



HHS Public Access

Author manuscript

J Geriatr Emerg Med. Author manuscript; available in PMC 2023 March 23.

Published in final edited form as:

J Geriatr Emerg Med. 2022 ; 3(4): . doi:10.17294/2694-4715.1041.

Examination of geriatric care processes implemented in level 1 and level 2 geriatric emergency departments

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Abstract

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CONFLICTS OF INTEREST

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

Introduction—Older adults constitute a large and growing proportion of the population and have unique care needs in the emergency department (ED) setting. The geriatric ED accreditation program aims to improve emergency care provided to older adults by standardizing care provided across accredited geriatric EDs (GED) and through implementation of geriatric-specific care processes. The purpose of this study was to evaluate select care processes at accredited level 1 and level 2 GEDs.

Methods—This was a cross-sectional analysis of a cohort of level 1 and level 2 GEDs that received accreditation between May 7, 2018 and March 1, 2021. We *a priori* selected five GED care processes for analysis: initiatives related to delirium, screening for dementia, assessment of function and functional decline, geriatric falls, and minimizing medication-related adverse events. For all protocols, a trained research assistant abstracted information on the tool used or care process, which patients received the interventions, and staff members were involved in the care process; additional information was abstracted specific to individual care processes.

Results—A total of 35 level 1 and 2 GEDs were included in this analysis. Among care processes studied, geriatric falls were the most common (31 GEDs, 89%) followed by geriatric pain management (25 GEDs, 71%), minimizing the use of potentially inappropriate medications (24 EDs, 69%), delirium (22 GEDs, 63%), medication reconciliation (21 GEDs, 60%), functional assessment (20 GEDs, 57%), and dementia screening (17 GEDs, 49%). For protocols related to delirium, dementia, function, and geriatric falls, sites used an array of different screening tools and there was heterogeneity in who performed the screening and which patients were assessed. Medication reconciliation protocols leveraged pharmacists, pharmacy technicians and/or nurses. Protocols on avoiding potentially inappropriate medication administration generally focused on ED administration of medications and used the BEERs criteria, and few sites indicated whether pain medications protocols had dosing modifications for age and/or renal function.

Conclusion—This study provides a snapshot of care processes implemented in level 1 and level 2 accredited GEDs and demonstrates significant heterogeneity in how these care processes are implemented.

Keywords

Geriatric; Emergency Department; Delirium; Dementia; Falls; Functional Status; Medication Reconciliation; Medication Therapy Management; Potentially Inappropriate Medication list

INTRODUCTION

Over the next three decades, the emergency department (ED) will be greatly impacted by the aging of our population. The United States (US) census projects that by 2030, one in five Americans will be older than 65.¹ As older adults currently account for 10% to 15% of ED visits, and consistently utilize the ED more than younger adults, the aging US demographics will translate into significant growth in ED visits by older adults.^{2–5} However, the conventional ED care model focuses on acute chief complaints and is not designed to address the complexity and geriatric-specific needs related to the health of older adults.⁶ This results in a high rate of inpatient hospitalization admissions for older ED patients, in part due to concern that older adults may have an adverse event if discharged or lack of training in care transitions.⁷

To address the unique emergency care needs of older adults, and to improve and standardize emergency care for this population, the Geriatric Emergency Department Guidelines were published in 2014.⁸ Subsequently, in 2018 The American College of Emergency Physicians (ACEP) launched the Geriatric Emergency Department Accreditation (GEDA) program to further standardize geriatric care and encourage institutions to implement geriatric-specific care processes.^{9,10} Under GEDA, geriatric emergency departments (GEDs) are accredited as Level 1 (gold), 2 (silver), or 3 (bronze) based on adherence to best practices delineated in the GED guidelines and staffing levels⁹. Higher-level GEDs must meet greater requirements with respect to staffing, geriatric-specific care processes, outcome monitoring, equipment, and environmental changes. The GEDA application guide includes 27 potential care processes to improve the emergency care of older ED patients based on the GED guidelines.⁹ Level 1 GEDs, must have at least 20 geriatric-specific care processes, level 2 GEDs must have at least 10, and level 3 GEDs, must have at least one geriatric-specific quality initiative.

We previously reported on growth in accredited geriatric EDs since the launch of the GEDA program.¹¹ The purpose of the current study was to systematically evaluate select care processes at accredited level 1 and level 2 GEDs and describe how these programs have been implemented in these GEDs.

