Rates of Outpatient Emergency Department Visits for Low Severity Conditions among Medicare Beneficiaries

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INTRODUCTION

Emergency Departments (EDs) are important gateways to health care in the United States and providers of services to all persons regardless of insurance or ability to pay. From 2001 to 2008, the number of ED visits increased by 1.9% per year, a rate 60% faster than population growth.

A major factor in increased ED use is declining access to primary care. Most patients who visit the ED lack an alternative; 4 of 5 patients who contacted a health care provider prior to the ED visit were advised to seek care there. Increased demand for medical care places an extra burden on clinical practices, making appointments difficult to obtain. EDs, convenient and accessible, are an attractive alternative to obtain care without an appointment. Despite an increase in ED visits, the number of emergency departments decreased 9% from 1996 to 2006 resulting in emergency department crowding.

Considerable geographic variation exists in the use of EDs, as with utilization of other health services. The number of providers and the availability of outpatient clinic appointments may also vary at the local level. Population characteristics such as median income, percentage of uninsured population and home ownership, have been identified as factors associated with ED use, but health care habits and preferences may play a role in rates of ED use by community. Patient attitudes and education about different levels of care also differ widely across geographic areas.

The main goal of this study was to understand geographic patterns and identify important factors in the rate of low severity ED visits among Medicare beneficiaries at the hospital referral regions (HRRs) level. Understanding driving factors of ED visits for low severity conditions among Medicare beneficiaries may alleviate ED crowding and improve quality of care in US emergency departments.

METHODS

Study Design and Population: This study involved secondary data analysis of the 2012 Geographic Variation Database (GVDB), a collection of files containing 100% Medicare claims, geographic identifiers, health status, quality and payment data. The GVDB was used to identify ED visits, revenue center codes from Medicare Part B (PTB) institutional claims for fee-for-service (FFS) beneficiaries.

Classification of Severity: Primary International Classification of Diseases, Ninth Revision (ICD-9), diagnosis codes from PTB claims were used to categorize visit severity using a validated algorithm (Billings, Parikh & Mijanovich, 2000).

Low severity visits were considered those in which the probability that ED care was needed was 0%. In other words, the sum of the probabilities that the visit was non-emergent (care not required <12 hours) or emergent, but primary care treatable (care needed <12 hours, but could be primary care) was 100%. The 2012 rate of low severity ED visits was calculated within HRR using the count of low severity visits divided by the total number of classified outpatient ED visits for providers within each of the 306 HRRs.

HRR level characteristics considered included average hierarchical condition category (HCC) risk score of beneficiaries, average age of beneficiaries, percent of Medicare-Medicaid beneficiaries, percent of beneficiaries with a current reason for Medicare eligibility of disability or end-stage renal disease (ESRD), and 2012 median income for the HRR.

RESULTS

Nationally, 12.3 million (76.0%) ED visits were classified; a total of 1,064,459 (6.6%) were categorized as low severity (Table 1). Rates at the HRR level ranged from 4.5% in McAllen, TX to 8.9% in Lynchburg, VA and varied by geographic location (Figure 1).

The highest rates were observed in the eastern United States, along with HRRs in Louisiana, Mississippi, and Michigan (Figure 2). Lower rates occurred in the Midwest and northwestern HRRs.

Rates of low severity ED visits were significantly, positively correlated with the average HCC score (r=0.12, p=0.04), percentage of beneficiaries with current reason for enrollment of disability or ESRD (r=0.27, p<0.01), and percentage of Medicare-Medicaid enrollees (r=0.20, p<0.01) at the HRR level. Conversely, a significant negative correlation was found mean age (r=-0.21, p<0.01). No evidence of significant correlation was observed with HRR median income (Figure 3).

CONCLUSIONS

In 2012, 6.6% of ED visits involved treatment of low severity conditions with rates varying across HRRs. Factors found to be significant in HRR rates of low severity ED visits were percent of dual eligible beneficiaries, reason for eligibility, age and average HCC risk score.

