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Geriatric Emergency Medicine Guidelines for Staffing, Training, Protocols, Infrastructure, and Quality Improvement

Geriatrics and Emergency Medicine: The Demographic Imperative

The geriatric population represented 4.1% of the United States population in 1900, 12.4% in 2000, and will be 20.2% by 2050.¹ Society labeled the surging birth rates in the post-World War II world the “baby boomer era.” Population experts advised subsequent generations that as the baby boomers matured into old age, multiple aspects of society would be challenged in unprecedented ways. The young specialty of emergency medicine contemplated these challenges in the 1980s, including the increased demand for pre-hospital services and the need to develop a geriatric emergency medicine curriculum.^{2,3} Researchers also began to assess the unique emergency department (ED) epidemiology of the older adult at this time.^{4,5}

Concurrently, outside of emergency medicine, the American Geriatrics Society (AGS) noted that the number of geriatricians needed to effectively provide health care for aging baby boomers was grossly inadequate.^{6,7} Furthermore, the capacity of each specialty to educate medical students and resident trainees about aging principles and geriatrics was half of what was required.⁸ In the early 1990s, the John A. Hartford Foundation addressed this geriatric training and expertise shortfall via the Geriatrics for Specialists Initiative (GSI), which provided the Society for Academic Emergency Medicine (SAEM) with pilot funding to formally assess older adult ED care in 1991. Research supported by these grants and other funding led to several important findings. One GSI-funded study found that geriatric patients perceive the ED as a frightening and confusing place and often depart the ED after prolonged evaluations, dissatisfied with their understanding of the care received.⁹ Older adults had substantially increased risk for functional decline after discharge from the ED compared with younger populations.¹⁰ In addition, older adults were more likely to arrive by ambulance, have laboratory and imaging ordered, and be admitted after longer ED stays than younger populations.^{11,12} A geriatric curriculum for emergency medicine residents was proposed.¹³ In response to this rapid expansion of geriatric emergency care knowledge, the John A. Hartford Foundation awarded SAEM a larger grant that facilitated more longitudinal studies. Additionally, the funding led to publication of a comprehensive textbook of geriatric emergency care, *Emergency Care of the Elder Person*, in 1996.¹⁴ Subsequent studies reported practice guidelines for preventing falls¹⁵ and an evaluation of those guidelines' effectiveness,¹⁶ the epidemiology of case-finding for occult cognitive impairment¹⁷⁻¹⁹ and other geriatric syndromes,^{20,21} assessment of geriatric depression,^{22,23} and longitudinal trends for older adults' use of emergency services.¹²

Executive Summary

- Over the next few decades, there will be tremendous growth in the elderly population. At the same time, there will be a major shift in reimbursement and emphasis on quality measures. Guidelines for improved care for older adults have been established, as well as recommendations for specialized geriatric areas within EDs.
- The physical structure of a geriatric ED can be as simple as a single designated bed or an entire unit. Recommendations include thick mattresses or the use of reclining chairs, low stretchers, and a clutter-free environment.
- Walkers and hearing assistance devices should be available. Discharge instructions should be printed in a large font, and sites should consider follow-up phone calls to these potentially vulnerable patients. Foley catheter use should be limited as much as possible, as it is associated with urinary infections and delirium.
- In some communities, strong outpatient support has allowed some patients with conditions such as cellulitis and diverticulitis to be cared for at home. Providers should be screened for falls, elder abuse, and other vulnerabilities when feasible.

Investigators in Canada and the United States also developed instruments to risk-stratify undifferentiated geriatric ED patients into subsets at increased risk of short-term, post-ED adverse outcomes such as functional decline, institutionalization, preventable ED returns, or hospital readmissions.²⁴⁻²⁷

The history of the establishment of geriatric emergency medicine is briefly outlined in Table 1.²⁸ The major organizations within emergency medicine, including ACEP and SAEM, worked together with others to create educational materials, a curriculum, and textbooks to improve the care of older adults.²⁸ ACEP and SAEM co-produced a series of freely available geriatric emergency videos on topics including falls, functional assessment, polypharmacy, and end-of-life issues.²⁹ SAEM and the University of Toronto separately launched free interactive websites with continuing medical education credit available.^{30,31} The challenges of caring for older adults in the ED was recognized around the world, leading to the birth of the International Consortium for Emergency Geriatrics.³² Through the support of the GSI and the guidance of early leaders, the concept of geriatric emergency medicine has attained a scientific foundation, curricular resources, funding priorities, and organized medicine support upon which to promote high-quality ED care for this vulnerable population.

Table 1: Evolution of Geriatric Emergency Medicine

1974	First EM Residency
1982	Initial EM studies on geriatric populations
1991	Hartford GSI grant awarded to SAEM
1996	Geriatric EM textbook
2001-2003	SAEM Geriatric Task Force and ACEP Geriatric Section formed
2009	Initial geriatric EM quality improvement metrics published
2010	EM residency geriatric core competencies published
2013	Geriatric ED Guidelines published and approved by ACEP, AGS, ENA, and SAEM

Geriatric Emergency Department Guideline Synopsis

Between 2007 and 2013, 30 self-designated geriatric EDs (GEDs) were established, although their mission, protocols, staffing, and infrastructure varied considerably.³³ For example, 87% of GEDs screened for at least one geriatric syndrome (dementia, delirium, functional status, polypharmacy), but only 57% had fall-prevention strategies and only 40% had policies to address appropriate Foley catheter use or delirium.³³ Consequently, ACEP, Emergency Nurses Association (ENA), AGS, and SAEM convened a working group of community and academic emergency medicine and geriatric physicians, an emergency nurse, and an ED architect to develop the “Geriatric Emergency Department Guidelines” in 2012.

The GED Guidelines were formally approved by the ACEP, ENA, AGS, and SAEM Boards of Directors by February 2014 and published in *Annals of Emergency Medicine*, the *Journal of the American Geriatric Society*, and *Academic Emergency Medicine* in the spring of this year.³⁴⁻³⁶

The GED Guidelines represent recommendations for older adult evaluation, management, and disposition from the ED setting. These do not mandate every ED to incorporate every element of the guidelines. Instead, these principles should be tailored for every individual adult ED in alignment with their patients’ needs and available resources within their health care setting.

The GED Guidelines are freely available online on several websites (http://www.saem.org/docs/education/geri_ed_guidelines_final.pdf?sfvrsn=2; <http://www.ahcmedia.com>)

Table 2: Sample Recommendations from the Geriatric Emergency Department Guidelines