METHODS

Study Design and Setting

This was a cross-sectional analysis of a cohort of level 1 and level 2 (higher level) GEDs that received accreditation between the start of ACEP's GEDA program until March 1, 2021. This was a secondary objective of a previously published study describing the reach and adoption of GEDA.¹¹ As this evaluation did not involve human subjects, the Institutional Review Board (IRB) review was not required. As part of the application process, applicants are asked to sign a data use agreement that includes the use of application data for comparison purposes; one Level 1 GED declined and was excluded from this analysis.

Selection of Participants

We included accredited GEDs that had applied for and received accreditation between May 7, 2018, and March 1, 2021; dates were selected to include GEDA meetings at which Level 1 and 2 GEDs are approved. Review of care processes was restricted to Level 1 and 2 GED applications, as they contain more robust information than Level 3 quality initiatives. Accordingly, level 3 GEDs were excluded from this analysis.

Measurements

Using a consensus-based approach we decided *a priori* to evaluate on 5 GED care processes for this detailed analysis. Senior investigators who were involved in designing this study (SL, CC, UH, AL, LS, NT, KB, MK) voted on which care processes to include. The following care processes received the most votes and were selected for analysis: initiatives related to delirium identification, screening for dementia, assessment of function and functional decline, geriatric falls, and minimizing medication-related adverse events.

Regarding medication-related adverse event care processes, we included 3 of the 27 care processes related to medications: medication reconciliation with a pharmacist, avoidance of potentially inappropriate medications (PIMs)^{12,13} and geriatric pain management. A sample of GED applications was reviewed by senior investigators to identify what could potentially be extracted for each care process from the GED applications and a consensus-based approach was used to identify key data elements to extract across all care processes, as well as process-specific elements. A trained research assistant (IS) extracted the data elements under the supervision of the study investigators. As part of this training, the research assistant reviewed five care processes for each care process in conjunction with a senior investigator to ensure the accuracy of data abstraction. Subsequently, if any questions arose around specific care processes, those care processes were reviewed in conjunction with at least one senior investigator.

Outcomes

For all care processes, we described the tool used or intervention, which patients received the interventions, and which staff members were involved in the care process. For delirium, dementia, geriatric falls, and functional assessment we also categorized responses to positive screens. For delirium care processes, we recorded the timing and frequency of delirium screening. For fall care processes, we determined whether the care process was designed to prevent outpatient falls only or both inpatient and outpatient falls. For care processes utilizing the Identification of Seniors at Risk (ISAR) tool,¹⁴ we extracted the threshold used to define a “positive” screen. For sites with medication reconciliation, we identified when in the hospital course medication reconciliation occurs. Finally, for care processes related to PIMs, we also extracted whether there were changes made to the electronic medical record (EMR) and whether the care processes included renal or age-specific dosing.

RESULTS

Between May 7, 2018 and March 1, 2021 a total of 230 GED accreditations were issued: 15 Level 1, 22 Level 2 and 193 Level 3 GED accreditations. This includes five GEDs that applied for and were accredited as a higher-level GED: three were originally Level 3 GEDs and two were originally Level 2 GEDs. To avoid duplication, for the Level 2 GEDs that upgraded we only reviewed and included the Level 1 GED application. One level 1 GED was excluded from further review due to data use agreement restrictions. The care processes evaluated at the included 35 level 1 and 2 GEDs are summarized in Table 1. Geriatric falls was the most common (31 GEDs, 89%) followed by geriatric pain management (25 GEDs, 71%), minimizing use of potentially inappropriate medications (24 GEDs, 69%), delirium (22 GEDs, 63%), medication reconciliation (21 GEDs, 60%), functional assessment (20 GEDs, 57%), and dementia screening (17 GEDs, 49%).

Delirium

Most Level 1 GEDs (13/14) and about half of Level 2 GEDs (9/21) had a care process related to delirium – all specific to delirium identification. Of the 22 Level 1 and 2 GEDs with delirium care processes, thirteen used a single-step delirium assessment. The most common tools used for delirium assessment were the confusion assessment method

(CAM)¹⁵ and brief CAM (bCAM; Table 2).¹⁶ Two-step processes were used by the remaining nine GEDs, 7 of which used a combination of the delirium triage screen and the bCAM.¹⁶ Delirium screening was typically performed by an emergency nurse assigned to the patient's care (12/22) or by specialized geriatric ED staff, such as a nurse or advance practice provider (APP) with education or training in the care of older adults (6/22). Most GEDs (14/22) screened all geriatric patients for delirium, though there was variability in the age threshold for geriatric determination. Thirteen GEDs screened for delirium only once during the ED encounter, on ED arrival, and six GEDs had criteria for repeat screening based on length of stay. Clinical responses to a positive screen included clinician notification and specific interventions such as pharmacist consultation for medication review and use of order sets to manage delirium and diagnose underlying precipitants (Table 2).

