

# Reach and Adoption of a Geriatric Emergency Department Accreditation Program in the United States

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**Study objective:** The objectives of this study were to describe the reach and adoption of Geriatric Emergency Department Accreditation (GEDA) program and care processes instituted at accredited geriatric emergency departments (EDs).

**Methods:** We analyzed a cross-section of a cohort of US EDs that received GEDA from May 2018 to March 2021. We obtained data from the American College of Emergency Physicians and publicly available sources. Data included GEDA level, geographic location, urban/rural designation, and care processes instituted. Frequencies and proportions and median and interquartile ranges were used to summarize categorical and continuous data, respectively.

**Results:** Over the study period, 225 US geriatric ED accreditations were issued and included in our analysis—14 Level 1, 21 Level 2, and 190 Level 3 geriatric EDs; 5 geriatric EDs reapplied and received higher-level accreditation after initial accreditation at a lower level. Only 9 geriatric EDs were in rural regions. There was significant heterogeneity in protocols enacted at geriatric EDs; minimizing urinary catheter use and fall prevention were the most common.

**Conclusion:** There has been rapid growth in geriatric EDs, driven by Level 3 accreditation. Most geriatric EDs are in urban areas, indicating the potential need for expansion beyond these areas. Future research evaluating the impact of GEDA on health care utilization and patient-oriented outcomes is needed. [Ann Emerg Med. 2021;■:1-7.]

Please see page XX for the Editor's Capsule Summary of this article.

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## INTRODUCTION

### Background

As the US population ages, the health care system is increasingly challenged to provide high-quality care to older adults. Older adults increasingly require care in emergency departments (EDs) and typically have more extensive evaluations and are more likely to be admitted.<sup>1</sup> However, hospitalization also carries risk for older adults, including functional and cognitive decline.<sup>2,3</sup>

Geriatric EDs were first established in the United States over a decade ago in response to the growing geriatric population and their unique emergency care needs.<sup>4</sup> However, there was significant variation in staffing, equipment, and care processes among these self-designated geriatric EDs.<sup>5</sup> In 2014, the Geriatric Emergency Department Guidelines were published to standardize and improve emergency care delivery in geriatric EDs.<sup>6</sup> In 2018, the American College of Emergency Physicians (ACEP) launched the Geriatric ED Accreditation (GEDA)

program<sup>7</sup> to accredit geriatric EDs based on adherence to the guidelines. GEDA classifies accredited geriatric EDs as Level 1 (gold), 2 (silver), or 3 (bronze) according to degrees of adherence to best practices. Higher-level geriatric EDs must meet greater requirements with respect to staffing, geriatric-specific protocols, outcome monitoring, and equipment and environmental changes; costs of application are also greater for higher-level geriatric EDs (Figure 1).

### Importance

Since the establishment of the GEDA process more than 2 years ago, there has been no systematic study describing accredited geriatric EDs in the United States.

### Goals of This Investigation

The objectives of this study were to describe the reach and adoption of ACEP's GEDA program in the United States and geriatric improvement processes implemented across accredited geriatric EDs.

**Editor's Capsule Summary***What is already known on this topic*

Geriatric patients have many unique emergency care needs.

*What question this study addressed*

How and where has the ACEP Geriatric Emergency Department Accreditation (GEDA) program been implemented, and with what specific interventions?

*What this study adds to our knowledge*

Now in its third year of existence, ACEP has thus far accredited 225 United States EDs in a variety of primarily urban locations, and these EDs have implemented a variety of specific geriatric care protocols.

*How this is relevant to clinical practice*

This description of the ACEP GEDA program will be useful for EDs considering such accreditation or otherwise looking for systematic ways to improve their geriatric care.

specific policies and protocols. Applications were reviewed after GEDA was issued. Zip code was used to classify the facility geographically based on US census region and as metropolitan or nonmetropolitan based on 2013 Urban Influence Codes.<sup>8</sup> A geriatric ED with an Urban Influence Code of 1 or 2 was classified as metropolitan, and a geriatric ED with an Urban Influence Code of 3 or higher was classified as nonmetropolitan (rural). Geriatric EDs were also classified by affiliation with an emergency medicine residency program.

