Relationship between Health Insurance Coverage and Childhood Asthma-related Outcomes

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Abstract
Recent research has shown that healthcare coverage is related to diagnosis of asthma and treatment, including asthma-related hospitalizations. However, one study found that emergency department (ED) visits by black children are not attributable to different types of health insurance coverage. We studied the relationship between type of insurance and medication use among children aged 18 years of age. Data from the 2005 and 2006 North Carolina Child Health Assessment Monitoring Program (CHAMP) Surveys were used for bivariate and multiple logistic regression analyses to determine predictors of three asthma management behaviors. Children who currently had asthma and with public insurance were significantly more likely to report an ED/urgent care visit than those with private insurance. No significant relationships were found between type of insurance and rescue medication usage. Even after controlling for age, gender, and race, the results show that the relationship between type of insurance coverage and childhood asthma management behavior varied depending on the current status of the child’s asthma.

Conclusions
Children who currently had asthma and with public insurance were significantly more likely to report an ED/urgent care visit than those with private insurance. No significant relationships were found between type of insurance and rescue medication usage. Even after controlling for age, gender, and race, the relationship between type of insurance coverage and childhood asthma management behavior varied depending on the current status of the child’s asthma.

TABLE 1: Descriptive Statistics 2005 & 2006 CHAMP Survey CHILDREN 2-17 WITH CURRENT ASTHMA

<table>
<thead>
<tr>
<th>Type of Insurance</th>
<th>Daily Use of Asthma Meds</th>
<th>Use of Rescue Meds</th>
<th>ED Visit in Last 12 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private</td>
<td>119 (23.8)</td>
<td>88 (17.6)</td>
<td>121 (24.2)</td>
</tr>
<tr>
<td>Medicaid, Carolina ACCESS, Health Check, or South Care</td>
<td>120 (24.0)</td>
<td>92 (18.4)</td>
<td>126 (25.2)</td>
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TABLE 2: Independent and Control Variables Cross-Tabulated with Dependent Variables 2005 & 2006 CHAMP Survey CHILDREN 2-17 WITH CURRENT ASTHMA

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Methods
- Sources of data: 2005 and 2006 North Carolina Child Health Assessment Monitoring Program (CHAMP) Surveys
- Variables of interest:
  - Prevalence: lifetime prevalence, current prevalence
  - Insurance coverage: type of coverage
  - Asthma-related outcome: emergency department/urgent care visits, use of medications
- Analysis:
  - Binary and multiple logistic regression: to determine predictors of three asthma management behaviors
  - Control for: age, gender, race

Background
"Millions of Americans do not have health insurance coverage. Persons with chronic diseases are especially at risk of bad outcomes" – Health Workshop on State Health Coverage Initiatives & Chronic Disease, Council of State Governments 2007 Spring Meeting, June, 2007

Introduction
In North Carolina and for the U.S., children under the age of 18 are more disproportionately affected with asthma than persons aged 18 and older and demonstrate higher rates of prevalence and other management behaviors.

Study objective: To examine the relationship between type of insurance and medication use among children aged 2–17 years of age with current asthma

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- North Carolina DHHS Public Affairs

The authors dedicate this presentation in memory of Janet Reaves.

1Private Insurance Plan or State Employee Health Plan
2Medicaid, Carolina ACCESS, Health Check, or South Care

* P < .01
** P < .001

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