Dementia

Most level 1 GEDs (12/14) and a few level 2 GEDs (5/21) had a care process related to dementia identification. A wide variety of dementia screening tools were used, with the most common being the Mini-Cog and Short Portable Mental Status Questionnaire (SPMSQ; see Table 2).^{17–20} Dementia screening was typically performed by specialized geriatric ED staff (5/17, 29%) or the triage or emergency nurse assigned to the patient's care (9/17) and two-thirds of these GEDs screened all geriatric patients for dementia (11/17). The most common responses to a positive dementia screen included communication to other providers (9/17) and specialty consultation including social work, case management, or outpatient geriatric referral (7/17; Table 2).

Geriatric Falls

Geriatric falls care processes were the most common across all sites: almost all Level 1 GEDs (13/14) and Level 2 GEDs (18/21) had a care process related to decreasing geriatric falls both in the ED and after ED or hospital discharge. Most of these GEDs used a single tool for fall risk assessment (24/31). The most frequently used tools were the Timed Up and Go test (TUGT)^{21,22} and the Morse Fall Scale^{23,24} (Table 2). Fall risk assessment was typically performed by an emergency nurse assigned to the patient's care (18/31) or by specialized geriatric ED staff (6/31). Twenty-one of these GEDs screened all geriatric patients for fall risk, six screened all patients regardless of age, and one GED only screened patients who presented with a fall-related complaint. While many sites specified more than one intervention to prevent falls after discharge, most GEDs (25/31) included physical therapy (PT) consultation as a key intervention.

Functional Assessment/Decline

Most Level 1 GEDs (12/14) and about half of Level 2 GEDs (8/21) had a care process for assessing function and functional decline in older adults. Of these 20 GEDs, 11 used a single tool and 9 used a combination of tools. The most used tools were the ISAR¹³ and Katz Activities of Daily Living (Katz ADLs).²⁵ For the ISAR, there was site variability on the cutoff used to define an abnormal screen though the majority used 2 or higher (Table 2). Functional assessments were predominantly conducted by specialized geriatric ED staff (8/20) or an emergency nurse assigned to the patient's care (8/20). Three GEDs performed functional assessments of all geriatric patients and five GEDs had a two-step

process where all geriatric patients were screened with the ISAR, and patients with an abnormal ISAR screen received a secondary screening (Table 2). Abnormal screens for impaired function frequently triggered ED consultations, including PT, occupational therapy, and case management consultations. Outpatient referrals to therapy were also common.

Geriatric Medication Management

Among Level 1 and 2 GEDs, 21 GEDs had care processes for medication reconciliation by pharmacists (Table 2), 24 GEDs had care processes on avoidance of PIMs, and 25 GEDs had geriatric pain management care processes (Table 2). Of the 21 GEDs that had a medication reconciliation program, medication review was performed primarily by a pharmacist or pharmacy technician at nine of the GEDs. At ten GEDs, medication review occurred either by a nurse or a pharmacist; at some sites the nurse did an initial medication history and a subset of patients had further medication review by a pharmacist, whereas at other sites pharmacist review was dependent on availability. At the remaining two GEDs, a pharmacist, pharmacy technician, physician, APP, and/or a nurse reviewed medication. At most GEDs (13/21), medication reconciliation was conducted during the ED visit. Three GEDs also performed medication reconciliation again upon hospital admission, and three GEDs only performed medication reconciliation for patients being admitted to the hospital. One GED performed medication reconciliation at discharge while three GED performed medication reconciliation both in the ED and again prior to admission. For GEDs with care processes on minimizing PIMs, most used the Beers Criteria¹² or an abbreviated version (20/24 GEDs). The review for PIMs was typically conducted by a pharmacist (11/24, 46%) or physician (3/24, 13%). Ten of the 24 (10/24) GEDs with PIMs care processes made changes to their EMR to help identify or avoid administration of PIMs. Of the 25 GEDs with care processes for geriatric pain management, 12 specified that medication dosages were adjusted based on age or renal function (Table 2).