General Category	Recommendation	Specific Examples
Staffing and Administration	ED availability of geriatric-trained physician and nursing leadership, including GED medical director who completes ≥ 8 hours of geriatric CME every 2 years	GED medical director serves as liaison with hospital staff and outpatient care partners, identifies needs and resources for staff geriatric education, reviews and approves all hospital geriatric policies and procedures
Follow-up and Transitions of Care	Transition of care protocols will facilitate timely communication of clinically relevant information appropriate for the level of geriatric syndrome (dementia, acute illness severity, frailty, sensory impairment) associated disability of the individual patient	Discharge instructions available in large font that provide HIPAA-compliant information to family/care provider, long-term care facilities, and surrogate decision makers
Follow-up and Transitions of Care	Establish and maintain relationships with key community resources to access as needed in transition from ED to outpatient care	Medical home, case managers, home safety assessment by occupational therapy or homecare nursing, medical transportation services, meal assistance programs, prescription assistance
Education	Continuing medical education programs will increase physician and nursing staff awareness of unique geriatric emergency care needs, policies, and procedures	Multidisciplinary nature of effective geriatric health recovery and maintenance, evidence-based geriatric syndrome screening instruments and interventions, atypical disease presentations balanced against over-utilization of resources and goals of care, palliative medicine opportunities
Quality Improvement	Geriatric QI program will be developed and monitored by the Geriatric Medical Director and Geriatric Nurse Manager	Semi-annual reviews targeting geriatric syndrome prevalence of injurious fall screening rates and sequelae as well as patient-centric outcomes; delirium screening and management; catheter-associated urinary tract infection prevention efforts; and inappropriate high-risk medication prescribing
Equipment and Supplies	Physical infrastructure shall accommodate patients with mobility, continence, sensory, or cognitive impairment	Reclining chairs rather than gurneys to enhance comfort and minimize pressure ulcers; walking assist devices and hearing aids at the bedside; patient-controlled lighting; enhanced signage
Policies, Procedures, and Protocols	Department policies for prevalent geriatric syndromes should be developed by and readily available for staff	Delirium screening protocol, elder abuse assessment strategy, urinary catheter placement criteria, transitions of care priorities, palliative care triggers

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www.acep.org/geriEDguidelines/; and <http://geriatriccareonline.org/ProductAbstract/geriatric-emergency-department-guidelines/CL013>). They consist of 40 specific recommendations in six general categories: staffing, transitions of care, education, quality improvement, equipment/supplies, and policies/procedures/protocols. Table 2 contains the recommendations from this document. Some important examples

include large-font discharge instructions, as well as appropriate collaboration with home health services and home safety assessments, and provider education on contemporary, research-based, geriatric-specific material. The quality improvement recommendations provide an exemplar spreadsheet of pertinent and prevalent geriatric emergency care indicators to monitor, including the prevalence of injurious falls and

documentation of fall risk assessment. The equipment and supplies section describes potential physical structure enhancements such as the use of reclining chairs and pressure-redistributing foam mattresses to improve comfort and reduce the incidence of pressure ulcers. Finally, a variety of policies, procedures, and protocols are provided to facilitate screening older adults to identify the subset who are at increased risk for

Table 3: Checklist to Evaluate Geriatric Attributes of Individual EDs

<p>Education</p> <ul style="list-style-type: none"> • Education of ED staff (physicians, physician extenders) in elder-friendly ED care • Educational initiatives exist for nursing and allied health professionals • Educational initiatives exist for ED physicians <p>Elder-Friendly Physical Environment and Design Principles</p> <ul style="list-style-type: none"> • Prepared environment (e.g., clutter-free environment, noise-reduction methods, appropriate lighting and signage) • Adaptive furniture that promotes function and safety (e.g., low stretchers, thick mattresses, upright and reclining chairs) • Access to adaptive equipment (e.g., walkers, canes, hearing amplifiers) <p>Presence of Staff with Geriatrics Expertise</p> <ul style="list-style-type: none"> • Designated clinical coordinator or team leader for ED-based geriatric care — on site • Advanced practice nurse or nurse clinician providing geriatrics assessment and management support — on site • Social worker — on site • Physiotherapist or occupational therapist — available • Pharmacist — available • Geriatrics consultation service — available <p>Screening and Management Protocols for Geriatric Syndromes Using Validated Tools</p> <ul style="list-style-type: none"> • High-risk screening tools to identify vulnerable elderly adults • Cognitive, functional, and mobility assessments • Medication review and reconciliation • Standardized protocols for identification, prevention, and management of delirium, falls, functional decline, dehydration, incontinence, and pain 	<p>Geriatric Appropriate Transitions of Care</p> <ul style="list-style-type: none"> • Discharge planning of vulnerable elderly adults from ED to community • Nurse or nurse clinician for supportive discharge planning • Medication reconciliation at discharge • Transfer of clinical information to primary care physician • Transfer of clinical information to home care services • Key information given in writing/explained to older patients and caregivers at discharge <p>Linkages Between ED and Relevant Community Care Services</p> <ul style="list-style-type: none"> • Primary care physicians • Home care services • Rehabilitation and convalescence services • Geriatric outpatient clinic or day hospital services <p>Ongoing Evaluation of ED-Based Geriatric Care Processes</p> <ul style="list-style-type: none"> • Hospital admission rate • ED and hospital lengths of stay • ED repeat visits and subsequent hospital admission rate • Patient, caregiver, and provider satisfaction with service
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post-ED adverse outcomes, as well as validated and ED-feasible screening instruments for geriatric syndromes like delirium, polypharmacy, falls, and dementia.

Checklists have been developed for hospital administrators and ED leadership to use to assess the degree to which their emergency care is “geriatricized” (see Table 3).³⁷

Research supports many of the key recommendations from this checklist. For example, emergency medicine resident education improves

knowledge acquisition.³⁸ Similar geriatric-focused results have been demonstrated with nursing education.³⁹ However, knowledge acquisition does not consistently translate into bedside care. For example, the rates of inappropriate Foley catheter use and chemical sedation remained the same pre- and post-educational intervention in one study.³⁸ The disconnect between knowledge and action is the basis for implementation science, which is needed to understand the complex relationships

between bedside providers and the context, opinion leaders, fidelity, adaptability, and sustainability of evidence-based interventions that reshape the standard of care.⁴⁰⁻⁴²

Implementation science, otherwise known as “knowledge translation,” is defined by the National Institutes of Health (NIH) as the creation of generalizable knowledge that can be applied across settings and contexts.⁴³ In other words, implementation science is the process of moving from evidence to action. Therefore,

although ample online geriatric emergency medicine educational resources exist for physicians, physician extenders, and nurses,^{29,30,44,45} education alone is usually inadequate to alter bedside management, and implementation science will serve a key role moving forward.⁴⁶ For example, engaging nursing leadership and case managers to facilitate efficient post-ED transitions of care by initiating focused geriatric assessments in the ED are key attributes related to improving older adult outcomes.⁴⁷ One protocol to operationalize these concepts is telephone follow-up by nurses. Many older adults do not understand or remember their ED course of care or post-ED management recommendations.⁴⁸ Communication between ED providers and geriatric patients may be impeded by occult cognitive dysfunction or impaired health literacy.⁴⁹ One pilot study assessing nurse telephone follow-up within three days of ED care demonstrated increased likelihood of compliance with scheduled primary care appointments, but no effect on ED returns or hospital admissions at 30 days.⁵⁰

Patient advocacy groups recognize the importance of safe, reliable, and effective geriatric emergency care with efficient transitions of care. For example, HealthinAging.org recently released a list of 10 things that every patient (or family caregiver) should seek to identify in the geriatric-appropriate ED, based primarily on the GED Guidelines. Nonetheless, the individual recommendations have yet to be prioritized and formally tested in most cases. Early research into the effectiveness of geriatric-focused ED care has yielded inconsistent results,⁵¹ but the absence of evidence is not synonymous with evidence of absence.⁵² An evolving array of novel older ED care models like the Hospital at Home,⁵³ Geriatric Emergency Nurse,⁵⁴ Frailty Unit,⁵⁵ Geriatric Observation Units,⁵⁶ non-nurse/non-physician “Geriatric Technician” screening,⁵⁷ and Mobile Acute Care for the Elderly (ACE) programs have been conceived to fit the needs of certain populations

using the resources available within their health care system.⁵⁸ Palliative care models are also being incorporated into routine ED management of older adults.⁵⁹

