Impact of a New Senior Emergency Department on Emergency Department Recidivism, Rate of Hospital Admission, and Hospital Length of Stay

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Study objective: Senior (geriatric) emergency departments (EDs) are an emerging phenomenon across the United States, designed to provide greater comfort for elders, screening for common morbidities, and selective contact with social workers. We hypothesize that the senior ED will reduce recidivism, rate of admission, and hospital length of stay.

Methods: This was a pre/postintervention observational study of seniors (≥65 years) before and after opening of a new senior ED in a large community hospital. Older nonseniors treated during the same periods were included to detect temporal trend bias. Outcomes included admission to the hospital, hospital length of stay, and ED return visits. Cox proportional hazards models, controlling for patient age, sex, triage level, insurance type, admission on the index visit, and hospital length of stay, were used to test association with time to return within 30 and 180 days. Multivariable regression modeling was used to determine whether the intervention was associated with admission on the index visit, and hospital length of stay.

Results: There was no significant difference in time to return within 30 days (HR=1.09; 95% confidence interval [CI] 0.95 to 1.23), 180 days (HR=0.99; 95% CI 0.91 to 1.08), or average hospital length of stay. Risk of being admitted on the index visit was lower for seniors treated in the senior ED compared with the regular ED (Relative Risk=0.93; 95% CI 0.89 to 0.98).

Conclusion: A new senior ED was not associated with reduced ED recidivism or hospital length of stay, but was associated with decreased rate of admission. [Ann Emerg Med. 2014;63:517-524.]

Please see page 518 for the Editor's Capsule Summary of this article.

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SEE EDITORIAL, P. 525.

INTRODUCTION

The US geriatric population is increasing rapidly, and geriatric patients are increasingly high users of emergency services.[1,2] Older patients are more likely to be admitted to the hospital or experience adverse outcomes after visiting an emergency department (ED).[3] Health service use and costs increase with patient age.[4] Returns to the ED are frequent in this population, especially within the first month after index visit,[5] and calls have been made for screening and other interventions that can reduce recidivism in this cohort.[6-8] The ED has thus become an attractive target for modification.[9]

In some patient populations who are high users of emergency care, a case management approach focusing on the core needs of the individuals involved has resulted in improved care, decreased use of health care resources, and decreased cost.[10,11] A specialized senior ED can be seen as an example of this: an acute care interdisciplinary model to identify the distinct needs of the geriatric population.[12] The model used here makes use of screening for high-risk conditions with geriatric-specific instruments, along with initiation of treatment, disposition, and follow-up planning in the ED.[13] In one Australian large-population model that used screening, a decrease in return visits within 4 weeks was observed.[14]

Importance

The senior ED in the current study implemented supplemental education for physicians and nurses, changes to the physical space to make the ED stay more comfortable for older patients, and universal screening of patients for common comorbidities in this age group (Figure 1).

Senior EDs have garnered increasing interest as a means of directly managing the needs of older patients.[15] The goal of a senior ED is to treat the patient's chief complaint while identifying common comorbidities such as depression, delirium, dementia, medication interactions, fall risk, and substance abuse.[16-18]

Editor's Capsule Summary

What is already known on this topic

Some hospitals have opened specialized geriatric "senior" emergency departments (EDs).

What question this study addressed

Can a senior ED reduce return ED visits, admissions, or hospital length of stay as studied in a time-series pre-post design with 2 6-month time blocks and roughly 12,000 patients aged 55 years and older?

What this study adds to our knowledge

There was no change in hospital length of stay or time until a return ED visit occurred, but hospital admissions decreased by 3% after the introduction of the senior ED.

How this is relevant to clinical practice

These findings tentatively suggest that the version of a senior ED examined in this study may slightly reduce hospital admissions for older adults.

The noninferiority of a senior ED using a staff of geriatricians was reported in Italy, caring for nontraumatic, nondemented patients.[19] In the current study, demented patients were included in the senior ED, and they completed assessment tools to the extent that their cognitive abilities allowed. To our knowledge, there are no published studies investigating the effect of using a senior ED, staffed by emergency physicians and nurses, with support from social workers and pharmacists on recidivism, hospital admission, or hospital length of stay.

Goals of This Investigation

The primary purpose of this investigation was to determine whether a new senior ED, caring for patients 65 years and older through case management with specific attention to medication use, activities of daily living, depression, delirium, and alcohol abuse, will result in decreased recidivism, defined as a longer time to return to the ED. Secondary outcomes included evaluation of the number of hospital admissions and hospital length of stay after the new program was established. We hypothesized that the senior ED is associated with decreased frequency of return visits, decreased admissions, and decreased length of stay.

MATERIALS AND METHODS

The Saint Joseph Mercy Health System institutional review board approved this study.

Study Design

We conducted a retrospective pre/postintervention comparison study of 2 cohorts of patients—those aged 65 years and older and those aged 55 to 64 years—presenting to an ED during 2 periods. We evaluated the time to return visit for patients during a 6-month period (October 2009 to April 2010) before the opening of the new senior ED and during a 6-month period after the development of the new senior ED (October 2010 to April 2011). This resulted in 4 groups: seniors in the ED before the senior ED opened, those in the new senior ED, younger patients treated before the senior ED opened, and younger patients treated after it opened. Data were drawn from the study site's Quality Institute for administrative purposes and are not representative of a patient's full chart. No data abstraction was performed because patient information was already deidentified and summarized by the administrative system.

Assessment Tools

Katz Index of Independence in Activities of Daily Living[21]
Geriatric Depression Screen[22]
Confusion Assessment Method[23]
Mini-Cog Mental Status Assessment[24]
Fall Risk Assessment (proprietary)
Short MI Alcohol Screen[25]

Special Accommodations

Physical modification (available in every room or in the ED)

Calendars, clocks, and staff names are in large print and easily visible
Care boards with large print and black markers
Noise reduction strategies
Lighting enhancements (dimmers)
Nonslip flooring
Treatment rooms are free of clutter
Easy-to-use call light and remote
Alternative call light (ie, pillow) if necessary
Adaptive aids for hearing and vision
Written documents, such as discharge instructions, in large print
Walkers and wheelchairs
Blanket warmers
Bedside commodes
Nonskid slippers
Easy-to-use utensils
Menu with increased font size
Increase time availability of food
Grab rails
Comfortable chairs for family members
Step stools with handles

Figure 1. Characteristics of the senior ED.