DISCUSSION

In this cross-sectional study of level 1 and level 2 GEDs the most frequently implemented care processes focused on fall assessments, geriatric pain management, and potentially inappropriate medication. Across all care processes, there was substantial variation in the screening or assessment tools used, who was responsible for performing these care processes (e.g. nurse or advanced practice provider), and responses to abnormal assessments. Our findings have potential implications for the GEDA program and future research into the impact of GEDs.

Within accredited GEDs we found substantial heterogeneity for each care process examined. This likely reflects differences in GED staffing and/or efforts to align GED care processes with inpatient programs rather than selection of tools based on diagnostic accuracy. For instance, for delirium assessment, GEDs with specialized geriatric staff members often opted for an in-depth yet more time-consuming screening tools for delirium. Other GEDs incorporated the same delirium tool used in their inpatient units, which may save time designing EMR changes or streamline inpatient care.²⁶It is notable that for dementia screening, 7 different tools were used across the 17 sites, but none used the Abbreviated

Mental Test (AMT-4) or the Brief Alzheimer's Screen (BAS), though a meta-analysis deemed that the AMT-4 was the most accurate for ruling in and the BAS most accurate for ruling out delirium in the ED setting.²⁷ While diagnostic accuracy is an important consideration when selecting a screening tool, other factors are critical in translating research into practice, including the perceived acceptability of a tool,^{28,29} and this may have influenced GED tool selection.

The variability in geriatric care processes implemented in accredited GEDs may be in part due to lack of guidance from the GEDA program on best practices. The GEDA application guide³⁰ and program do not mandate what instruments or screening tools should be used for specific care processes. While this contributes to heterogeneity, it also enables individual GEDs the flexibility to select and implement care processes that address the unique needs of their patients or draw on institutional strength. The impact of GEDA guidance is best demonstrated through the lens of care processes specific to geriatric falls. GEDs approved in Year 2 of GEDA had more detail in their falls care processes on preventing outpatient falls than GEDs approved in Year 1 because revisions to the GEDA guidance in the second year of the program, clarifying and requiring that all fall-related care processes be designed to prevent outpatient falls. It is also notable that for functional assessment most institutions utilized the ISAR screen or Katz ADLs and no GEDs used a frailty measure though functional assessment is often used synonymously with frailty.³¹ This may be in part because most research into frailty in the ED was published after 2014 GED guidelines,⁸ which form the basis of the GEDA application guide.⁹ Since then, studies have demonstrated that the clinical frailty scale (CFS) is more effective than the Emergency Severity Index in predicting short term mortality, thirty-day and one-year mortality in the ED and a 2020 scoping review of the CFS supports its wide use in multiple settings and utility in the care of adults.³² We anticipate that in future research we will see implementation of the CFS as a screening tool in GEDs to identify which patients would benefit from comprehensive geriatric assessment or involvement of an interdisciplinary team in the ED.³³ One benefit to the ISAR over the CFS, however, is that the different elements of the ISAR assessment could trigger more targeted interventions. For instance, if a patient screens positive for polypharmacy on the ISAR, this could trigger evaluation by a pharmacist. Though more structured guidance from ACEP on preferred screening tools and corresponding interventions would likely decrease the heterogeneity seen in care processes across GEDs, an unintended consequence might be to decrease institutional autonomy and adversely impact staff buy-in, issues with EMR integration and/or and disjointedness from pre-established inpatient processes.

A barrier to adopting more explicit recommendations about what tools and interventions should be implemented in GEDs relates to limited evidence base. More research is needed across varied settings to identify which fall risk assessments tools best predict future falls among ED patients as well as optimal interventions that prevent future falls. One ED-based study demonstrated that pharmacy and PT consultation can reduce ED revisit rates at six months,³⁴ however another pragmatic outpatient study found that its multicomponent fall prevention program did not significantly decrease the rate of serious fall injuries.³⁵ Additional recent literature questions the applicability of the Beers Criteria in the ED, which was used by most GEDs with a care process around minimizing PIMs.³⁶ In GEDs with care

processes centered around medication reconciliation with a pharmacist, less than half had medication reconciliation performed exclusively by a pharmacist or pharmacy technician. Though there is evolving literature demonstrating that presence of a pharmacist in a GED is associated with a greater number of changes made to home medications on discharge³⁷, more research is needed on the impact of pharmacist led medication reconciliation in GEDs on revisit rates, readmission rates or adverse events. Findings that demonstrate improved patient safety and/or value will be critical to gain hospital support to fund robust pharmacist-led medication reconciliation for all ED visits by older adults, not just for patients being admitted. As future evidence delineates more efficacious and cost-effective GED care, we expect to see additional changes in GEDA guidance around these GED care processes.