Future iterations of the GED Guidelines will be based on higher quality, ED-based research evidence. Feasible instruments now exist to accurately screen for delirium⁶⁰⁻⁶² or dementia⁶³⁻⁶⁶ in the ED, including in rural settings.⁶⁷ Other assessments for geriatric syndromes or vulnerable subsets of older adults are more challenging, such as those for falls. This is an important challenge because adverse outcomes after an episode of ED care occur in one-third of discharged older patients.⁶⁸⁻⁷⁰ Standing level falls represent the leading cause of trauma-related mortality in geriatric adults,⁷¹ but few ED-based studies exist to guide evidence-based fall risk assessment⁷² or fall prevention protocols.⁷³

Similarly, assessing “vulnerability” as a predictor of short-term, post-ED discharge adverse outcomes is difficult. Following minor blunt trauma, up to one-third of older adults who are discharged home from the ED will experience significant functional decline over the next three months.^{74,75} The challenges to emergency medicine include identifying which one-third are at risk and what interventions will reduce this risk.⁷⁶ The GED Guidelines recommend that emergency providers use the Identification for Seniors at Risk (ISAR) instrument^{77,78} or other validated instruments like the Triage Risk Screening Test (TRST) to identify the subsets at higher risk for functional decline, avoidable ED returns, or readmissions.⁷⁹ However, several recent systematic reviews of the ISAR, TRST, and multiple other instruments demonstrate that none of the instruments accurately predict any of these adverse outcomes at any threshold or at any period of time following ED discharge.⁷⁹⁻⁸³ These instruments also label up to 78% of individuals as “high risk,” which would quickly deplete the individual ED’s resources for interventions to reduce adverse outcomes.⁷⁶ The ideal

prognostic screening instrument would be both reliable and sufficiently brief, accurately calibrated to those patients most likely to deteriorate after ED discharge, and not require extra time or personnel that are not available in most ED settings.⁷⁶ The complexity in assessing the risk of unexpected and suboptimal outcomes such as short-term functional decline, return to the ED, hospitalization, nursing home placement, or death includes confounders at the level of the patient, the community, and the national health care system. Future risk stratification instruments must evaluate and incorporate each layer of complexity.⁸³ Some examples of these currently unmeasured predictors of post-ED adverse outcomes include social isolation⁸⁴ and frailty.⁸⁵

The Business Case for the GED

In making the business case for a GED, hospital leaders need to consider several issues.⁸⁶ Hospitals and health care systems must pre-define their specific short- and long-term objectives regarding geriatric emergency care in order for resources and space to be efficiently allocated. Defining the hospital and community need for a GED is the first priority. For example, one hospital’s GED might exist only for functionally independent older adults, whereas another provides emergency services for all seniors regardless of function. In order to attain and sustain geriatric-specific initiatives, local early planning efforts must ascertain the level of administrative support, as well as identify and recruit physicians and nurses.⁴² Other early planning priorities include: identification of appropriate older adult patient populations within the community, selecting physical ED locations for geriatric emergency services, including the feasibility of structural modifications within the hospital’s financial constraints, and ensuring funding and tangible learning objectives for ongoing geriatric-relevant education of all staff members in the department.⁸⁷

Table 4: The GED Triple Aim

<p>Aim 1: Better Health Care for GED Patients</p> <ul style="list-style-type: none">• Improved patient satisfaction (value based purchasing)• Improved quality<ul style="list-style-type: none">- Transition of care- Improved core measures- Detection of adverse events (e.g., drug interactions)• Improved timeliness• Improved patient safety• Improved efficiency <p>Aim 2: Better Geriatric Population Health</p> <ul style="list-style-type: none">• Address underlying causes of poor health through geriatric screenings<ul style="list-style-type: none">- Dementia, delirium- Nutritional assessment- Falls assessment• Meaningful use<ul style="list-style-type: none">- Informatics enhancements, patient tracking, and follow-up• Transition of care to further health care• Depression and behavioral health assessment <p>Aim 3: Lower Cost</p> <ul style="list-style-type: none">• Decrease admissions• Decrease readmissions• Decrease hospital-acquired conditions

The GED guidelines establish minimum requirements for an ED to be called a GED.⁸⁸ However, a successful GED is more than thick mattresses and soft lighting.⁸⁷ Compassionate, reliable, and efficient geriatric emergency care requires a reworking of existing ED resources to provide age-appropriate screening and seamless transitions of care.^{34,89} Geriatric protocols and processes can guide the care for older patients while providing reliable access to emergency services for patients of all ages. Overall, the most important component of a GED is staff awareness of geriatric needs, which includes ongoing geriatric-specific education.

Upfront costs to develop a GED remain an overriding concern of hospital administrators and ED leaders.⁸⁶ However, many of the the GED guideline recommendations do not require a substantial investment. Each hospital system should evaluate available resources, current

utilization of space, and consider leveraging existing staff both in the ED and throughout the hospital to attain improved geriatric emergency care outcomes.⁸⁷ Further discussion of financials related to advocating and funding a GED is divided into three important categories: cost, revenue, and savings.⁹⁰

Cost. GED developmental costs focus on structural enhancements and personnel resources. A comprehensive GED can be developed on a small budget.⁸⁷ Structural improvements like pressure distribution mattresses, less slippery non-glare floors, sound proofing, and appropriate lighting costs as little as \$1500 for a single dedicated room.⁹¹ Renovating a 10-bed space for geriatric patients can be accomplished for less than \$20,000.

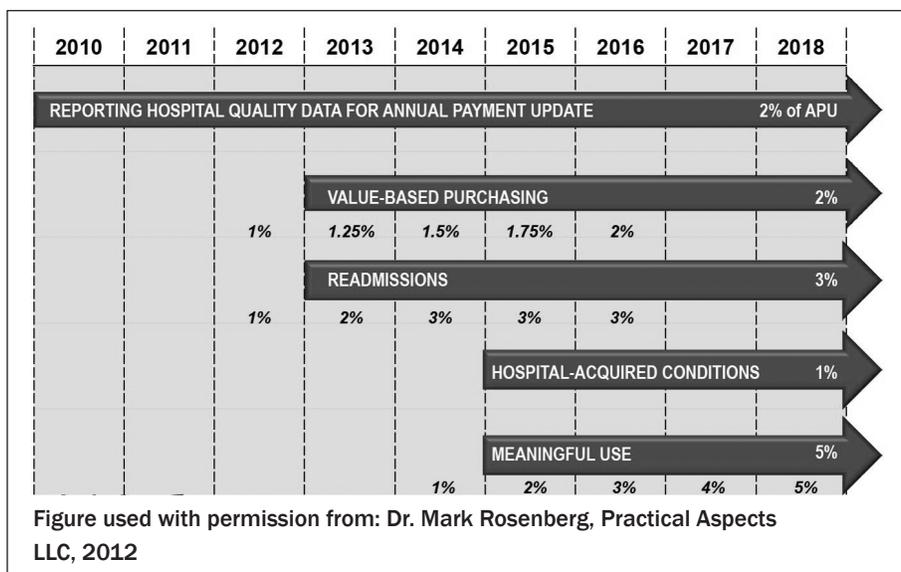
Launching a GED usually requires enhancement of existing services. Social services, case management, physical therapy, and dietary resources exist in most hospitals, so

redesigning and prioritizing work flows may be all that is needed to create the desired geriatric service. For instance, if physical therapy already provides services in the hospital, redesign of their operational hours and system-level objectives can meet the needs of the GED. An ED-based geriatric call-back program⁵⁰ can be done during early morning hours when the ED volume is often less demanding. These call-back services increase patient satisfaction and increase the likelihood that patients will return to that ED.^{92,93} Hospital case managers should facilitate difficult geriatric dispositions from the ED.^{47,94,95} Enhancements include identification of nurse and physician champions, patient liaisons, and a pharmacist.

