Emergency Department Utilization: Characterization and Comparison of an Urban Elderly Minority and Non-Minority Population

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Citation

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Abstract

Background: Emergency departments (ED) are common entry points for the healthcare system among elders. Statistics show higher ED utilization among minority elderly.

Objectives: Characterize ED use by elderly minority as compared to non-minority elderly.

Setting: Urban Academic ED

Methods: Retrospective chart review and prospective telephone survey. Elderly patients were defined as age 65 years or older. Minority groups were defined using U.S. Bureau of Census classifications and included African American, American Indian, Asian, Latino, and Pacific Islander.

Results: Three hundred and thirty-two elderly patient charts were reviewed of which 288 (86.7%) were for minority patients and 44 (13.3%) were for non-minority patients. The majority of patients were women (69%) with a mean age of 70.8 ± 6.1. There was a significant difference in the average patient age by race (p=0.008), with the mean age of Caucasians being the highest. A greater percentage of non-minority ED visits were triaged as urgent or emergent as compared with minority groups (79.5% vs. 59.7%, p=0.004) whereas minority patients had a higher incidence of non-urgent triage classifications (34.0% vs. 13.6%, p=0.005). There were no significant differences between the mean number of ED visits between minority and non-minority patients (p=0.40). Despite being Medicare-eligible, more minority patients indicated lack of insurance coverage as the primary reason for seeking emergency care. (p=0.003)

Conclusion: Elderly minority patients tended to be slighter younger and seek care from EDs for less urgent conditions than non-minority elderly patients. Race and ethnicity did not appear to be important determinants of emergency departments use. However, these data suggest that interventions that could provide greater access to primary care and preventive services may favorably impact ED utilization among minority elderly. Further investigation into racial and ethnic disparities regarding insurance coverage despite near-universal coverage by Medicare among an elderly population is also warranted.

INTRODUCTION

The emergency department (ED) is the most common entry point for accessing the healthcare system for older adults. ([1,2,3,4,5])Statistics show that elderly utilize emergency services at a rate much higher than the expected numbers in the population.([6,7]) Data released in 2004 from the National Hospital Ambulatory Medical Care Survey demonstrate that elder patients, age 75 years of age and over, had the highest rate of emergency department visits, approximately 61 visits per 100 persons per year. The national average was only 39 visits per 100 persons per year. The ED utilization rate for African American persons was double that of any other racial group for reasons unclear.([8])

According to the U.S. Bureau of the Census, the Latino population is fastest growing minority group in the United States increasing by more than 50% since 1990. ([9]) Recent

studies have found that lack of health insurance and access to care are major problems for many Latinos. [10,11,12] In fact, the emergency department is the only source of care for many Latino patients.[13,14,15]

Emergency departments serve many secondary functions including that of a safety net provider for individuals without health insurance or access to care.[16,17,18] Disparities in healthcare among various racial and ethnic groups have been well documented in the literature.[19,20,21,22,23,24,25,26] Hargraves et al found that lack of health insurance was the single most important factor in the availability of safety net resources and the opportunity to reduce racial and ethnic disparities in access to care. [27]

Emergency department utilization is considered to be closely associated with a patient's need-for-care characteristics.[28] The purpose of this study was to examine an elderly urban population and to characterize ED use by elderly minority as compared to non-minority elderly.

METHODS

STUDY DESIGN

This was a single-center, retrospective chart review of a convenience sample of 332 patients age 65 years or older presenting to an urban academic emergency department. Approximately 52,000 patients are evaluated in the emergency department annually. The emergency department is located within a largely African American and Latino neighborhood. The study was reviewed and approved by the Institutional Review Board.

PATIENT SELECTION CRITERIA

Elderly patients were defined as age 65 years or older. Minority groups were defined using U.S. Bureau of Census classifications and included African American, American Indian, Asian, Latino, and Pacific Islander.[29,30] Emergency department logbooks were reviewed to identify patients age 65 and older treated in the ED. Chart reviews were completed using a previously validated draft instrument designed specifically by the Society of Academic Emergency Medicine (SAEM) task force for chart review. [31]All elderly patients (defined as age 65 or older) were eligible for participation regardless of presenting complaint. All identifiable data was omitted from final data analysis.