The GEDA application guide describes 27 potential policies or protocols to improve the emergency care of older ED patients.<sup>9</sup> In the GEDA application, Level 1 and 2 applicants must classify their geriatric care initiatives into these categories; for Level 3 geriatric EDs, a trained research assistant reviewed the quality initiative(s) described in the application and classified them using the same categories. This research did not involve human subjects and used data from aggregate and anonymous sources as well as publicly reported data; accordingly, institutional review board approval was not required. Release of data was approved for comparison purposes through a data use agreement with all sites except for one Level 1 geriatric ED, which declined and was not included in the analysis and reporting.

**MATERIALS AND METHODS****Study Design and Setting**

We performed a cross-sectional analysis of a cohort of EDs that received GEDA by ACEP on or before March 1, 2021. This was a secondary analysis of previously collected data from the GEDA database; data were not collected specifically to meet the objectives of the study. This study adhered to the Strengthening the Reporting of Observational Studies in Epidemiology guidelines.

**Selection of Participants**

We included geriatric EDs that applied for and received accreditation between May 7, 2018 and March 1, 2021. Geriatric EDs in countries other than the United States were excluded since US classification systems were used to group EDs geographically. In addition, geriatric EDs were excluded from some aspects of the study if data use agreement restrictions prevented review of the GEDA application for research purposes.

**Measurements**

We obtained aggregate data on geriatric ED applications and approvals from the GEDA database. We reviewed individual applications to abstract data on ED visit volume, proportion of ED volume by individuals  $\geq 65$  years of age, primary reason for applying for GEDA, and geriatric-

**Outcomes**

We identified accredited geriatric EDs and GEDA levels from the GEDA database.

**Analysis**

Frequencies and proportions were used to summarize categorical data, and medians and interquartile ranges (IQRs) were used to summarize nonparametric continuous variables.

**RESULTS****Characteristics of Accredited Geriatric EDs**

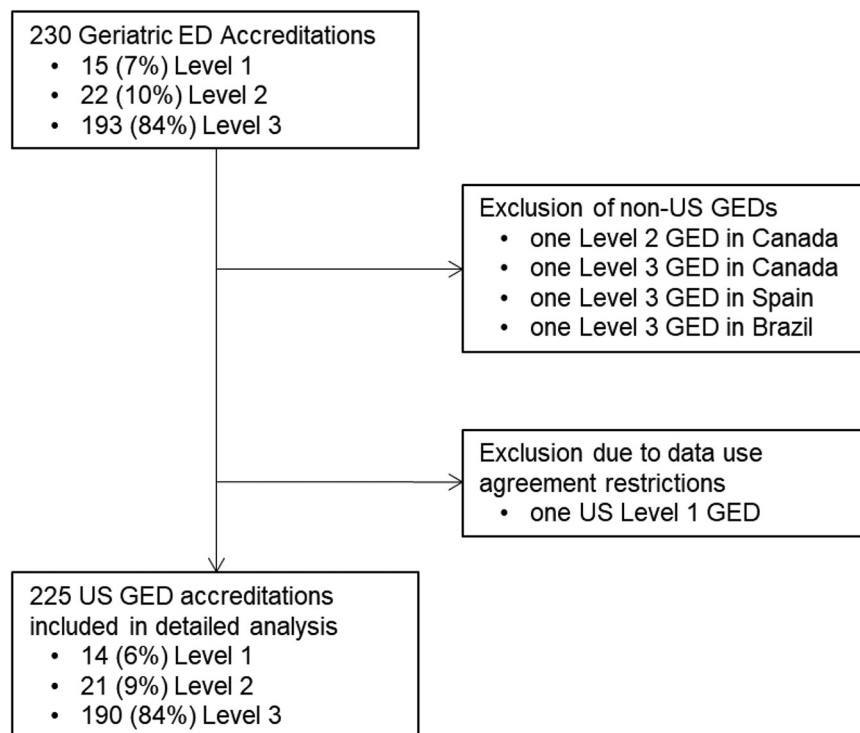
Since the GEDA program began through March 1, 2021, ACEP issued a total of 230 GEDAs for a total of 225 EDs across 36 US states as well as in Canada, Brazil, and Spain. The vast majority of approved geriatric EDs were Level 3 (Figure 2, Figure E1, available at <http://www.annemergmed.com>). Over the course of the study, 5 accredited geriatric EDs applied for and were approved as higher-level geriatric EDs: 3 Level 3 geriatric EDs were subsequently accredited as Level 2 geriatric EDs, and 1 Level 2 and 1 Level 3 geriatric ED were subsequently accredited as Level 1 geriatric EDs. Five geriatric EDs were excluded from further analysis—2 Level 3 and 1 Level 2



