patients. Medicare, as the primary insurance of many older patients, emphasizes a lack of financial incentive to care for this particular population by paying 25–31% less than private insurers [9,12,13].

Research has demonstrated that older people have increased health care needs [1] and represent 15–20% of all ED patients [8]. Older people use seven times more ED services and account for 43% of all admissions including 48% of critical care admissions [2,9]. This group also has a 20% longer length of stay as acute care inpatients [9].

The American College of Emergency Physicians (ACEP) report on geriatric care in the ED depicted poorer clinical outcomes for the geriatric patient [9]. Poor outcomes were evidenced by delayed or missed diagnosis; unsuspected diagnoses such as depression; overtreatment with high rates of urinary catheterization and administration of medications; and undertreatment for pain management [14]. Furthermore, older patients usually have a complex presentation due to multiple chronic diseases often compounded by social issues [8]. This group utilizes 400% more social service interventions and 50% more diagnostic studies [9]. Medical management concerning cognition, mobility, transportation, and subspecialist availability needs to be taken into consideration for each geriatric patient [1,9,12], and may be impossible to manage on an outpatient basis. By contrast, during an ED visit the work-up can be completed to include labs, X-rays, and consultations providing a diagnosis and plan of care.

Contrary to popular belief, the ED may not be more expensive if comparisons are made between a FP work-up as an outpatient versus an ED work-up. The benefit to everyone is time invested in assessing and diagnosing the patient. The treatment plan that can take days or weeks as an outpatient can be done in a matter of hours through the ED. A geriatric ED can provide a safety net for this vulnerable population. According to Hwang and Morrison [15]:

The ED sits at a unique junction in the continuum of patient care, overlapping with outpatient, inpatient, pre-hospital, 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.

Section 1: General principles

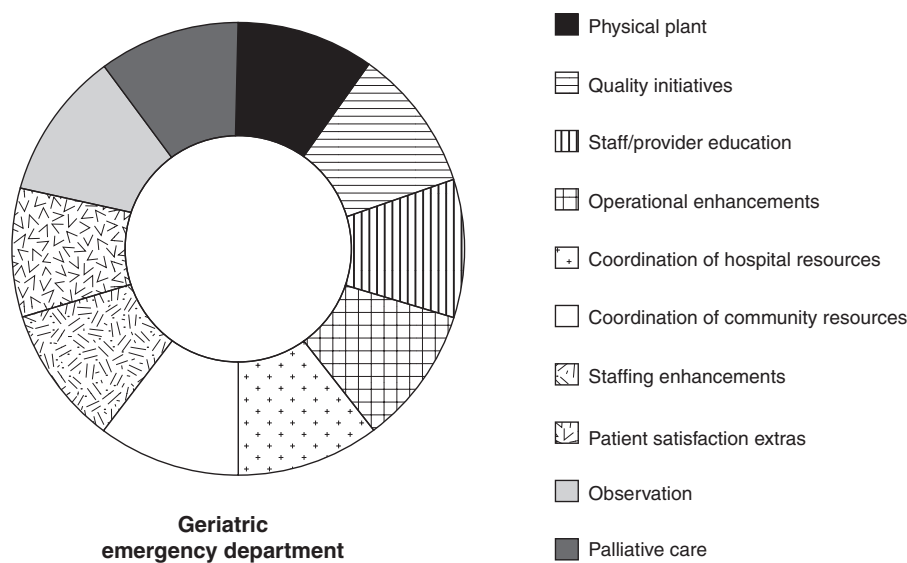


Figure 2.1. Components of a geriatric ED.

For these reasons and more, geriatric EDs are increasing in number and likely to become the standard within the practice of EM. The specialty of EM has responded before when a segment of the population required a different approach to the standard delivery of care, illustrated by Pediatric EDs, Trauma Care, or Chest Pain Centers to name but a few. This has led to a paradigm shift in EM and a new model of ED care – namely geriatric EM and the geriatric ED.

The geriatric emergency department

Key points for discussion when considering a geriatric ED include: administrative support; identification of local champions to attain and sustain the initiatives; delineating the appropriate patient population; the actual physical location for services; the financial and logistic feasibility of structural modifications; and the education of all staff members in the department.

EDs must meet the needs and demands of a diverse population. Hospital communities must consider this when discussing how to deliver geriatric emergency services. Geriatric EDs use specific interventions to improve patient satisfaction, comfort, and outcomes [11]. Some hospitals support separate units similar to pediatric units while others embrace this population within the existing ED structure. Data from the Emergency Department Benchmarking Alliance (EDBA) indicate that EDs can see approximately 1500 visits/exam area [16]. If an ED sees 9000 geriatric visits, the department would benefit from the use of six (6) senior beds. If the decision is made not to build a separate geriatric ED, geriatric protocols and processes can guide the care for older patients while providing emergency services for everyone.

Factors such as existing space and financial constraints impact the decision of how to operationalize a geriatric emergency department. Contrary to the traditional image of physical infrastructure, the geriatric ED does not necessarily need

to include bricks and mortar. A physical entity is just one of the ten parts of a geriatric ED (Figure 2.1), yet not necessarily essential to the success of the department.

Physical plant

Each hospital or institution needs to consider its specific ED population and surrounding community to determine how best to meet the needs of the aging population. In addition, the hospital mission as well as financial capacity needs to be kept in mind when determining whether the geriatric ED should be a physical structure or space. The “space” may range from dedicated beds in the ED to a separate unit, with attention to the needs of older patients incorporated in the design. Features to be considered include location of diagnostic and treatment services, consultant and caregiver workspace, and additional accommodations for family members [9]. It may be considered a luxury to appropriate dollars and space for the specific needs of the geriatric ED population; however, it is important to keep in mind that the physical plant design (new or existing) does not hinder the development of a geriatric ED.

Existing EDs can be modified using principles of universal design in which the entire ED would be geriatric friendly. universal design is a form of design that allows disabled people the same access as able-bodied people. From the architectural literature, the concept of universal design was defined by Ron Mace as “an approach to design that incorporates products as well as building features which, to the greatest extent possible, can be used by everyone” [17]. A common example would be cutouts on sidewalks at street corners. Originally mandated for ease of use when in a wheelchair, they are of benefit to people on bicycles, or those pushing strollers or carts. Or consider the unobtrusive experience of walking through automatic doors. Automatic doors are an excellent example of universal design already in place in most ED entrances and exits which can be used by everyone whether arriving by stretcher, wheelchair, or ambulating independently. Other areas to consider Universal