CHART REVIEW INSTRUMENT

The chart review instrument was adapted from a previously validated chart review conducted in six geographically unique emergency departments examining ED perceptions and utilization patterns in an elderly versus non-elderly population.[32] A 20-item chart review was used in this study. The chart review included questions pertaining to the ED visit including patient demographics, presenting complaint, triage acuity level, mode of arrival, and ED length of stay, diagnostic studies performed, disposition, final diagnosis and post-ED visit instructions.

TELEPHONE FOLLOW-UP SURVEY

Telephone questionnaires were adapted from a previously validated survey targeting an elderly ED population. [33] Patients were telephoned within 1 month of their discharge from the emergency department or from the hospital if ED visit resulted in hospitalization. Participants were asked about reasons for ED visit, discharge instructions, and overall ED satisfaction. Telephone surveys were available and conducted in both English and Spanish.

OUTCOME MEASURES

The primary aims of this study were to characterize ED use by elderly minority as compared to non-minority elderly. Specifically, to determine if significant differences exist regarding ED presentation, evaluation, and disposition in minority versus non-minority elderly patients. For patients discharged from the ED, discharge instructions and follow-up recommendations/arrangements were noted.

STATISTICAL ANALYSIS

Statistical analysis was conducted using SPSS 11.5. [34] Frequency counts and Chi-square p-values were calculated for categorical variables and one-way ANOVA was used to compare mean values between individual races.

RESULTS

A total of 332 charts were reviewed of which 288 (86.7%) were for minority patients and 44 (13.3%) were for non-minority patients. The study participants appeared to be an accurate reflection of the surrounding geographic area of the medical center with equal percentages of Latinos and African-Americans (43% respectively). The majority of patients were women (69%), and the mean age of the patient population was 70.8 ± 6.1. There was a significant difference in the average patient age by race (p=0.008), with the average age of Caucasians being the highest (73.3±6.8). (Table 1)

A greater percentage of non-minority ED visits were triaged

as urgent or emergent as compared with minority groups (79.5% vs. 59.7%, p=0.004) whereas minority patients had a higher incidence of non-urgent triage classifications (34.0% vs. 13.6%, p=0.005). Patients classified as urgent or emergent upon triage were no more likely than non-urgent patients to have a medical (p=0.08), surgical (p=0.33), injury (p=0.19), psychiatric (p=1.00), or more than one presenting complaint (p=0.28).

The majority of presenting complaints were medically-related. There was a significant difference in the number of surgical complaints between racial groups (p=0.018), with 7.8% of Latino patients having a surgical complaint as compared to 0.7% and 2.3% of black and white patients, respectively. Approximately 4% of patients had multiple complaints however there was no significant racial or ethnic differences noted.

Co-morbidities were reviewed. Approximately 9% percent of the study population had no co-morbidities noted on review, however there was a significant difference in the presence of co-morbidities by racial group (p=0.041). The prevalence of hypertension and chronic obstructive pulmonary disease (COPD) varied significantly by race (p=.003 and p=.008 respectively), with the highest prevalence of hypertension in African Americans (57.8%). There was also a significant difference in the prevalence of prior cerebrovascular accidents by race (p=0.046), with Caucasians having the highest prevalence (15.9%). (Table 2)

There were no statistically significant differences in laboratory testing (p=0.33) or mean number of ED diagnoses per patient (p=0.99). There was not a significant difference for any disposition between racial groups, and a total of 196 patients (59%) were discharged from the ED. (Table 3)

The second half of the study involved a telephone follow-up with the patient within a month of discharge from the ED or, in admitted patients, within one week of hospital discharge. Patient motivation for seeking care in the ED varied significantly by race with respect to patient beliefs of better care in the ED (p=0.00), issues regarding insurance coverage (p=0.003), and inability to afford care at an office or clinic (p=0.00). The highest percentage of patients stating they thought they would receive better care in the ED was amongst Latino patients (58.2%). Similarly, the highest percentage of patients stating insurance coverage concerns as a reason to seek care in the ED was amongst Latino patients (17.0%) as was the inability to afford care at an office or clinic (22.0%). The mean number of ED visits within one month was 1.8 ± 1.5, with no significant differences by race (p=0.503). There were also no significant differences with respect to discharge or follow-up instructions provided to patients. (Table 4)