## Criteria by accreditation level:

CRITERIA	LEVEL 3	LEVEL 2	LEVEL 1
<b>Staffing</b>			
1 emergency medicine MD/DO lead with evidence of focused geriatric EM education	🔴		
1 RN with evidence of focused geriatric EM education	🔴	🟡	🟢
Physician champion/Medical Director with evidence of focused geriatric EM education		🟡	🟢
Nurse case manager/transitional care nurse present > 56 hrs/week		🟡	🟢
Interdisciplinary geriatric assessment team includes > 2 roles		🟡	
Interdisciplinary geriatric assessment team includes > 4 roles			🟢
> 1 executive/administrative sponsor supervising GED program		🟡	🟢
Patient advisor/patient council			🟢
<b>Education</b>			
MD/DO geriatric lead/ Physician champion/Medical Director geriatric EM education (in hours)	<b>4</b>	<b>6</b>	<b>8</b>
Staff physician education related to 8 domains of GEM	🔴	🟡	🟢
Nursing education in geriatric EM (NICHE / GENE preferred)	🔴	🟡	🟢
<b>Policies/protocols guidelines &amp; procedures</b>			
Evidence of one geriatric emergency care initiative and adherence plan	🔴		
> 10 items as part of the ED model of care for patients >65yr		🟡	
> 20 items as part of the ED model of care for of patients >65yrs			🟢
<b>Quality improvement</b>			
Adherence to 10 of 27 policies/protocols, guidelines & procedures		🟡	
Adherence to 20 of 27 policies/protocols, guidelines & procedures			🟢
<b>Outcome measures</b>			
Track > 3 process and outcome metrics for eligible patients		🟡	
Track > 5 process and outcome metrics for eligible patients			🟢
<b>Equipment and supplies</b>			
Access to and proof of mobility aids (canes and walkers)	🔴	🟡	🟢
Access to > 5 supplies (including mobility aids)		🟡	
Access to > 10 supplies (including mobility aids)			🟢
<b>Physical environment</b>			
Easy access to free food/drink, 24/7	🔴	🟡	🟢
2 chairs per patient bed		🟡	🟢
Large analog clock		🟡	🟢
Enhanced lighting			🟢
Efforts at noise reduction			🟢
Non-slip floors			🟢
Adequate hand rails			🟢
High quality signage and way-finding			🟢
Wheel-chair accessible toilets			🟢
Availability of raised toilet seats			🟢
<b>Pricing by accreditation level</b>			
	<b>BRONZE</b>	<b>SILVER</b>	<b>GOLD</b>
	<b>\$2,500</b>	<b>\$7,500</b>	<b>\$15,000</b>

**Figure 1.** Criteria for level 1, level 2, and level 3 geriatric emergency department accreditation.



**Figure 2.** Flow diagram of GEDAs included in detailed analysis. Analysis included 225 GEDAs from 220 EDs; 5 geriatric EDs reapplied and were approved for a higher level of accreditation during study period. *GED*, geriatric emergency department.

geriatric EDs outside the US and 1 Level 1 US geriatric ED—due to data use agreement restrictions (Figure 2).

Characteristics of the 225 US GEDA included in our study are presented in Table E1 (available at <http://www.annemergmed.com>). The most common reason cited for applying for GEDA was to improve care delivery to older adults. Across all geriatric EDs, the median annual ED visit volume was 37,044 (IQR 22,545 to 59,233), and visits by individuals 65 years of age or older comprised 25% (IQR 19% to 32%) of overall visit volume. The geographic distribution of accredited geriatric EDs, superimposed on a heat map reflecting the percent of the population that is aged 65 and older, is shown in Figure 3. Only 9 geriatric EDs (4%) were in nonmetropolitan regions, 8 of which were Level 3 (Table E1). Twenty-nine geriatric EDs (13%) were affiliated with an emergency medicine residency program (Table E1).