Of course the heterogeneity of care processes across accredited GEDs will make research into optimal processes inherently challenging, and likely will require leveraging a multicenter research program such as the Geriatric Emergency Care Applied Research Network.³⁸ Better understanding of what tools and interventions in GEDs positively impact patient-centered outcomes, such as physical functioning, cognition, and overall quality of life, and patient experience, and contribute to higher value care will be critical for future revisions to the GED guidelines and GEDA review process, and could result in greater uptake of the GED guidelines by EDs nationally and internationally.

Limitations

There were several limitations of this study. First, data were extracted from applications submitted to ACEP as part of the GEDA application process. GED applications may not have included all geriatric care processes enacted in their ED and/or details about those care processes. In fact, several applications did not include information we *a priori* selected to extract. For instance, one GED with a care process minimizing PIMs did not specify what criteria were used to identify these medications – we are not able to determine whether this was due to lack of detail in the application or lack of use of a validated tool. Another limitation is that data were extracted by a single trained research assistant. All findings were reviewed in conjunction with at least one senior investigator, and this often included a review of source documents. However, the senior investigator did not perform an independent review; therefore, we are unable to report data on inter-rater reliability.

CONCLUSION

This study demonstrates significant heterogeneity among level 1 and level 2 GED for delirium, dementia, falls, functional assessment, and medication-related care processes. The next wave of GED-based research needs to focus what care processes or bundles of care have the most impact on health care utilization, morbidity and mortality and patient-oriented outcomes.

Funding:

This study received funding support from the West Health Institute (La Jolla, CA). The content of this manuscript is solely the responsibility of the authors and does not necessarily represent the official views of West Health (K23AG06128401). Ula Hwang and Christopher Carpenter are supported by the NIH (R33AG058926, R61AG069822). Kevin Biese is supported by the NIH (R61AG069822).

Sponsor Role:

None

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Table 1:

Summary of Select Care Processes Implemented in Level 1 and 2 Geriatric Emergency Departments

| Care Process | Level 1 (n=14) | Level 2 (n=21) |
|-------------------------------------|----------------|----------------|
| Delirium | 13 (93%) | 9 (48%) |
| Dementia | 12 (86%) | 5 (24%) |
| Fall | 13 (93%) | 18 (86%) |
| Functional Assessment | 12 (86%) | 8 (38%) |
| Medication Reconciliation | 12 (86%) | 9 (43%) |
| Potential Inappropriate Medications | 13 (93%) | 11 (52%) |
| Geriatric Pain Control | 14 (100%) | 11 (52%) |

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Table 2.

Details on Implementation of Select Care Processes in Level 1 and 2 Geriatric Emergency Departments