DISCUSSION

The population of the United States is aging, and the elderly population is among the largest growing group.[35] Emergency department utilization by elderly patients has increased in recent years.[36,37,38,39]. Data from the Federal Interagency Forum on Aging-Related Statistics finds that in addition to aging, the older population is also growing more diverse.[40] This data supports and reinforces previous findings regarding emergency department use among older patients especially minority elderly.

Past studies have compared ED utilization between elderly and non-elderly patient populations.[41,42,43,44,45] Ettinger et al, found that elderly patients had a significantly lower proportion of nonurgent diagnoses than nonelderly patients.[46] Singal, et al report similar findings of higher acuity level among elderly patients. [47] Baum et al, found that older patients were also more acutely ill on ED presentation.[48] Only a few studies have studied racial or ethnic differences among an older emergency department population. In our study, we found a higher incidence of nonemergent complaints among minority elderly. These findings are in agreement with a previous study evaluating injury/trauma complaints in an elderly ED population. Schwartz et al, found that blacks had an increased number of ED visits for less acute injuries as compared to whites.[49] In addition these findings support previous studies that minority groups are less likely to receive routine health care in physicians offices' and outpatient clinics, and suggest that access to primary care for minority elder remains an active public health issue influencing ED utilization rates.[50,51,52]

Emergency departments are essential components of a health care system by complementing the process of individualized care for patients. However, studies show that a sizeable portion of inner city emergency department visits are directly related to health disparities. [28,53,54,55,56,57,58,59,60] Many emergency departments serve as the primary providers of nonurgent primary care to under and uninsured patients. Despite increasing national attention to eliminating health disparities, the Center for Studying Health System Change (HSC) found that African Americans and Latinos continue to

have less access to regular primary care as compared to whites.[61] Several studies have suggested that attempts to eliminating racial and ethnic health disparities will be largely ineffective unless gaps in minority health insurance are addressed. [62,63,64,65,66,67] In our study we found that while there were no significant differences in the number of ED visits per month among elderly patients of all racial and ethnic backgrounds, there were statistically significant differences among reasons for seeking emergency care. Among Latino elderly, a significant portion indicated insurance coverage or inability to pay for office visits as the primary reason for their ED visit as compared to non-minority elderly. This is particularly concerning among an elderly patient population who is Medicare-eligible. Although study participants were not specifically asked about their understanding of Medicare and eligibility, these findings are in support of other literature that suggests that race and ethnicity are not the important determinants of emergency departments use; however, issues affecting access to care and insurance coverage play greater roles in ED utilization patterns.[68,69] A recent study published in 2006 by the Division of Health Interview Statistics for the Centers for Disease Control and Prevention found that in spite of near-universal coverage by Medicare, racial/ethnic disparities persist in use of preventive services among an elderly population and suggest further research should focus on potential cultural and structural barriers among a high-risk population.[70,71,72]

LIMITATIONS

Our study has several important limitations. The study is a retrospective review performed in a single emergency department. This may significantly bias the results toward our institution-specific culture and thus may not be generalizable to other institutions. In addition, the sample size represented a small percent of potentially eligible elderly patients. Continuous data collection over a longer period of time would decrease the likelihood of selection bias and increase the external validity of this study. To confirm and generalize the results, a multicenter study is needed.

CONCLUSION

Elderly minority patients tended to be slighter younger and seek care from EDs for less urgent conditions than non-minority patients. The patterns noted in this study suggest opportunities to address issues surrounding insurance coverage among a Medicare eligible minority population along with interventions for improving access to primary care may have a favorable impact on emergency department utilization rates. Targeting of any intervention program with a goal of redirecting appropriate care is likely to be of great benefit to minority elderly who rely on emergency departments for primary care needs.

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