### Geriatric Care Processes

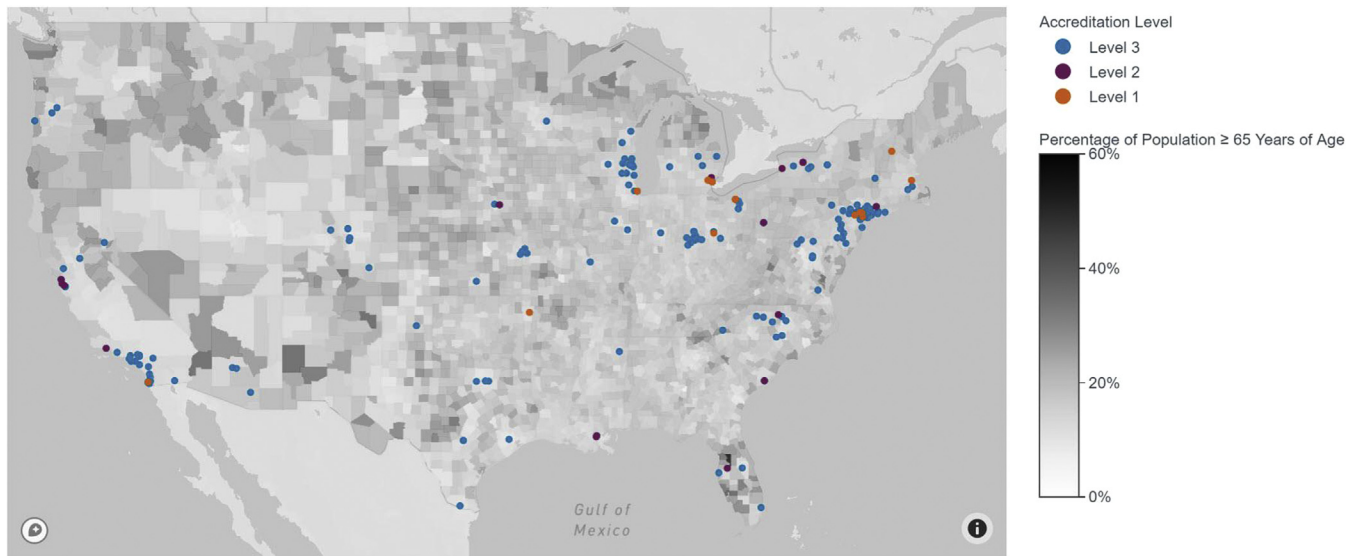
Geriatric care processes implemented at the included geriatric EDs are listed in the Table. The most common care processes implemented were related to addressing geriatric falls (90/225, 40%), minimizing urinary catheter use (87/225, 39%), identifying elder abuse (53/225, 24%), addressing delirium (49/225, 22%), and identifying assessment of function and functional decline (47/225,

21%). Though Level 3 geriatric EDs were only required to have 1 quality initiative for GEDA, one quarter reported more than 1 care process in their application (48/190, 25%).

### LIMITATIONS

This study has several limitations. Most data were extracted from the GEDA applications; errors in data entry by sites could have affected our results. Additionally, the data only allowed for a cross-sectional analysis of geriatric EDs based on information provided at the time of accreditation (as opposed to tracking site characteristics and trends over time). Geriatric care processes at Level 3 geriatric EDs were classified by a single trained research assistant; though classifications were reviewed by at least one researcher, an assessment of interrater reliability was not performed. We were also unable to independently verify the accuracy or completeness of the data included in the application or validate the quality of geriatric emergency care delivered at these geriatric EDs. However, the process for Level 1 GEDA includes a site visit to ensure the geriatric ED meets accreditation standards, and Level 2 geriatric EDs undergo a telephone site review. Additionally, some of the care processes may have already been enacted prior to deciding to apply for GEDA; however, as part of accreditation, all geriatric EDs must provide evidence that they actively monitor process and outcomes metrics related





**Figure 3.** Geographic distribution of accredited geriatric emergency departments in the United States, by accreditation level, superimposed on a heatmap that reflects the percent of the population that is aged 65 and older, by county.

to these care processes. Lastly, we limited our analysis to US accredited geriatric EDs; future studies may wish to study geriatric ED implementation outside of the United States.