Revenue. As medicine transitions from a fee-for-service model to one more consistent with health care reform, a shift in financial priorities is evolving. Decreasing the health care costs for patient groups is becoming a higher priority than simple admission rates, which traditional fee-for-service models emphasized. Although empiric research is lacking, anecdotal evidence from existing GEDs indicates that focused geriatric emergency care simultaneously increases ED patient volumes and door-to-doctor times, while reducing ED length of stay. These early findings could translate into increased revenue for health care organizations that invest in these system changes. Each hospital needs to evaluate their competitive environment and decide if a GED makes sense for their community.

Savings. GEDs also create opportunities for cost savings. For example, "Admit to Home" or "Extended Home Observation" programs exist in some locales.⁹⁰ These programs focus on non-critically ill, functionally independent geriatric patients with cellulitis, diverticulitis, or pneumonia. Appropriate geriatric patients with one of these conditions can sometimes be managed as an outpatient without significant risk of subsequent admission. For example, a 79-year-old otherwise stable patient

Figure 1: Hospital Dollars at Risk May Climb to 13%



with diverticulitis and a small abscess on CT might be managed at home with antibiotics, liquid diet, and temperature checks every 12 hours, after surgical consult in the ED.⁹⁶ The GED would reassess the patient daily via telephone. A pre-planned GED re-evaluation within 48 hours provides essential continuity of care as a bridge to outpatient consultant availability. Most of these patients have a straightforward transition of care plan.⁹⁷ “Admit to home” programs combined with observation programs demonstrate cost-effectiveness.⁹⁸ In addition, home care services, case managers, and other community resources also improve transition of care from the ED.^{47,99}

The contemporary ED has evolved in response to conditions and pressures of the health care system.¹⁰⁰ Additional savings may be realized from a hospital-wide global perspective in terms of the timeliness of a geriatric evaluation. The benefit to medical staff, patients, and families may be measured in time needed to complete an outpatient assessment and treatment plan.⁸⁷ During the ED visit, appropriately comprehensive assessments with labs, imaging, and consultations can provide a diagnosis and plan of care, thereby creating an otherwise nonexistent safety net for this vulnerable population. This is an example of the ED’s response to the

changing needs of its patients and demands of health care reform.

In the United States, Medicare is the primary insurance of the senior population. Health care reform is managed through the Centers for Medicare & Medicaid Services (CMS) and affects all Medicare providers of health care. Evolving health care reforms propose withholding reimbursements as an incentive to improve government-defined outcomes in the future.¹⁰¹ The GED, by aligning its goals with the Triple Aim, can positively impact this new incentive structure. (See Table 4.) Core measures, value-based purchasing, readmissions, hospital-acquired conditions, and meaningful use measures¹⁰² continue to be phased in as reimbursement incentives.¹⁰³

The incentive system puts hospitals at risk for up to 8% of the reimbursed health care dollar (see Figure 1).^{101,102,104-106} The GED improves individual health with fall prevention,⁵⁹ case-finding,⁴⁶ as well as medication screening and reconciliation.¹⁰⁷ In addition, transitions of care improve,⁷⁵ while patient satisfaction and objective experience of care both improve.⁴⁵ GED health care screening also improves population health.⁶⁶ Focused admission/readmission management also decreases per capita cost.^{41,44}

Prioritizing the GED Guidelines

Hospital chief executive officers (CEOs) and administrators have questioned whether they need to operationalize all of the guidelines for a GED. This was neither the intent, nor practical, for the majority of EDs worldwide. The next logical question is which components of the GED Guidelines should become the focus of individual ED’s process improvement efforts. Are some elements of a GED more essential than others? For instance, if an ED had all the elements of a GED based on the guidelines but didn’t have a separate space, could they still qualify as a geriatric ED? Physician and nursing leadership from existing GEDs or Geriatric Emergency Medicine (GEM) fellowship programs are currently prioritizing the guidelines.¹⁰⁸ The prioritization process will separate the GED guidelines into three levels of a geriatric emergency care capacity. For example, a level three GED would have minimal essential elements required, whereas a level one would implement or incorporate all of the guidelines.

The GED guidelines represent a beginning and require further research to establish value and proof-of-concept.^{35,36} As such empirical evidence accumulates, the guidelines will be revised and updated.

Dissemination Efforts

Some hospitals have moved forward with a multidisciplinary approach to providing acute care to their geriatric emergency patients. As the growth of GEDs evolves, the challenge becomes establishing the credentialing process, monitoring outcomes, providing ongoing education and fellowships, and continuing to validate and update the guidelines.^{35,36} One approach under consideration is a formal credentialing process. Another strategy being explored is the “geriatric emergency department boot camp” to raise awareness of many of the obstacles highlighted in this article, while providing mentorship and resources to local ED, inpatient, and outpatient

opinion leaders. The two-day GED boot camp concept brings the curriculum and expertise to the individual hospital so that local nurses, technicians, physical therapists, case managers, hospital administrators, insurers, community organizations, patient advocacy groups, and physicians from multiple specialties have the opportunity to participate without incurring travel expenses. Based upon site-specific pre-event surveys and individualized geriatric quality improvement projects, every GED boot camp aims to meet the unique needs and objectives of the participating site.

Rollout and Funding

Implementation of the guidelines at a given medical center or ED can be streamlined with the assistance of several different modalities. In the state of New Jersey (NJ), in coordination with the NJ Hospital Association, statewide programs are being developed to assist hospitals in GED development and implementation. The first of these programs was scheduled to take place in September of 2014.

Summary

The geriatric demographic challenges imposed by aging baby boomers, in combination with an overwhelmed and understaffed primary care safety net and unprecedented fiscal challenges, place increasing demands on contemporary emergency medicine to develop compassionate, cost-effective systems of care for all populations. The geriatric adult is a potentially vulnerable patient population that represents the proverbial “canary in the coal mine” for our health care system, since any inefficiency or misapplied system issues will inevitably manifest as suboptimal recovery from acute illness or injury in the aged. However, efficient, appropriate, evidence-based geriatric emergency care will promote ED and hospital thoroughfare and more reliable ED access for patients of all ages.^{109,110} The need for a multidisciplinary, multi-organizational document to

link nurses, clinicians, administrators, and policy-makers with best-evidence geriatric ED staffing levels, continuing medical education priorities, clinical protocols, and quality indicator metrics has now been addressed via the GED Guidelines. Next, “A paradigm shift is required to improve patient satisfaction and quality of care for the GED patient. This shift requires changes in thought and action through leadership and training. Ultimately, the success of the GED program rests with every staff member.”⁸⁷ The process of identifying the geriatric emergency patient’s needs, defining the need, and operationalizing the service takes time, effort, and organization.

