



Impact of the Geriatric Emergency Department Post-Discharge Service Orders on 30-Day Emergency Department Revisit and 30-day Hospital Admission

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Background

- Individuals 65 and older account for up to 25% of all emergency department (ED) visits.
- 60% of older patients are discharged home from ED.
- Compared to younger patients, older adults who are discharged home from the ED are at increased risk of adverse health outcomes, including return to the ED, hospitalization, functional decline, institutionalization, and death.
- Up to 20% of patients of older adults who are discharged from the hospital return to the ED within 30 days.

Background

- Concept of Geriatric Emergency Departments (GEDs) emerged about fifteen years ago to aid in meeting the unique needs of elderly adults during ED visits.
- 2014 GED guidelines were published.
 - 2015 - AAH established its first 3 GEDs.
 - 2018 – ACEP accreditation began.
 - 2020 - AAH had 10 accredited GEDs, currently 16.
- GED model specifies staffing, policies, procedures, and follow-up care.
 - Identify at-risk older adults using geriatric specific assessments.
 - Interprofessional coordination of care across providers (nurses, physicians).
 - Ordering and ensuring effective and timely outpatient arrangements for patients discharged back home (ED post-discharge service orders).
- Since 2018, several studies have shown benefits of the GED model of care.
 - Decrease ED LOS, hospital admission from the ED, and cost of care.
- Minimal if any research has identified which GED interventions impact outcomes.

Purpose

The objective of this study was to examine the impact of GED post-discharge service orders on 72-hour and 30-day ED revisit, 30-day all cause and 30-day unplanned hospital admission.

Methods

Design

- Retrospective cohort study.

Sample

- 10 AAH accredited GEDs.
- Patients 65 and older who had an ED encounter at any of the 10 Accredited GEDs who were discharged home between July 2019 and December 2020.
- Inclusion: 28,492 unique older adult patients comprised 51,583 encounters.
- Exclusion: Patients admitted to the ED from a skilled nursing facility.

Methods

Measures

Predictors

- Age
- Sex
- Race
- ED Length of stay
- Identification of Seniors at Risk[®] (ISAR Score)
- Emergency Severity Index (ESI)
- ED discharge service order:
 - order placed during the ED visit for outpatient treatment/intervention
 - post ED discharge

Outcomes

- 72-hour ED revisit
- 30-day ED revisit
- 30-day all cause hospital admission
- 30-day unplanned hospital admission

Methods

Analyses

- Demographic and clinical characteristics were summarized as means (SDs) or frequencies (percentages).
- Bivariate analyses, significant ($p < 0.05$) variables included in multivariate regression models.
- Excluded ED Index encounters from the analyses that did not have an ISAR[®] score documented (sample size for analysis = 38,755).

Results

Demographic and Clinical Characteristics at ED Index Encounter

- ISAR[®] score ≥ 2 (at risk).
- ESI score ≤ 3 (urgent needs).
- Patients averaged 1.7 ED encounters.
- 17% (n=8854) encounters had a service order during the ED visit.

LOS (Mean [SD])	179 minutes [90]
N (%)	
Age	
65-74	14,854 (52.1)
75-89	11,607 (40.7)
90+	2,031 (7.1)
Sex	
Female	16,231 (57)
Male	12,261 (43)
Race	
White	25,743 (90.4)
Black	2,220 (7.8)
Other	529 (1.8)
ISAR [®]	
< 2	22,228 (43.1)
≥ 2	16,610 (32.2)
unknown	12,746 (25.7)
ESI	
<3	12,018 (23.3)
≥ 3	39,503 (76.6)
unknown	62 (<1)

Age, Sex, Race: n = 28,492

ISAR, ESI: n = 51,583

Results

Service Orders Types among Older Adults Discharged from the GED

	N (%)
No service order	42,729 (82.8)
Service order	8,854 (17.2)

Service Type	N (%)
Orthopedics	1,326 (14.9)
Family practice	1,276 (14.4)
Urology	768 (8.6)
Home care	694 (7.8)
Internal Medicine	643 (7.2)
Gastroenterology	540 (6.0)
Physical therapy	537 (6.0)
Cardiology	423 (4.7)
ENT	382 (4.2)
Neurology	310 (3.4)

Results

- 2.9% (n = 1,141) of older adults revisited the ED within 72-hours.
- 19.5% (n = 7,587) of older adults revisited the ED within 30-days.
- 21.7% (n = 8,409) of older adults had an unplanned hospital admission within 30-days.
- 39.6% (n= 15,360) of older adults had an all-cause 30-day hospital admission.

Results

- Post ED service order had a statistically significant association with all four outcomes in the multivariate-adjusted models after controlling for age, sex, race, LOS, ISAR[®].
- Older adults with a service order had a lower risk of:
 - 72-hour ED revisit (Odds ratio = 0.15, 95% CI = 0.06-0.4).
 - 30-day ED revisit (Odds ratio = 0.20, 95% CI = 0.14-0.27).
 - All cause 30-day admission (Odds ratio = 0.08, 95% CI = 0.06-0.11).
 - Unplanned 30-day admission (Odds ratio = 0.17, 95% CI = 0.12-0.23).

Discussion

- Patients who had service orders placed in the ED had lower ED revisits and 30-day hospital admission rates.
- Understanding the association of service order with patient outcomes provides important system level information for improving outcomes for older adults discharged from the ED back home.
- ED processes associated with service orders could be responsible for reduced ED revisits and hospital admissions.
- **Limitations**
 - study conducted within one integrated healthcare system, limits generalizability.
 - common risk factors were included to account for confounders; additional factors may exist that were not included.

Discussion

Practice/Research implications

- Identifying which older adult patients could benefit from outpatient services and ensuring these patients attend appointments.
- Historically, very few service orders were placed in the ED. Progress has occurred evidenced by the 17% of service orders placed and is accelerating.
- Next steps
 - Identify patient population with biggest benefit from service to orders.
 - Develop interventions specific to this population of individuals that will help patients attend their outpatient service ordered.
 - Identify which types of service have the most benefit.

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