## DISCUSSION

Within the first 33 months of ACEP's GEDA program, 230 GEDAs were issued. The steady growth in accreditations and its reach to over 36 US states and internationally is one measure of success of this program. While there has been a rapid growth in accredited geriatric EDs, this still accounts for only 4% of the 5,533 EDs in the US,<sup>10</sup> and, as demonstrated in the heat map, there remain swaths of the country without a geriatric ED.

One important consideration is whether geriatric ED growth geographically matches the growing population of older adults. The distribution of the geriatric EDs in urban versus rural regions is particularly notable. Only 9 geriatric EDs (4%) were in rural regions, 8 of which were Level 3 geriatric EDs; however, in the United States, nearly one fifth of all ED visits occur in a rural setting.<sup>11</sup> Potential barriers to GEDA for rural EDs include costs of the application as well as expenses associated with staffing, managing, and equipment for geriatric EDs. The staffing requirements for higher-level geriatric EDs may be a particular challenge for rural EDs, which may have limited resources, financial constraints due to increasing numbers of Medicaid or uninsured patients, and difficulty recruiting and retaining staff<sup>11</sup>; however, if achieved, the benefits are universally appealing and can be shared and received by ED patients of all ages. For example, creating processes to facilitate care coordination with primary care physicians or

referrals to community programs for older patients discharged home can also be extended to nongeriatric patients. Innovative solutions like leveraging telehealth to extend geriatric-focused interdisciplinary resources such as pharmacy, case management, social work, physical therapy, and occupational therapy can assist resource-constrained hospitals for patients of all ages. Such an endeavor is currently underway as a collaboration between the West Health Institute and Dartmouth–Hitchcock Connected Care and Center for Telehealth.<sup>12</sup>

It is also notable that the 2 most common quality initiatives enacted at Level 3 geriatric EDs align with national safety and reporting measures. Appropriate urinary catheter use is included in ACEP's Clinical Emergency Data Registry and the Centers for Medicare & Medicaid Services Merit-based Incentive Payment System. Fall risk assessment is another Merit-based Incentive Payment System and National Quality Forum measure. GEDA aligns with such programs by recognizing hospitals that provide appropriate care by giving them status and raising the bar for care for all patients. This reinforces the idea that every ED in the United States that cares for adults, including resource-constrained EDs, should be able to apply for Level 3 GEDA. While this could also be viewed as a relatively low standard to achieve, GEDA requires specific outcome monitoring for these care processes, staff education in geriatric principles, and physician and nurse champions. As Level 3 geriatric EDs reach the end of the 3-year approval period, they will also be required to demonstrate quality improvement to qualify for reaccreditation. Another measure of success for the GEDA program will be the proportion of accredited geriatric EDs that reapply for GEDA as well as the number that apply for a

