Asthma and COPD Health Disparities

13th Annual ACCP Community Asthma and COPD Coalitions Symposium

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Honolulu, HI
Presenter Disclosures

Winston Liao

(1) The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

No relationships to disclose
Overview

- Health disparities: HP2020 perspective
- Asthma Health Disparities in North Carolina
- COPD Health Disparities in North Carolina
- Uses of CLRD surveillance data
- Health disparities: National Prevention Strategy perspective
Health Disparities

A view from Healthy People 2020

- Race and ethnicity
- Gender
- Sexual identity and orientation
- Disability status or special health care needs
- Geographic location (rural and urban)
Health Disparities: Asthma

A view from North Carolina

- Women
- Children under the age of 5
- Persons aged 65 and older
- African Americans
- Native Americans
- Adults living in households with income <$15,000
Women & Asthma in NC

Adults with Lifetime and Current Asthma, by Gender, United States and North Carolina, 2009

<table>
<thead>
<tr>
<th></th>
<th>Lifetime Asthma U.S.</th>
<th>Lifetime Asthma N.C.</th>
<th>Current Asthma U.S.</th>
<th>Current Asthma N.C.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>15.0</td>
<td>14.8</td>
<td>10.9</td>
<td>9.9</td>
</tr>
<tr>
<td>Men</td>
<td>11.6</td>
<td>10.9</td>
<td>6.4</td>
<td>5.6</td>
</tr>
</tbody>
</table>

Source: Centers for Disease Control and Prevention.
Behavioral Risk Factor Survey System, 2009
Children & Asthma in NC

Asthma Hospitalizations, by Age Group, North Carolina, 2009

Source: NC State Center for Health Statistics. Hospital Discharge Data (provisional), 2009
Older Adults & Asthma in NC

Asthma Hospitalizations, by Age Group, North Carolina, 2009

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>Rate per 100,000 Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>271.1</td>
</tr>
<tr>
<td>5-14</td>
<td>125.5</td>
</tr>
<tr>
<td>15-34</td>
<td>43.5</td>
</tr>
<tr>
<td>35-64</td>
<td>118.1</td>
</tr>
<tr>
<td>65+</td>
<td>219.0</td>
</tr>
</tbody>
</table>

**Source:** NC State Center for Health Statistics. Hospital Discharge Data (provisional), 2009
African Americans & Asthma in NC

Source: NC State Center for Health Statistics. NC Behavioral Risk Factor Surveillance System, 2010
Native Americans & Asthma in NC

Adults with Lifetime and Current Asthma, by Race, North Carolina, 2010

Source: NC State Center for Health Statistics. NC Behavioral Risk Factor Surveillance System, 2010
Low Income Households & Asthma in NC

Source: NC State Center for Health Statistics. NC Behavioral Risk Factor Surveillance System, 2009
Health Disparities: COPD

A view from North Carolina

- Prevalence: gender, age, race, income, disability
- Co-morbidities: asthma, other chronic diseases
- Mortality: gender, age
COPD in North Carolina: Prevalence

**Gender**

Prevalence of COPD among Adults (18+ Years), by Gender, North Carolina, 2007 & 2009

- Female: 6.6% (2007), 6.3% (2009)
- Male: 5.7% (2007), 4.8% (2009)

**Age**

Prevalence of COPD among Adults, by Age Group, North Carolina, 2007 & 2009

- 55-64: 9.7% (2007), 7.6% (2009)
- 75+: 10.9% (2007), 9.8% (2009)

**Source:** NC State Center for Health Statistics. NC Behavioral Risk Factor Surveillance System, 2007 & 2009
COPD in North Carolina: Prevalence

Race

Prevalence of COPD among Adults, by Race, North Carolina, 2007 & 2009


Income

Prevalence of COPD among Adults, by Income, North Carolina, 2007 & 2009

Disability Status & Asthma & COPD in NC

Source: NC State Center for Health Statistics. NC Behavioral Risk Factor Surveillance System, 2009
COPD Co-morbidities in NC

<table>
<thead>
<tr>
<th>Chronic diseases</th>
<th>Prevalence COPD</th>
<th>Prevalence No COPD</th>
<th>aRR</th>
<th>95% C.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arthritis</td>
<td>56.7</td>
<td>26.1</td>
<td>1.64*</td>
<td>1.46-1.84</td>
</tr>
<tr>
<td>Diabetes</td>
<td>21.9</td>
<td>9.1</td>
<td>1.76*</td>
<td>1.39-2.24</td>
</tr>
<tr>
<td>History of heart attack</td>
<td>14.6</td>
<td>3.8</td>
<td>2.58*</td>
<td>2.00-3.33</td>
</tr>
<tr>
<td>History of coronary heart disease</td>
<td>18</td>
<td>3.7</td>
<td>3.49*</td>
<td>2.50-4.88</td>
</tr>
<tr>
<td>History of stroke</td>
<td>7.9</td>
<td>2.5</td>
<td>2.04*</td>
<td>1.53-2.74</td>
</tr>
<tr>
<td>Kidney disease</td>
<td>5.9</td>
<td>1.7</td>
<td>2.85*</td>
<td>1.89-4.30</td>
</tr>
<tr>
<td>Current asthma</td>
<td>39.8</td>
<td>5.9</td>
<td>7.50*</td>
<td>6.24-9.02</td>
</tr>
<tr>
<td>Index of chronic diseases:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3+ chronic diseases</td>
<td>21.5</td>
<td>2.8</td>
<td>4.95*</td>
<td>3.93-6.25</td>
</tr>
</tbody>
</table>

Abbreviations: COPD – chronic obstructive pulmonary disease; aRR – age-adjusted relative risk.
*Statistically significant p < 0.05
# Mortality in NC

## Leading Causes of Death: Number & Rate per 100,000 Pop.

<table>
<thead>
<tr>
<th>2005-2009</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diseases of the Heart</td>
<td>86,920</td>
</tr>
<tr>
<td>Cancer</td>
<td>86,246</td>
</tr>
<tr>
<td>Cerebrovascular Disease</td>
<td>22,600</td>
</tr>
<tr>
<td>Chronic Lower Respiratory Diseases</td>
<td>21,228</td>
</tr>
<tr>
<td>Diseases of the Heart</td>
<td>17,133</td>
</tr>
<tr>
<td>Cerebrovascular Disease</td>
<td>4,391</td>
</tr>
<tr>
<td>Chronic Lower Respiratory Diseases</td>
<td>4,324</td>
</tr>
</tbody>
</table>

COPD Mortality in NC

COPD Mortality: Death Rate, by Age Group, North Carolina, 2009*

*COPD=ICD-10 Codes J40-44,47

Source: NC State Center for Health Statistics. NC Behavioral Risk Factor Surveillance System, 2009
Uses of Health Disparities Surveillance Data

- Understand and monitor health disparities
- Promote awareness and education
- Develop & implement evidence-based, community interventions & programs
- Conduct planning activities
- Support and drive policy
Health Disparities

A view from National Prevention Strategy
Thanks to

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Caroline Chappell, MPA
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North Carolina Asthma Program

Winston Liao
Asthma Program
N.C. Division of Public Health
1915 Mail Service Center
Raleigh, NC 27699-1915
Tel: 919 707 5210
winston.liao@dhhs.nc.gov