Racial/Ethnic Disparities in Asthma among Adults in North Carolina

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“One of our priorities in the Office of the Surgeon General is Eliminating Health Disparities.”

“All Americans – regardless of their race, heritage, age or gender – should have access to good health information and health services.”

“And asthma disparities are rampant.”

Recent data on the burden of asthma in N.C. show that racial/ethnic minorities are disproportionately affected by asthma.

**Study objective:** To investigate disparities between whites, African Americans, Native Americans, and Hispanics with respect to asthma prevalence and mortality, and selected asthma-related behaviors.
Sources of data: 2005 and 2006 North Carolina Behavioral Risk Factor Surveillance System data for adults 18 years and older

Variables of interest: lifetime prevalence, current prevalence, asthma episodes, inhaler use, asthma medication use, emergency department visits, healthcare provider visits
Test for differences between groups: logistic regression models

Determine differences in mortality: examination of 1999-2006 vital statistics from N.C. State Center for Health Statistics
Native Americans had the highest lifetime and current prevalence rates
Asthma Episodes/Attacks

- Native Americans had the highest asthma episode/attack rate

![Bar chart showing the percentage of reported asthma episodes/attacks by race/ethnicity in North Carolina from 2005-2006. Native Americans have the highest rate at 57.4%.]
Use of Asthma Inhaler

Native Americans had the highest asthma inhaler use rate

Reported Asthma Inhaler Use during Past 30 Days, Adults 18+ Years, North Carolina, 2005-2006

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>52.6</td>
</tr>
<tr>
<td>African-American</td>
<td>53.9</td>
</tr>
<tr>
<td>Native American*</td>
<td>73.6</td>
</tr>
<tr>
<td>Hispanic*</td>
<td>53.1</td>
</tr>
</tbody>
</table>

(*Based on numerator <50, interpret with caution)
Asthma Medication Use

Native Americans had the highest asthma medication use rate.

Reported Asthma Medication Use during Past 30 Days, Adults 18+ Years, North Carolina, 2005-2006

- White: 61.7%
- African-American: 63.4%
- Native American*: 67.6%
- Hispanic*: 60%

(*Based on numerator <50, interpret with caution)
Emergency Department Visits

▸ African Americans had the highest emergency department visit rate

Reported Asthma Inhaler Use during Past 30 Days, Adults 18+ Years, North Carolina, 2005-2006

- White: 19.8%
- African-American: 36.2%
- Native American*: 31.7%
- Hispanic*: 19.8%

(*Based on numerator <50, interpret with caution)
Healthcare Provider Visits

► African Americans had the highest healthcare provider visit rate

Reported Healthcare Provider Visits during Past 12 Months, Adults 18+ Years, North Carolina, 2005-2006

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>31</td>
</tr>
<tr>
<td>African-American</td>
<td>39.1</td>
</tr>
<tr>
<td>Native American*</td>
<td>38.8</td>
</tr>
<tr>
<td>Hispanic*</td>
<td>21.9</td>
</tr>
</tbody>
</table>

(*Based on numerator <50, interpret with caution)
Differences between Whites and Minority Groups

► When compared to whites, minority groups were significantly different for:

- Lifetime and current prevalences (higher among African Americans & Native Americans; lower among Hispanics)
- Asthma episodes (higher among African Americans)
- Inhaler use (higher among Native Americans)
- Emergency department visits (higher among African Americans)
- Healthcare provider visits (higher among African Americans)
Asthma-related Mortality

► African Americans had the highest asthma-related mortality rate\textsuperscript{a}

\textbf{Age-adjusted Mortality Rates for Asthma by Race/Ethnicity, North Carolina Residents, 1999-2006}

\begin{tabular}{|c|c|}
\hline
\textbf{Race/Ethnicity} & \textbf{Rate} \\ \hline
White & 1.23 \\ African-American & 3.36 \\ Native American\textsuperscript{*} & 2.59 \\ Other\textsuperscript{*} & 1.19 \\ \hline
\end{tabular}

\textsuperscript{*}Based on numerator <20, interpret with caution

\textsuperscript{a}Rates are age-adjusted to the 2000 U.S. standard population and are expressed as deaths per 100,000 population.
Conclusions

► Racial/ethnic disparities are notable with respect to asthma prevalence, asthma-related behaviors, and asthma-related mortality among adults in N.C.

► Further studies are needed to examine cultural, demographic, environmental, and healthcare access issues and their relationships to these disparities
Acknowledgments

► Office of the Surgeon General, U.S. Department of Health & Human Services

► North Carolina State Center for Health Statistics, Division of Public Health, N.C. Dept. of HHS

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