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CHARACTERISTICS OF MEDICAID-COVERED EMERGENCY DEPARTMENT VISITS MADE BY NONELDERLY ADULTS: A NATIONAL STUDY

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☐ **Abstract—Background: The Affordable Care Act has added millions of new Medicaid enrollees to the health care system. These patients account for a large proportion of emergency department (ED) utilization. Objective: Our aim was to characterize this population and their ED use at a national level. Methods: We used the 2010 National Hospital Ambulatory Medical Care Survey (NHAMCS) to describe demographics and clinical characteristics of nonelderly adults (≥18 years old and ≤64 years old) with Medicaid-covered ED visits. We defined frequent ED users as individuals who make ≥4 ED visits/year and business hours as 8 AM to 5 PM. We used descriptive statistics to describe the epidemiology of Medicaid-covered ED visits. Results: NHAMCS included 21,800 ED visits by nonelderly adults in 2010, of which 5,659 (24.09%) were covered by Medicaid insurance. Most ED visits covered by Medicaid were made by patients who are young (25 and 44 years old) and female (67.95%; 95% confidence interval [CI] 66.00–69.89). A large proportion of the ED visits covered by Medicaid were revisits within 72 h (14.66%; 95% CI 9.13–20.19) and from frequent ED users (32.32%; 95% CI 24.29–40.35). Almost half of all ED visits covered by Medicaid occurred during business hours (45.44%; 95% CI 43.45–47.43). Conclusions: The vast majority of Medicaid enrollees who used the ED were young females, with a large proportion of visits occurring during business hours. Almost one-third of all visits were from frequent ED users.** © 2015 Elsevier Inc.

☐ **Keywords—Medicaid; emergency visits; frequent use**

INTRODUCTION

Adult nonelderly Medicaid enrollees account for the largest proportion of the increasing number of annual emergency department (ED) visits (1). These patients are at high risk for being frequent ED users (i.e., ≥4 ED visits/year); in a single-center study, 1 in 12 Medicaid enrollees, was identified as a frequent ED user (2–4). Previous studies describing the adult Medicaid population have found that they are more likely than those with private insurance to face barriers in accessing outpatient care on an urgent basis (1,3,5,6). Medicaid enrollees who are frequent ED users also have a high burden of chronic conditions.

Interest in curtailing the rate of ED utilization in the Medicaid population exists on a national level. A recent Center for Medicare and Medicaid Services (CMS) bulletin urged states to reduce nonurgent use of the ED and to focus on providing the appropriate care in the appropriate setting (7). This bulletin highlighted three strategies to deliver appropriate care in the most

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appropriate settings: broaden access to primary care settings, focus on frequent ED users, and target needs of people with behavioral health problems (7). In addition, 7 U.S. states are currently receiving funding from The National Governor's Association to develop and implement programs aimed at decreasing ED utilization by individuals with Medicaid insurance (8).

Finally, the implementation of the Affordable Care Act (ACA) added millions of new individuals to the Medicaid system. Accordingly, an understanding of the characteristics of the Medicaid population, especially in the context of ED use, would prove invaluable to providing policy makers and clinicians the insight necessary to address these patients' unique health care needs (9). In this study, we evaluate national ED visits made by Medicaid enrollees and their sociodemographic characteristics and clinical characteristics.

METHODS

Study Setting and Data Source

We analyzed data from the 2010 National Hospital Ambulatory Medical Care Survey (NHAMCS) (10). The NHAMCS is an annual, national probability sample of ambulatory visits made to nonfederal, general, and short-stay hospitals conducted by the Centers for Disease Control and Prevention and National Center for Health Statistics (NCHS). The multistage sample design consists of three stages for the ED component: 112 geographic primary sampling units (PSUs) that comprised a randomly selected subsample of PSUs from the 1985 to 1994 National Health Interview Surveys; approximately 480 hospitals within PSUs; and patient visits within emergency service areas. It excludes federal, military, and Veteran Affairs facilities in the United States (10).

The 2010 NHAMCS data sources included 373 participating hospitals (unweighted sampling response rate of 90%) and a total of 34,936 patient visits to the ED (10). As a publicly available dataset without patient identifying information, this study was exempt from review by the Colorado Multiple Institutional Review Board. Among all patient visits to the ED included within NHAMCS, we excluded patients who were younger than 18 years of age (n = 8,015 [22.94%]) or older than 64 years of age (n = 5,121 [14.66%]), to focus on adult nonelderly Medicaid enrollees. We also excluded patients who did not have Medicaid, the NCHS insurance hierarchy (n = 16,141). Those with both Medicare and Medicaid (dual eligible) are grouped under Medicare and therefore were not included in analysis. The final study cohort included 5,659 visits, representing an estimated 19,413,665 national, nonelderly adult ED visits.

Sociodemographic Variables

Sociodemographic variables included age, sex, race/ethnicity, insurance status, homelessness, percent poverty in patient's ZIP code, and percent of adults with a bachelor's degree in the patient's ZIP code. Age was classified into three groups: 18 to 24 years, 25 to 44 years, and 45 to 64 years. The NHAMCS distinguishes race/ethnicity as white non-Hispanic, black non-Hispanic, Hispanic, and other Non-Hispanic. Insurance type was classified as either private insurance or Medicaid. ZIP code and U.S. Census Bureau definitions were used to categorize percent of poverty in the patient's area of residence.

Health Care Utilization

The following ED health care utilization variables were obtained from NHAMCS: seen in the ED in the last 72 h, discharged from any hospital within the last 7 days, frequency of ED use within the past 12 months, reason for ED visit (new condition or follow-up visit), arrival to the ED via ambulance, arrival to the ED during business hours, and ED visit on week day vs. weekend. Business hours were defined as Monday through Friday between 8 AM and 5 PM. All other times were considered nonbusiness.

Clinical Variables

Clinical characteristics included triage acuity level, defined by the estimated severity index (ESI) system and chronic medical conditions (defined per NHAMCS as cerebrovascular disease, congestive heart failure, conditions requiring dialysis, and diabetes). In brief, ESI is a standardized way to categorize the acuity level of the ED visit. We recoded ESI into four categories: emergent (ESI 1 and 2), urgent (ESI 3), nonurgent (ESI 4 and 5), or missing. We used Clinical Classification Software (CCS) to classify the first, second and third ED diagnosis ICD-9 codes into a broad CCS category. Any of the following were considered an ED mental health diagnosis: adjustment disorders (650), anxiety disorders (651), attention-deficit, conduct, and disruptive behavior disorders (652), mood disorders (657), personality disorders (658), schizophrenia and other psychotic disorders (659), alcohol-related disorders (660), substance related disorders (661), suicide and intentional self-inflicted injury (662), or screening and history of mental health and substance abuse (663) (11).

ED Care Variables

ED care variables included consultant utilization, mental health provider utilization, and admission to the hospital from the ED.