## Background

Asthma care and resource utilization are major public health issues.

- In the U.S., about 8 million adults and 6.7 million children (10%) children, accounting for over 425,000 hospitalizations, 2.8 million emergency department (ED) visits or hospitalizations (5%) visits and 10.6 million physician office visits annually.

- Total annual asthma expenditures in 2001 were estimated at $13 billion of which nearly $3.2 billion were for drugs.

- Lim et al. in a Mayo Clinics based employee insurance program found that 28% of patients with persistent asthma identified with Health Plan Employer Data Information Set (HEDIS) measures were uncontrolled when surveyed with the Asthma Control Test (ACT).

- To our knowledge the frequency of uncontrolled asthma in a population enrolled in a Medicaid managed care program has not been assessed.

## Methods

### Study Timeline

**Retrospective Study of NYS OHIP Administrative Claims Data**

- **Study Start Date**: 7/31/2005 - 7/1/2006
- **Inclusion Criteria**
  - 19,674 patients (29.7%) met criteria for uncontrolled asthma defined as ongoing ED or hospital outpatient (OP) visits and 10.6 million physician office visits.
  - 80,648 patients (12 months continuous eligibility criteria).

### Study Population Parameters

- Claims and encounter data were retrospectively obtained from the NYS OHIP Medicaid Encounter Database System II.
- Included all patients with at least 12 months of continuous enrollment.
- Study only includes the unique cases defined as the number of patients primary care provider visit, asthma medication or ED visit, or asthma prescription within the study period.
- Pharmacy, institutional, and professional encounter and claims data were then analyzed for the subsequent 12 months.

### Inclusion Criteria

- Age 5 years or older as of July 30, 2005 with ICD-9-CM codes of 493.9, 493.1, 493.2, 493.3.
- Persistent asthma (modified HEDIS criteria).
- A total of 81,295 (493.9, 493.1, 493.2, 493.3) managed care patients were identified to have persistent asthma using a modified HEDIS definition.

## Results

### Uncontrolled Asthma Population – Breakdown by Criteria Applied

- **Table 1. Age, Gender, and Race/Ethnicity**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Total Population</th>
<th>Asthma Medication Defined (n=49,486)</th>
<th>Controlled Asthma (n=19,479)</th>
<th>Uncontrolled Asthma (n=29,750)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2 years</td>
<td>26,572</td>
<td>11,736</td>
<td>8,852</td>
<td>2,884</td>
<td>0.0001</td>
</tr>
<tr>
<td>2-4 years</td>
<td>26,477</td>
<td>9,766</td>
<td>6,746</td>
<td>3,020</td>
<td>0.0000</td>
</tr>
<tr>
<td>4-6 years</td>
<td>26,573</td>
<td>12,172</td>
<td>8,466</td>
<td>3,706</td>
<td>0.0000</td>
</tr>
<tr>
<td>6-8 years</td>
<td>26,578</td>
<td>10,240</td>
<td>6,568</td>
<td>3,672</td>
<td>0.0000</td>
</tr>
<tr>
<td>8-12 years</td>
<td>26,576</td>
<td>10,139</td>
<td>6,760</td>
<td>3,379</td>
<td>0.0000</td>
</tr>
<tr>
<td>&gt;8 years</td>
<td>26,579</td>
<td>12,040</td>
<td>8,175</td>
<td>3,865</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

### Methods (continued)

- New York State Office of Health Insurance Programs (NYS OHIP)
- Managed care plans issue preventive health care and provide services with a medical home.

- Enrollment in the New York State Medicaid Managed Care (NYS MMC) was over 14.9 million as of July, 2008, limited to those enrolled for at least 12 months and who were at least 5 years of age as of July 1, 2006.

- This study focuses on enrollees in the NYS MMC between August 1, 2005 through July 31, 2007.

### Objectives

- To determine the prevalence of uncontrolled asthma and its effect on health services utilization in patients with HEDIS defined persistent asthma.

### Methods

- **Study Population**
  - Claims and encounter data were retrospectively obtained from the NYS OHIP Medicaid Encounter Database System II.
  - Included all patients with at least 12 months of continuous enrollment.
  - Study only includes the unique cases defined as the number of patients primary care provider visit, asthma medication or ED visit, or asthma prescription within the study period.
  - Pharmacy, institutional, and professional encounter and claims data were then analyzed for the subsequent 12 months.

- **Inclusion Criteria**
  - Age 5 years or older as of July 30, 2005 with ICD-9-CM codes of 493.9, 493.1, 493.2, 493.3.
  - Persistent asthma (modified HEDIS criteria).
  - A total of 81,295 (493.9, 493.1, 493.2, 493.3) managed care patients were identified to have persistent asthma using a modified HEDIS definition.

## Conclusions

- The overall prevalence of uncontrolled asthma in this Medicaid managed care population was estimated at 29.7%.
- Females were less likely to be controlled than males.
- Older patients were less likely to be controlled than younger asthmatics.

- The need for encephaloplastic issue was nearly 4 times greater in uncontrolled asthma.
- Only 54% of patients with uncontrolled asthma filled a total of 8 or more controller medication prescriptions over a 12-month period of time.

- Schatz et al. found that higher controller medication controller medication ratios were associated with better patient-centered outcome as well as with reduced ED and hospital utilization – consistent with our findings.

## References