References

1. Projected Future Growth of the Older Population. Department of Health and Human Services, 2014. Accessed July 21, 2014, at http://www.aoa.gov/Aging_Statistics/future_growth/future_growth.aspx.
2. Gerson LW, Skvarch L. Emergency medical service utilization by the elderly. *Ann Emerg Med* 1982;11:610-612.
3. Jones J, Dougherty J, Cannon L, et al. A geriatrics curriculum for emergency medicine training programs. *Ann Emerg Med* 1986;15:1275-1281.
4. Lowenstein SR, Crescenzi CA, Kern DC, et al. Care of the elderly in the emergency department. *Ann Emerg Med* 1986;15:528-535.
5. Spaite DW, Criss EA, Valenzuela TD, et al. Geriatric injury: An analysis of prehospital demographics, mechanisms, and patterns. *Ann Emerg Med* 1990;19:1418-1421.
6. Reuben DB, Bradley TB, Zwanziger J, et al. Geriatrics faculty in the United States: Who are they and what are they doing? *J Am Geriatr Soc* 1991;39:799-805.
7. Reuben DB, Bradley TB, Zwanziger J, et al. The critical shortage of geriatrics faculty. *J Am Geriatr Soc* 1993;41:560-569.
8. Coe RM, Miller DK, Prendergast JM, et al. Faculty resources for teaching geriatric medicine. *J Am Geriatr Soc* 1982;30:63-66.
9. Baraff LJ, Bernstein E, Bradley K, et al. Perceptions of emergency care by the elderly: Results of multicenter focus group interviews. *Ann Emerg Med* 1992;21:814-818.
10. Hedges JR, Singal BM, Rousseau EW, et al. Geriatric patient emergency visits. Part II: Perceptions of visits by geriatric and younger patients. *Ann Emerg Med* 1992;21:808-813.
11. Singal BM, Hedges JR, Rousseau EW, et al. Geriatric patient emergency visits.

Part I: Comparison of visits by geriatric and younger patients. *Ann Emerg Med* 1992;21:802-807.

12. Strange GR, Chen EH. Use of emergency departments by elder patients: A five-year follow-up study. *Acad Emerg Med* 1998;5:1157-1162.
13. Jones JS, Rousseau EW, Schropp MA, et al. Geriatric training in emergency medicine residency programs. *Ann Emerg Med* 1992;21:825-829.
14. Sanders AB. *Emergency Care of the Elderly Person*. St. Louis MO: Beverly Cramon Publications; 1996.
15. Baraff LJ, Della Penna R, Williams N, et al. Practice guideline for the ED management of falls in community-dwelling elderly persons. Kaiser Permanente Medical Group. *Ann Emerg Med* 1997;30:480-492.
16. Baraff LJ, Lee TJ, Kader S, et al. Effect of practice guidelines for emergency department care of falls in elder patients on subsequent falls and hospitalizations for injuries. *Acad Emerg Med* 1999;6:1224-1231.
17. Gerson LW, Counsell SR, Fontanarosa PB, et al. Case finding for cognitive impairment in elderly emergency department patients. *Ann Emerg Med* 1994;23:813-817.
18. Naughton BJ, Moran MB, Kadah H, et al. Delirium and other cognitive impairment in older adults in an emergency department. *Ann Emerg Med* 1995;25:751-755.
19. Lewis LM, Miller DK, Morley JE, et al. Unrecognized delirium in ED geriatric patients. *Am J Emerg Med* 1995;13:142-145.
20. Gerson LW, Rousseau EW, Hogan TM, et al. Multicenter study of case finding in elderly emergency department patients. *Acad Emerg Med* 1995;2:729-734.
21. McCusker J, Bellavance F, Cardin S, et al. Screening for geriatric problems in the emergency department: Reliability and validity. *Acad Emerg Med* 1998;5:883-893.
22. Meldon SW, Emerman CL, Schubert DS. Recognition of depression in geriatric ED patients by emergency physicians. *Ann Emerg Med* 1997;30:442-447.
23. Meldon SW, Emerman CL, Schubert DS, et al. Depression in geriatric ED patients: Prevalence and recognition. *Ann Emerg Med* 1997;30:141-145.
24. McCusker J, Healey E, Bellavance F, et al. Predictors of repeat emergency department visits by elders. *Acad Emerg Med* 1997;4:581-588.
25. McCusker J, Cardin S, Bellavance F, et al. Return to the emergency department among elders: Patterns and predictors. *Acad Emerg Med* 2000;7:249-259.
26. McCusker J, Verdon J, Tousignant P, et al. Rapid emergency department intervention for older people reduces risk of functional decline: Results of a multicenter randomized trial. *J Am Geriatr Soc* 2001;49:1272-1281.