IMPLICATIONS

Determining rates of emergency department usage for low severity conditions among Medicare beneficiaries will help to identify areas of reduced access to primary care services. Understanding factors driving the use may inform initiatives to increase the cost effectiveness and improve the quality of care for Medicare beneficiaries.

Table 1: *Number and Percent of Outpatient ED visits by classification in 2012*

All Visits	16,158,310	100.0%
Unclassified	3,885,115	24.0%
Injury/Trauma	3,258,349	20.2%
Psychiatric	454,487	2.8%
Alcohol	104,354	0.6%
Drug	27,704	0.2%
Classified	12,273,195	76.0%
Low Severity	1,064,459	6.6%

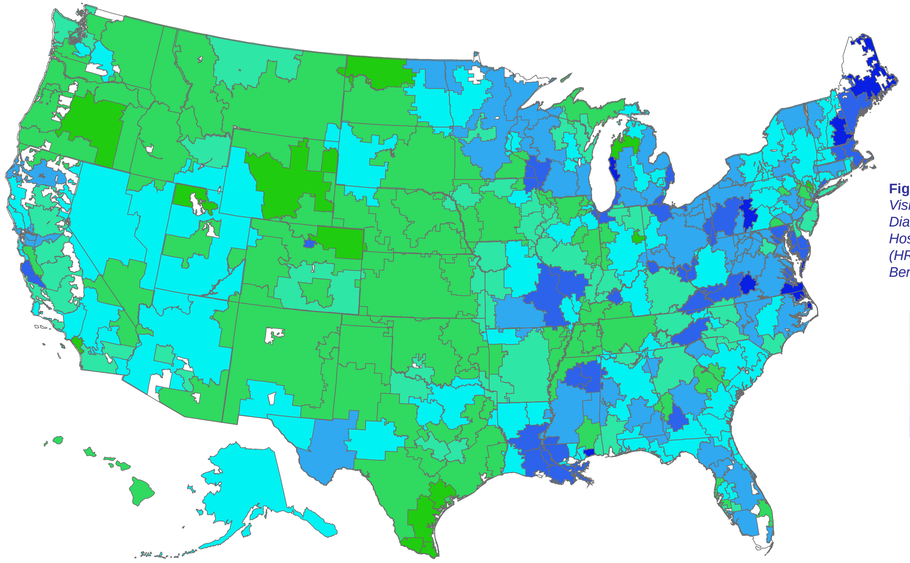


Figure 1: *Percent of ED Visits for Low Severity Diagnosis Groups by Hospital Referral Region (HRR) for Medicare Beneficiaries in 2012.*

Figure 2: *HRRs with the Highest Percentages of ED visits for Low Severity Conditions - 2012.*

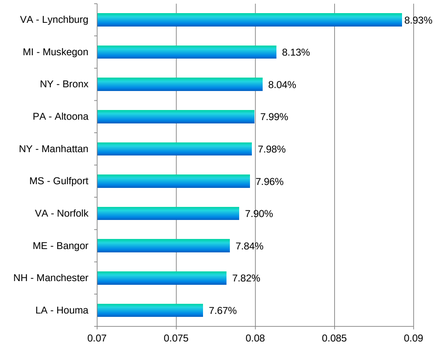
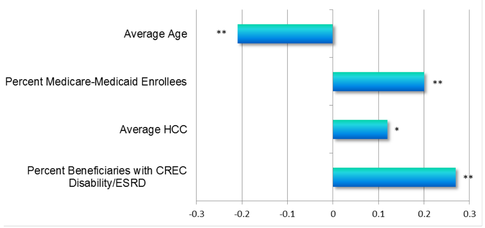


Figure 3: *Characteristics of HRRs Significantly Correlated with Rate of ED Visits for Low Severity Conditions - 2012.*



*p<0.05, **p<0.01

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