| Sites with delirium-related care processes (n=22) | |
|--|--|
| Tool(s) used (n, %) | Confusion Assessment Method (CAM) alone (5, 23%) brief CAM alone (5, 23%) CAM-ICU alone (1, 5%) Delirium Triage Screen (DTS) + brief CAM (7, 32%) Richmond Agitation Sedation Scale + CAM-ICU (1, 5%) DTS+CAM (1, 5%) 4AT (2, 9%) |
| Who performs screening | Emergency nurse (12, 55%) Specialty trained geriatric nurse or APP (6, 27%) Physician or APP assigned to patient (2, 9%) Combination of providers (2, 9%) |
| Who is screened | All geriatric patients (14, 64%) Subset of geriatric patients (8, 36%) |
| Frequency of screening | Once/on arrival (13, 59%) Multiple times based on length of stay (6, 27%) Not specified (3, 14%) |
| Response to a positive screen | Clinician notification (5, 23%) Specific intervention by nurse or APP (10, 45%) Clinician notification + specific intervention (7, 32%) |
| Sites with dementia-related care processes (n=17) | |
| Tool(s) used | Mini-cog (4, 24%) Short Portable Mental Status Questionnaire (3, 18%) Ottawa 3DY (5, 29%) Montreal Cognitive Assessment (1, 6%) Orientation Memory Concentration Test (1, 6%) Short Blessed Test (1, 6%) AD8 (2, 12%) |
| Who performs screening | Emergency nurse (9, 53%) Specialty trained geriatric nurse or APP (5, 29%) Not Specified (3, 18%) |
| Who is screened | All Geriatric patients (11, 65%) Not Specified (6, 35%) |
| Response to a positive screen | Communication with providers (9, 53%) Consults (7, 41%) Not specified (1, 6%) |
| Sites with fall-related care processes (n=31) | |
| Tool(s) used | Timed Up and Go Test (TUGT) (9, 29%) Morse Fall Scale (5, 16%) Hester Davis Fall Risk Assessment Scale (2, 6%) Hendrich Fall Model + TUGT (1, 3%) Identification of Seniors at Risk (ISAR) + TUGT (1, 3%) John's Hopkins Fall Risk Assessment (2, 6%) Kinder Fall Assessment (2, 6%) Morse Fall Scale + TUGT (1, 3%) Schmid Risk + ABCs (1, 3%) Morse Fall Scale + Nursing Risk Assessment (1, 3%) STEADI+TUGT (1, 3%) CPM Fall Risk (2, 6%) Site Developed Fall Assessment (3, 10%) |
| Who performs screening | Emergency nurse (18, 58%) Specialty trained geriatric nurse or APP (6, 19%) Not Specified (7, 23%) |
| Who is screened | All Geriatric Patients (21, 68%) All Patients (6, 19%) Patients with fall-related complaints (1, 3%) Not Specified (3, 10%) |

| Sites with delirium-related care processes (n=22) | |
|---|---|
| Intent of care process | Prevent outpatient falls only (5, 16%) Prevent ED and outpatient falls (26, 84%) |
| Potential responses to a positive screen to prevent falls after discharge* | PT consultation (25, 81%) Medication reconciliation/Pharmacy consultation (13, 42%) Patient/family education on falls prevention (8, 26%) Home safety evaluation (8, 26%) |
| Sites with care processes on functional assessment/decline (n=20) | |
| Tool(s) used | Identification of Seniors at Risk (ISAR) alone (10, 50%) ISAR + Katz ADLs (5, 25%) Katz ADLs alone (1, 5%) ISAR + Katz ADLs + Lawtons ADLs (2, 10%) Site specific expansion of the Katz ADLs (2, 10%) |
| Threshold to define "positive" ISAR score (n=17, number of sites using ISAR) | 1+ (2, 12%) 2+ score (10, 59%) 3+ (4, 23%) Not specified (1, 6%) |
| Who performs screening | Emergency nurse (8, 40%) Specialty trained geriatric nurse or APP (8, 40%) Not Specified (4, 20%) |
| Who is screened | All geriatric patients (8, 40%) Subset of geriatric patients (5, 25%) Not Specified (5, 25%) All patients 75+ (1, 5%) All patients 70+ (1, 5%) |
| Response to a positive screen | Consult in ED (10, 50%) Outpatient follow-up + consult in ED (9, 45%) Not Specified (1, 5%) |
| Sites with medication reconciliation care processes (n=21) | |
| Time of Medication Reconciliation | In ED (13, 62%) At Discharge (1, 5%) At Admission (3, 14%) In ED and at Admission (3, 14%) In ED and Post Discharge (1, 5%) |
| Who Screens? | Pharmacist/Pharmacy Technician (9, 43%) Pharmacist/Pharmacy Technician and/or nurse (10, 48%) Pharmacist/Pharmacy Technician, physician, APP and/or nurse (2, 10%) |
| Sites with care processes on avoidance of potentially inappropriate medications (n=24) | |
| Tool Used | Beers Criteria or site adaptation of Beers Criteria (20, 83%) Site Specific Care process (1, 4%) Not Specified (3, 12%) |
| Who screens? | Nurse (2, 8%) Physician (3, 12%) Nurse or Physician (2, 8%) Pharmacist (11, 46%) Pharmacist or Physician (1, 4%) Not Specified (5, 21%) |
| When does it occur? | In ED (18, 75%) At Discharge (2, 8%) At Admission (1, 4%) Not Specified (3, 12%) |
| EMR ordering changes for older adults? | Yes (10, 42%) Not Specified (14, 58%) |
| Sites with care processes on geriatric pain control (n=25) | |
| Renal or age-specific dosing? | Yes (12, 48%) Not Specified (13, 52%) |

APP=advanced practice provider

* Exceeds 100% as many sites had multiple responses to a positive screen.

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