27. Meldon SW, Mion LC, Palmer RM, et al. A Brief risk-stratification tool to predict repeat emergency department visits and hospitalizations in older patients discharged from the emergency department. *Acad Emerg Med* 2003;10:224-232.
28. Hogan TM, Losman ED, Carpenter CR, et al. Development of geriatric competencies for emergency medicine residents using an expert consensus process. *Acad Emerg Med* 2010;17:316-324.
29. Geriatric Videos. American College of Emergency Physicians, 2012. Accessed September 3, 2013, at <http://www.acep.org/Clinical--Practice-Management/Geriatric-Videos/>.
30. Abdominal pain in the older adult. Society for Academic Emergency Medicine, 2013. Accessed November 4, 2013, at <http://www.saem.org/>.
31. Geri-EM: Personalized Learning in Geriatric Emergency Medicine. Mount Sinai Hospital, 2013. Accessed July 16, 2015, at <http://geri-em.com/>.
32. International Consortium in Emergency Geriatrics (ICEG). 2014. Accessed July 11, 2014, at <http://www.iceg.info/>.
33. Hogan TM, Olade TO, Carpenter CR. A profile of acute care in an aging America: Snowball sample identification and characterization of United States geriatric emergency departments in 2013. *Acad Emerg Med* 2014;21:337-346.
34. Rosenberg M, Carpenter CR, Bromley M, et al. Geriatric Emergency Department Guidelines. *Ann Emerg Med* 2014;63:e7-e25.
35. Carpenter CR, Bromley M, Caterino JM, et al. Optimal older adult emergency care: Introducing multidisciplinary geriatric emergency department guidelines from the American College of Emergency Physicians, American Geriatrics Society, Emergency Nurses Association, and Society for Academic Emergency Medicine. *Ann Emerg Med* 2014;63:e1-e3.
36. Carpenter CR, Bromley M, Caterino JM, et al. Optimal Older Adult Emergency Care: Introducing Multidisciplinary Geriatric Emergency Department Guidelines from the American College of Emergency Physicians, American Geriatrics Society, Emergency Nurses Association, and Society for Academic Emergency Medicine. *J Am Geriatr Soc* 2014;62:1360-1363.
37. McCusker J, Verdon J, Vadeboncoeur A, et al. The elder-friendly emergency department assessment tool: Development of a quality assessment tool for emergency department-based geriatric care. *J Am Geriatr Soc* 2012;60:1534-1539.
38. Biese K, Roberts E, LaMantia MA, et al. Effect of a geriatric curriculum on emergency medicine resident attitudes, knowledge, and decision-making. *Acad Emerg Med* 2011;18:S92-S96.
39. Brymer C, Cavanagh P, Denomy E, et al. The effect of a geriatric education program on emergency nurses. *J Emerg Nurs* 2001;27:27-32.
40. Diner BM, Carpenter CR, O'Connell T, et al. Graduate medical education and knowledge translation: Role models, information pipelines, and practice change thresholds. *Acad Emerg Med* 2007;14:1008-1014.
41. McCusker J, Verdon J, Tousignant P, et al. Rapid emergency department intervention for older people reduces risk of functional decline: Results of a multi-center randomized trial. *J Am Geriatr Soc* 2001;49:1272-1281.
42. Carpenter CR, Sherbino J. How does an "opinion leader" influence my practice? *CJEM* 2010;12:431-434.
43. Brownson RC, Colditz GA, Proctor EK. *Dissemination and Implementation Research in Health*. Oxford UK: Oxford; 2012.
44. Rosenberg M, Carpenter CR, Bromley M, et al. Geriatric Emergency Department Guidelines. *Ann Emerg Med* 2014;63:e7-e25.
45. McCusker J, Verdon J, Vadeboncoeur A, et al. The elder-friendly emergency department assessment tool: Development of a quality assessment tool for emergency department-based geriatric care. *J Am Geriatr Soc* 2012;60:1534-1539.
46. McCusker J, Roberge D, Ciampi A, et al. Outcomes of community-dwelling seniors vary by type of emergency department. *Acad Emerg Med* 2012;19:304-312.
47. Sinha SK, Bessman ES, Flomenbaum N, et al. A systematic review and qualitative analysis to inform the development of a new emergency department-based geriatric case management model. *Ann Emerg Med* 2011;57:672-682.
48. Hastings SN, Barrett A, Weinberger M, et al. Older patients' understanding of emergency department discharge information and its relationship with adverse outcomes. *J Patient Saf* 2011;7:19-25.
49. Kaphingst K, Goodman MS, MacMillan WD, et al. Effect of cognitive dysfunction on the relationship between age and health literacy. *Patient Educ Couns* 2014;95:218-225.
50. Biese K, LaMantia MA, Shofer FS, et al. A randomized trial exploring the impact of a phone call follow-up on care plan compliance among older adults discharged home from the emergency department. *Acad Emerg Med* 2014;21:188-195.
51. Keyes DC, Singal B, Kropf CW, et al. Impact of a new senior emergency department on emergency department recidivism, rate of hospital admission, and hospital length of stay. *Ann Emerg Med* 2014;63:517-524.
52. Platts-Mills TF, Glickman SW. Measuring the value of a senior emergency department: Making sense of health outcomes and health costs. *Ann Emerg Med* 2014;63:525-527.
53. Shepperd S, Doll H, Angus RM, et al. Avoiding hospital admission through provision of hospital care at home: A systematic review and meta-analysis of individual patient data. *CMAJ* 2009;180:175-182.
54. Ryan D, Liu B, Awad M, et al. Improving older patients' experience in the emergency room: The senior-friendly emergency room. *Ageing Health* 2011;7:901-909.
55. Conroy SP, Ansari K, Williams M, et al. A controlled evaluation of comprehensive geriatric assessment in the emergency department: The 'Emergency Frailty Unit'. *Age Ageing* 2014;43:109-114.
56. Moseley MG, Hawley MP, Caterino JM. Emergency department observation units and the older patient. *Clin Geriatr Med* 2013;29:71-89.
57. Carpenter CR, Griffey RT, Stark S, et al. Physician and nurse acceptance of geriatric technicians to screen for geriatric syndromes in the emergency department. *West J Emerg Med* 2011;12:489-495.
58. Carpenter CR, Platts-Mills TF. Evolving prehospital, emergency department, and "inpatient" management models for geriatric emergencies. *Clin Geriatr Med* 2013;29:31-47.
59. Rosenberg M, Lamba S, Misra S. Palliative medicine and geriatric emergency care: Challenges, opportunities, and basic principles. *Clin Geriatr Med* 2013;29:1-29.
60. Han JH, Wilson A, Vasilevskis EE, et al. Diagnosing delirium in older emergency department patients: Validity and reliability of the Delirium Triage Screen and the Brief Confusion Assessment Method. *Ann Emerg Med* 2013;62:457-465.
61. Han JH, Wilson A, Graves AJ, et al. Validation of the Confusion Assessment Method for the intensive care unit in older emergency department patients. *Acad Emerg Med* 2014;21:180-187.
62. LaMantia MA, Messina FC, Hobgood CD, et al. Screening for delirium in the emergency department: A systematic review. *Ann Emerg Med* 2014;63:551-560.
63. Wilber ST, Carpenter CR, Hustey FM. The six-item screener to detect cognitive impairment in older emergency department patients. *Acad Emerg Med* 2008;15:613-616.
64. Carpenter CR, DesPain B, Keeling TK, et al. The Six-Item Screener and AD8 for the detection of cognitive impairment in geriatric emergency department patients. *Ann Emerg Med* 2011;57:653-661.
65. Carpenter CR, Bassett ER, Fischer GM, et al. Four sensitive screening tools to detect cognitive impairment in geriatric emergency department patients: Brief Alzheimer's Screen, Short Blessed Test, Ottawa3DY, and the Caregiver Administered AD8. *Acad Emerg Med* 2011;18:374-384.
66. Rosenberg M, Lamba S, Misra S. Palliative medicine and geriatric emergency care: Challenges, opportunities, and basic principles. *Clin Geriatr Med* 2013;29:1-29.
67. Carpenter CR. Dementia and the rural emergency department. *J Rural Emerg Med* 2014;1:32-40.

