Changes in Southeastern Cardiovascular Health

Daniel T Lackland
Disclosures

- Member of NHLBI Risk Assessment Workgroup
- Member of Evidence Rating Committee for ACC/AHA Hypertension Guidelines
- No financial disclosures
Crude Standardized Mortality Ratio (Observed/Expected) of Pellagra Deaths in Southern USA in 1930 (Courtesy of Dr Harry Marks)
Pellagra

• During the next decade, B vitamin niacin was found to cure human pellagrins as well.

• Amino acid tryptophan to commercial foods such as bread to "fortify" them, it prevented the scourge of the South.

• In 10 years, pellagra has been all but banished.
Enigma of Southeast: Something in the water
Counties with High Stroke Mortality Rates are Concentrated in the South

Rates are spatially smoothed to enhance the stability of rates in counties with small populations.

Data Source:
National Vital Statistics System
National Center for Health Statistics
Geographic Distribution of Stroke Mortality
(2000-2006)
Geographic Distribution of Stroke Mortality (2014-2016)
standardized prevalence (per million/year) of end-stage renal disease (ESRD) by health service area in the US population, 2011 to 2015
Impact of Birth Place and Geographic Location on Risk Disparities in Cerebrovascular Disease Implications for Future Research

Daniel T. Lackland, DrPH

Figure. Stroke Proportional Mortality Ratios for All Deaths and by Race Among South Carolinians During 1980-1996

![Proportional Mortality Ratios Graph]

JAMA Neurology  Published online July 31, 2017
Median and 90\textsuperscript{th} Percentile Systolic BP Declined in 60-74 years
Mean and 90th Percentile Systolic Blood Pressure by Time Period and Age Group

<table>
<thead>
<tr>
<th></th>
<th>18 – 29 years</th>
<th>30 – 59 years</th>
<th>60 – 74 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Median</td>
<td>90th Percentile</td>
<td>Median</td>
</tr>
<tr>
<td>1960-1962</td>
<td>119 mmHg</td>
<td>137 mmHg</td>
<td>127 mmHg</td>
</tr>
<tr>
<td>2001-2008</td>
<td>113 mmHg</td>
<td>126 mmHg</td>
<td>118 mmHg</td>
</tr>
</tbody>
</table>
Changes in Blood Pressure levels for the Southeast 1960 vs 2005

Lackland, 2019
Summary

• Dramatic and significant decline in stroke rates
• Significant reduction in blood pressure levels among all in the Southeast
• Near eradication of the severe blood pressure levels of the 1960s.