**Table.** Geriatric-specific protocols, policies, guidelines, or initiatives enacted at US geriatric EDs (N=225).

Protocol/Policy	Level 1 (n=14), n (%)	Level 2 (n=21), n (%)	Level 3 (n=190), n (%)
Program to minimize use of urinary catheters	14 (100)	20 (95)	53 (28)
Process for identification of elder abuse	14 (100)	14 (67)	25 (13)
Program to minimize use of physical restraints	14 (100)	14 (67)	11 (6)
Access to palliative care consultation	14 (100)	11 (52)	10 (5)
Geriatric pain control guidelines	14 (100)	11 (52)	4 (2)
Program on geriatric fall assessment	13 (93)	18 (86)	59 (31)
Process for PCP notification	13 (93)	14 (67)	2 (1)
Access to transportation services for return to home	13 (93)	12 (57)	0 (0)
Program to minimize use of potentially inappropriate medications	13 (93)	11 (52)	9 (5)
Delirium screening process	13 (93)	9 (43)	27 (14)
Process for care transitions to residential care facilities	13 (93)	8 (38)	0 (0)
Guideline to define access to geriatric ED from ED triage*	13 (93)	6 (29)	N/A*
Process for medication reconciliation with a pharmacist	12 (86)	9 (43)	16 (8)
Standardized assessment of function and functional decline	12 (86)	8 (38)	27 (14)
Dementia screening process	12 (86)	5 (24)	5 (3)
Guidelines to minimize NPO designation	11 (79)	7 (33)	2 (1)
Program for access to short- and long-term rehabilitation	11 (79)	5 (24)	1 (0.5)
Program for volunteer engagement	10 (71)	5 (24)	0 (0)
Guideline to promote mobility	11 (79)	3 (14)	1 (0.5)
Process for follow-up after discharge	11 (79)	2 (10)	3 (2)
Access to geriatric psychiatry consultation	10 (71)	5 (24)	5 (3)
Program for home assessment of function and safety	9 (64)	6 (29)	0 (0)
Access to geriatric-specific outpatient clinics for follow up	9 (64)	5 (24)	3 (2)
Order sets for $\geq 3$ common geriatric presentations	8 (57)	9 (43)	4 (2)
Program for community paramedicine follow up	3 (21)	2 (10)	0 (0)
Outreach program to residential care homes	1 (7)	4 (19)	0 (0)

PCP, primary care physician; NPO, "Nil per os"/nothing by mouth.

One Level 1 geriatric ED was not included due to restrictions in the data use agreement. Level 1 geriatric EDs are required to have at least 20 items and Level 2 geriatric EDs are required to have at least 10 items from the GEDA model of care. Level 3 geriatric EDs are required to have at least 1 quality initiative, which were reclassified into the GEDA model of care structure. Sites may have exceeded the number of required items. Five geriatric EDs applied for and were accredited at a higher GEDA level; data from original and updated applications were both included under the respective accreditation level.

\*Not applicable to Level 3 geriatric EDs.

higher level of GEDA. Though this program has not reached the end of the first 3-year approval period, to date, 5 geriatric EDs have applied for and received higher levels of GEDA.

To ensure continued investment by hospital leaders, the GEDA program will need to be able to demonstrate a return on investment. There is growing evidence demonstrating the positive impact and benefits of Level 1 geriatric EDs: having ED-based transitional care nurses or social workers perform structured assessments for older ED patients is associated with reduced risks of hospital admission, 30-day readmission, and 30- and 60-day aggregate costs of care.<sup>13</sup> Research evaluating the impact of Level 2 and 3 geriatric EDs on health care utilization, however, is limited. This is partly because lower-level geriatric EDs are less likely to be academic institutions and data on impact is more likely to be collected for internal

purposes than for publication. Future research will need to evaluate the impact of Level 2 and Level 3 geriatric EDs. Evaluation of the impact of GEDA on patient-oriented outcomes, such as physical functioning, cognition, and quality of life, will also be an important avenue of research.<sup>14</sup> Given the heterogeneity of care processes at accredited geriatric EDs, demonstrating the value and impact of the GEDA program will be complicated by multiple confounders. This underscores the importance of leveraging existing geriatric ED-based research networks, such as the Geriatric Emergency Care Applied Research network,<sup>15</sup> to evaluate the impact of GEDA and geriatric EDs.

In summary, there has been rapid growth in accredited geriatric EDs in the United States and internationally, driven by a desire to improve emergency

care for older adults. Continued adoption of GEDA and extension of the program geographically will be important measures of programmatic success, as will whether geriatric EDs apply for reaccreditation or for higher-level accreditation. Research is needed on the impact of GEDA on health care utilization and patient-oriented outcomes.

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Maura Kennedy, Nicole Tidwell, Kevin Biese, and Ula Hwang currently serve on the board of governors of ACEP's Geriatric ED accreditation (GEDA) program. Chris Carpenter previously served on the GEDA board of governors and currently serves on the GEDA advisory board. Shan Liu and Lauren Southerland are reviewers for the GEDA program.

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