68. Hastings SN, Schmader KE, Sloane RJ, et al. Adverse health outcomes after discharge from the emergency department — incidence and risk factors in a veteran population. *J Gen Intern Med* 2007;22:1527-1531.
69. Hastings SN, Oddone EZ, Fillenbaum G, et al. Frequency and predictors of adverse health outcomes in older Medicare beneficiaries discharged from the emergency department. *Med Care* 2008;46:771-777.
70. Hastings SN, Whitson HE, Purser JL, et al. Emergency department discharge diagnosis and adverse health outcomes in older adults. *J Am Geriatr Soc* 2009;57:1856-1861.
71. Carpenter CR. Falls and fall prevention in the elderly. In: Kahn JH, Magauran BG, Olshaker JS, eds. *Geriatric Emergency Medicine Principles and Practice*. Cambridge UK: Cambridge University Press; 2014:343-350.
72. Carpenter CR, Avidan MS, Wildes T, et al. Predicting community-dwelling older adult falls following an episode of emergency department care: A systematic review. *Acad Emerg Med* 2014 (in press).
73. Carpenter CR. Preventing falls in community-dwelling older adults. *Ann Emerg Med* 2010;55:296-298.
74. Wilber ST, Blanda M, Gerson LW. Short-term functional decline and service use in older emergency department patients with blunt injuries. *Acad Emerg Med* 2010;17:679-686.
75. Salvi FM, V, Grilli A, Giorgi R et al. The elderly in the emergency department: a critical review of problems and solutions. *Intern Emerg Med* 2007;2:292-301.
76. Carpenter CR. Deteriorating functional status in older adults after emergency department evaluation of minor trauma—opportunities and pragmatic challenges. *J Am Geriatr Soc* 2013;61:1806-1807.
77. McCusker J, Bellavance F, Cardin S, et al. Detection of older people at increased risk of adverse health outcomes after an emergency visit: The ISAR screening tool. *J Am Geriatr Soc* 1999;47:1229-1237.
78. Dendukuri N, McCusker J, Belzile E. The Identification of Seniors at Risk Screening Tool: Further evidence of concurrent and predictive validity. *J Am Geriatr Soc* 2004;52:290-296.
79. Graf CE, Zekry D, Giannelli S, et al. Efficiency and applicability of comprehensive geriatric assessment in the emergency department: A systematic review. *Aging Clin Exp Res* 2011;23:244-254.
80. Beaton K, Grimmer K. Tools that assess functional decline: Systematic literature review update. *Clinical Interventions in Aging* 2013;8:485-494.
81. Bissett M, Cusick A, Lannin NA. Functional assessments utilised in emergency departments: A systematic review. *Age Ageing* 2013;42:163-172.
82. Cousins G, Bennett Z, Dillon G, et al. Adverse outcomes in older adults attending emergency department: Systematic review and meta-analysis of the Triage Risk Stratification Tool. *Eur J Emerg Med* 2013;20:230-239.
83. Carpenter CR, Shelton E, Fowler S, et al. Risk factors and screening instruments to predict adverse outcomes for undifferentiated older emergency department patients: A systematic review and meta-analysis. *Acad Emerg Med* 2014 (in press).
84. Hastings SN, George LK, Fillenbaum GG, et al. Does lack of social support lead to more ED visits for older adults? *Am J Emerg Med* 2008;26:454-461.
85. Stiffler K, Finley A, Midha S, et al. Frailty assessment in the emergency department. *J Emerg Med* 2013;45:291-298.
86. Magauran BG. Financial issues in geriatric emergency care. In: Kahn JH, Magauran BG, Olshaker JS, eds. *Geriatric Emergency Medicine Principles and Practice*. Cambridge UK: Cambridge University Press; 2014:351-354.
87. Rosenberg M, Rosenberg L. The geriatric emergency department. In: Kahn JH, Magauran BG, Olshaker JS, eds. *Geriatric Emergency Medicine: Principles and Practice*. Cambridge UK: Cambridge University Press; 2014:8-19.
88. New Guidelines Show What a Geriatric Emergency Department Should Look Like. John A. Hartford Foundation, 2014. Accessed July 15, 2014, at <http://www.jhartfound.org/blog/new-guidelines-show-what-a-geriatric-emergency-department-should-look-like/>.
89. Terrell KM, Hustey FM, Hwang U, et al. Quality indicators for geriatric emergency care. *Acad Emerg Med* 2009 16:441-449.
90. Geriatric ED: Cost-efficient hub of care. *Emergency Physicians Monthly* 2013. Accessed July 15, 2014, at <http://www.epmonthly.com/features/current-features/geriatric-ed-cost-efficient-hub-of-care>.
91. Geriatric emergency department. George Washington University Schools of Medicine & Health Sciences, 2011. Accessed July 15, 2014, at <http://smhs.gwu.edu/urgentmatters/content/geriatric-emergency-department>.
92. Guss DA, Leland H, Castillo E. The impact of post-discharge patient call back on patient satisfaction in two academic emergency departments. *J Emerg Med* 2013;44:236-241.
93. Guss DA, Leland H, Castillo E. The impact of patient telephone call after discharge on likelihood to recommend in an academic emergency department. *J Emerg Med* 2014;46:560-566.
94. Building the case for the Geriatric ED. University of North Carolina, 2013. Accessed July 21, 2014, at http://www.ccme-medicare.org/documents/COMM_508_TranscriptForBuildingABusinessCaseForGeriatricEmergencyDepartments20130730_D388.pdf
95. Rosenberg M. Nutz and Boltz of Creating a Geriatric ED. In: Academy for Geriatric Emergency Medicine. Dallas TX: Society for Academic Emergency Medicine Annual Meeting; 2014.
96. World Gastroenterology Organisation Practice Guidelines: Diverticular Disease. World Gastroenterology Organisation, 2007. Accessed July 21, 2014, at http://www.worldgastroenterology.org/assets/downloads/en/pdf/guidelines/07_diverticular_disease.pdf.
97. Kessler C, Williams WC, Moustoukas JN, et al. Transitions of care for the geriatric patient in the emergency department. *Clin Geriatr Med* 2013;29:49-69.
98. Improving care transitions. Health Affairs, 2012. Accessed July 21, 2014, at http://healthaffairs.org/healthpolicybriefs/brief_pdfs/healthpolicybrief_76.pdf.
99. Ng K, Grudzen CR, Davila C, et al. GEDI WISE: Initial effects on admissions at a hospital with a geriatric emergency department. *Acad Emerg Med* 2014;21:S212-S213.
100. Fitzgerald RT. White Paper: The Future of Geriatric Care in Our Nation's Emergency Departments: Impact and Implications. Dallas TX: American College of Emergency Physicians; 2008 Oct. 27, 2008.
101. Hospital Value-Based Purchasing. Centers for Medicare & Medicaid Services, 2014. Accessed July 21, 2014, at <http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/hospital-value-based-purchasing/index.html?redirect=/Hospital-Value-Based-Purchasing>.
102. Hospital-Acquired Conditions (Present on Admission Indicator) Centers for Medicare & Medicaid Services, 2014. Accessed July 21, 2014, at http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HospitalAcqCond/index.html?redirect=/hospitalacq-cond/06_hospital-acquired_conditions.asp.
103. A Guide to Measuring the Triple Aim: Population Health, Experience of Care, and Per Capita Cost. Institute for Healthcare Improvement, 2012. Accessed July 21, 2014, at <http://www.ihl.org/resources/Pages/IHWhitePapers/AGuidetoMeasuringTripleAim.aspx>.
104. Recommended core measures. 2013. Accessed July 21, 2014, at http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Recommended_Core_Set.html.
105. Readmissions Reduction Program. Centers for Medicare & Medicaid Services, 2014. Accessed July 21, 2014, at <http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program.html>.
106. 2014 Definition Stage 1 of Meaningful Use Centers for Medicare & Medicaid Services, 2014. Accessed July 21, 2014, at http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Meaningful_Use.html.
107. Schnitker L, Martin-Khan M, Beattie E, et al. What is the evidence to guide best practice for the management of older people with cognitive impairment

presenting to emergency departments?
A systematic review. *Adv Emerg Nurs J* 2013;35:154-169.

108. Hsu CC, Sandford BA. The Delphi Technique: Making sense of consensus practical assessment research & evaluation 2007;12:1-8.
109. Sherman FT. The good news: It's our 60th birthday. The bad news: A giant, geriatric tsunami! *Geriatrics* 2006;61:10-11.
110. Bodenheimer T. Primary care — will it survive? *N Engl J Med* 2006;355:861-864.

CME Questions

- Which of the following statements is true in terms of the geriatric population (age > 65 years) and emergency medicine?
 - Geriatric ED patients are less likely to arrive by ambulance.
 - Geriatric ED patients are as likely to be admitted to the hospital as younger populations.
 - In the United States, adults older than age 65 will represent more than 20% of the population by 2050.
 - The capacity of each medical specialty to educate medical students and residents about key aging principles is and has been completely sufficient.
- All of the following are recommendations for EDs designed for older adults *except*:
 - use of thicker mattresses
 - use of reclining chairs
 - clutter-free environment
 - use of less signage
- Which of the following is consistent with the GED recommendations?
 - having walkers and canes available in the ED for patients
 - having a dedicated geriatric social worker 24/7
 - completing an advance directive or living will
 - giving a copy of discharge instructions to family members in all cases
- Foley catheter use should be limited in elderly patients because of the association with urinary infections and delirium.
 - true
 - false
- Which of the following statements is true?
 - Adverse outcomes occur in one-third of discharged older patients after an episode of ED care.
 - Standing level falls are the leading cause of trauma-related mortality in geriatric adults.
 - Following minor blunt trauma, up to one-third of older adults who are discharged home from the ED will experience significant functional decline over the next three months.
 - all of the above

- The Geriatric Emergency Department Guidelines were designed with the intent for every adult emergency department to adhere to all 40 recommendations and design a separate space for older adult emergency care.
 - true
 - false
- Emergency providers should screen older patients for:
 - elder abuse
 - falls
 - vulnerability
 - all of the above
- A nurse follow-up call has been shown to:
 - decrease hospitalization
 - decrease return ED visits
 - improve compliance with scheduled follow-up visits
 - increase costs
- Which of the following is *not* a GED aim?

