Predictors of Pediatric Emergency Department (ED) Visits for the Acute Ambulatory Care Sensitive Conditions (ACSC)

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Introduction

The purpose of this paper was to estimate the factors associated with the pediatric Emergency Department (ED) visits for the acute ambulatory care sensitive conditions (ACSC).

Data

We conducted a retrospective cross-sectional analysis of ED visits for pediatric ACSC over the years 2016-2019. We used the Healthcare Cost and Utilization Project (HCUP), State Emergency Department Databases (SEDD) discharge records for Arizona, Florida, Kentucky, Maryland, Nebraska, New Jersey, North Carolina, Oregon, Rhode Island, Vermont, and Wisconsin.

Population

Children 0-17 years of age.

Method

To determine ACS conditions, we used the ICD-10 codes provided through the AHRQ Pediatric Quality Indicators. Main outcome measure was the binary indicator for visits for ACS acute conditions that include gastroenteritis and urinary tract infections. Logistic regression model was used to predict visits for ACSC based on patients' demographic, insurance status, income, and rurality. We controlled for year, state and the number of procedures coded on the discharge record. P-values of <.05 were considered statistically significant. All analyses were performed by Stata 17.

Findings

Of over 21 million pediatric ED visits in the selected states from 2016 to 2019, almost 4% were for acute ACSC. Children ages 5-11 were 1.10 times more likely to visit ED when compared to ages 0-4 (adjusted odds ratio [aOR]: 1.10; confidence interval [CI]= 1.09-1.11). The young teens (12-14) and teenagers (15-17) were respectively 0.59 (aOR:0.59; CI=0.58-0.60) and 0.90 (aOR:0.90; CI=0.89-0.91) times less likely than reference group to visit ED for acute ACSC. Girls were 2.29 (aOR:2.29; CI=2.27-2.30) more likely than boys to visit ED. Patients with Medicaid, other public insurance, or no insurance were more likely than privately insured to have ED, respectively (aOR:1.12; CI=1.10-1.13), (aOR:1.20; CI=1.19-1.21), and (aOR:1.10; CI=1.08-1.11). Likewise, Hispanic, Asian or Pacific Islander, and multiracial patients were also more likely to present for an ACS condition when compared to the White patients, respectively (aOR:1.37; CI= 1.36- 1.38), (aOR:1.14; CI=1.12-1.16), and (aOR:1.10; CI=1.09-1.12). Black patients were less likely than Whites to have ED visits due to ACSCs (aOR:0.93; CI=0.92-0.94). When compared to large central metropolitan area, patients in non-core (rural), large fringe metro and medium metro were more likely to have ED visits for an acute ACS condition, respectively (aOR:1.10; CI=1.09-1.12), (aOR:1.37; CI=1.36-1.38), and (aOR:1.14; CI=1.12-1.16). The findings further showed that children in the lower household income was more likely to visit ED for acute ACSC when compared to the wealthiest, moving from wealthier to poorest: (aOR:1.08; CI=1.09-1.12), (aOR:1.14; CI=1.13-1.15), and (aOR:1.22; CI=1.21-1.23).

Conclusions

Our findings showed that younger age patients, girls, publicly insured and uninsured patients, patients from rural and large fringe metro area, Hispanic, Asian or Pacific Islander, and multiracial patients, and patients from the lower household income are most at risk for ED visits for acute ACSC.

Implication for Policy or Practice

Better access to primary and outpatient care for the identified patients could reduce ED visits for acute ACSC.

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