- improved supervision in nursing homes
- better health for individual geriatric patients
- better population health for the geriatric population
- lower costs

10. "Admit to home" programs are an alternative to admission. Which of the following conditions is an appropriate patient to consider for this type of program?
- an 80-year-old female from a nursing home with delirium and urosepsis
 - a 70-year-old with CT evidence of diverticulitis, afebrile, eating with difficulty
 - a 90-year-old with a glucose level of 900
 - a 75-year-old on warfarin with a small subdural after a fall

Emergency Medicine Reports

CME Objectives

Upon completion of this educational activity, participants should be able to:

- recognize specific conditions in patients presenting to the emergency department;
- apply state-of-the-art diagnostic and therapeutic techniques to patients with the particular medical problems discussed in the publication;
- discuss the differential diagnosis of the particular medical problems discussed in the publication;
- explain both the likely and rare complications that may be associated with the particular medical problems discussed in the publication.

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Sample Recommendations from the Geriatric Emergency Department Guidelines

General Category	Recommendation	Specific Examples
Staffing and Administration	ED availability of geriatric-trained physician and nursing leadership, including GED medical director who completes ≥ 8 hours of geriatric CME every 2 years	GED medical director serves as liaison with hospital staff and outpatient care partners, identifies needs and resources for staff geriatric education, reviews and approves all hospital geriatric policies and procedures
Follow-up and Transitions of Care	Transition of care protocols will facilitate timely communication of clinically relevant information appropriate for the level of geriatric syndrome (dementia, acute illness severity, frailty, sensory impairment) associated disability of the individual patient	Discharge instructions available in large font that provide HIPAA-compliant information to family/care provider, long-term care facilities, and surrogate decision makers
Follow-up and Transitions of Care	Establish and maintain relationships with key community resources to access as needed in transition from ED to outpatient care	Medical home, case managers, home safety assessment by occupational therapy or homecare nursing, medical transportation services, meal assistance programs, prescription assistance
Education	Continuing medical education programs will increase physician and nursing staff awareness of unique geriatric emergency care needs, policies, and procedures	Multidisciplinary nature of effective geriatric health recovery and maintenance, evidence-based geriatric syndrome screening instruments and interventions, atypical disease presentations balanced against over-utilization of resources and goals of care, palliative medicine opportunities
Quality Improvement	Geriatric QI program will be developed and monitored by the Geriatric Medical Director and Geriatric Nurse Manager	Semi-annual reviews targeting geriatric syndrome prevalence of injurious fall screening rates and sequelae as well as patient-centric outcomes; delirium screening and management; catheter-associated urinary tract infection prevention efforts; and inappropriate high-risk medication prescribing
Equipment and Supplies	Physical infrastructure shall accommodate patients with mobility, continence, sensory, or cognitive impairment	Reclining chairs rather than gurneys to enhance comfort and minimize pressure ulcers; walking assist devices and hearing aids at the bedside; patient-controlled lighting; enhanced signage
Policies, Procedures, and Protocols	Department policies for prevalent geriatric syndromes should be developed by and readily available for staff	Delirium screening protocol, elder abuse assessment strategy, urinary catheter placement criteria, transitions of care priorities, palliative care triggers
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Checklist to Evaluate Geriatric Attributes of Individual EDs

<p>Education</p> <ul style="list-style-type: none"> • Education of ED staff (physicians, physician extenders) in elder-friendly ED care • Educational initiatives exist for nursing and allied health professionals • Educational initiatives exist for ED physicians <p>Elder-Friendly Physical Environment and Design Principles</p> <ul style="list-style-type: none"> • Prepared environment (e.g., clutter-free environment, noise-reduction methods, appropriate lighting and signage) • Adaptive furniture that promotes function and safety (e.g., low stretchers, thick mattresses, upright and reclining chairs) • Access to adaptive equipment (e.g., walkers, canes, hearing amplifiers) <p>Presence of Staff with Geriatrics Expertise</p> <ul style="list-style-type: none"> • Designated clinical coordinator or team leader for ED-based geriatric care — on site • Advanced practice nurse or nurse clinician providing geriatrics assessment and management support — on site • Social worker — on site • Physiotherapist or occupational therapist — available • Pharmacist — available • Geriatrics consultation service — available <p>Screening and Management Protocols for Geriatric Syndromes Using Validated Tools</p> <ul style="list-style-type: none"> • High-risk screening tools to identify vulnerable elderly adults • Cognitive, functional, and mobility assessments • Medication review and reconciliation • Standardized protocols for identification, prevention, and management of delirium, falls, functional decline, dehydration, incontinence, and pain 	<p>Geriatric Appropriate Transitions of Care</p> <ul style="list-style-type: none"> • Discharge planning of vulnerable elderly adults from ED to community • Nurse or nurse clinician for supportive discharge planning • Medication reconciliation at discharge • Transfer of clinical information to primary care physician • Transfer of clinical information to home care services • Key information given in writing/ explained to older patients and caregivers at discharge <p>Linkages Between ED and Relevant Community Care Services</p> <ul style="list-style-type: none"> • Primary care physicians • Home care services • Rehabilitation and convalescence services • Geriatric outpatient clinic or day hospital services <p>Ongoing Evaluation of ED-Based Geriatric Care Processes</p> <ul style="list-style-type: none"> • Hospital admission rate • ED and hospital lengths of stay • ED repeat visits and subsequent hospital admission rate • Patient, caregiver, and provider satisfaction with service
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Evolution of Geriatric Emergency Medicine

1974	First EM Residency
1982	Initial EM studies on geriatric populations
1991	Hartford GSI grant awarded to SAEM
1996	Geriatric EM textbook
2001-2003	SAEM Geriatric Task Force and ACEP Geriatric Section formed
2009	Initial geriatric EM quality improvement metrics published
2010	EM residency geriatric core competencies published
2013	Geriatric ED Guidelines published and approved by ACEP, AGS, ENA, and SAEM

The GED Triple Aim

Aim 1: Better Health Care for GED Patients

- Improved patient satisfaction (value based purchasing)
 - Transition of care
 - Improved core measures
 - Detection of adverse events (e.g., drug interactions)
- Improved timeliness
- Improved patient safety
- Improved efficiency

Aim 2: Better Geriatric Population Health

- Address underlying causes of poor health through geriatric screenings
 - Dementia, delirium
 - Nutritional assessment
 - Falls assessment
- Meaningful use
 - Informatics enhancements, patient tracking, and follow-up
- Transition of care to further health care
- Depression and behavioral health assessment

Aim 3: Lower Cost

- Decrease admissions
- Decrease readmissions
- Decrease hospital-acquired conditions

Hospital Dollars at Risk May Climb to 13%

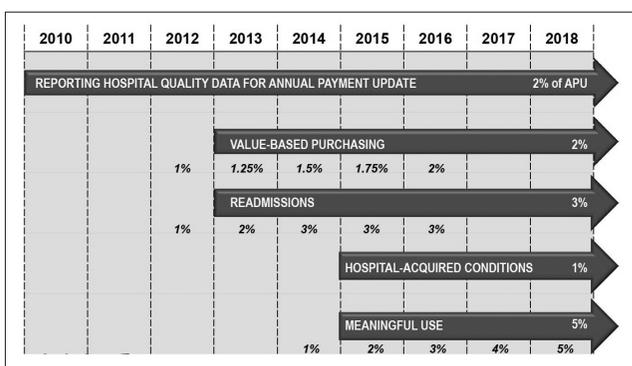


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