A focus on racial/ethnic health disparities with the TUS

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TUS CPS NCTOH
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Overview

• Use of the TUS to compare groups of states with differing tobacco control strategies
  – Messer, Pierce, Al-Delaimy, Zhu

• Examining factors associated with smoking cessation
  – Pérez-Stable, Messer, Emery
Comparing Smoking in States with Different Tobacco Control Strategies

• In the U.S. smoking prevalence rates have been historically higher for the African-American (AA) adult population compared to the non-Hispanic white (NHW) population

• However, in recent years, the prevalence gap between AAs and NHWs has narrowed

• Objective:
  – To compare trends in AA and NHW smoking between states categorized as having three different levels of tobacco control practice in the 1990s
What State Groups should we use to compare effects of the California campaign?

• Group 1: Tobacco Growing States
  – lower price
  – lower excise tax
  – less social norm against smoking

• Group 2: New York & New Jersey
  – 2 large states with similar price and excise tax as CA but no comprehensive tobacco control program
## Top 6 Tobacco Growing States

### Tobacco and the Economy

<table>
<thead>
<tr>
<th>State</th>
<th>Cash receipts 1994</th>
<th>Excise Tax &amp; rank 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Carolina</td>
<td>$871m</td>
<td>$0.05 (50\text{th})</td>
</tr>
<tr>
<td>Kentucky</td>
<td>$615m</td>
<td>$0.03 (51\text{st})</td>
</tr>
<tr>
<td>Tennessee</td>
<td>$178m</td>
<td>$0.20 (45\text{th})</td>
</tr>
<tr>
<td>South Carolina</td>
<td>$187m</td>
<td>$0.07 (49\text{th})</td>
</tr>
<tr>
<td>Virginia</td>
<td>$147m</td>
<td>$0.20 (45\text{th})</td>
</tr>
<tr>
<td>Georgia</td>
<td>$133m</td>
<td>$0.37 (41\text{st})</td>
</tr>
</tbody>
</table>
# Large Population States with High Excise Taxes on Cigarettes

<table>
<thead>
<tr>
<th>State</th>
<th>1993 (rank)</th>
<th>2005 (rank)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York</td>
<td>$0.80 (3rd)</td>
<td>$1.50 (8th)</td>
</tr>
<tr>
<td>New Jersey</td>
<td>$0.64 (12th)</td>
<td>$2.40 (2nd)</td>
</tr>
<tr>
<td>California</td>
<td>$0.59 (17th)</td>
<td>$0.87 (21st)</td>
</tr>
</tbody>
</table>
Different Strategies across States

• California
  – high cigarette price
  – comprehensive tobacco control program

• New York & New Jersey
  – high cigarette price
  – no comprehensive tobacco control program

• Tobacco growing states
  – low cigarette price
  – no comprehensive tobacco control program
Methods

- TUS CPS from
  - 1992-93
  - 1995-96
  - 1998-99
  - 2001-02
- Examine Daily Smoking Prevalence in adults 20–64 years old
  - Largest contributor to lung cancer
- The respondents of TUS survey were asked:
  - “Have you ever smoked 100 cigarettes?”
    - Yes \(\rightarrow\) Ever Smoker
  - “Do you smoke cigarettes every day, some days or not at all?”
    - Every day \(\rightarrow\) Daily Smoker
Prevalence of Daily Smoking
Non-Hispanic Whites, 1992-2001

California
NY+NJ
Tobacco states

Year

Tobacco Research Network on Disparities

- California
- NY+NJ
- Tobacco states
African Americans

Non-Hispanic Whites
Results: African American Daily Smoking Prevalence

- From 1992–93 to 2001–02, in models adjusted for age, income, education, gender:
  - Large decline in daily smoking among African Americans across states
    - ~3% decline/year
      - P<0.001
  - Non-Hispanic whites
    - ~0.5% decline/year, NY/NJ & tobacco states
      - P>0.2
    - ~3% decline/year, CA
      - P<0.001
Examination of factors associated with smoking cessation across race/ethnic groups in the U.S.

- 2003 TUS CPS Special Cessation Supplement
- Analyzed for behaviors related to smoking cessation by race/ethnicity
Smoking Categorizations

• Ever Smokers
  – 100 cigarettes in lifetime
    • Current Daily Smokers
      – Smokes every day
    • Current Occasional Smokers
      – Smokes some days

• Former Smokers
  – 100 cigarettes in lifetime
  – Quit at least 1 year
Population Description

<table>
<thead>
<tr>
<th>Population</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>11.4%</td>
</tr>
<tr>
<td>Asian/PI</td>
<td>4.5%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>12.5%</td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>71.6%</td>
</tr>
</tbody>
</table>

Mean Age (adults 18+)

<table>
<thead>
<tr>
<th>Population</th>
<th>Mean Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>42.6</td>
</tr>
<tr>
<td>Asian/PI</td>
<td>41.8</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>38.8</td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>47.1</td>
</tr>
</tbody>
</table>
African Americans

Ever Smokers: 32%
Current Daily: 49%
Current Some Day: 16%
Quit at Least 1 yr: 30%
Asian/Pacific Islander Americans

- Ever Smokers: 22%
- Quit at Least 1yr: 40%
- Current Some Day: 16%
- Current Daily: 38%
Hispanics/Latinos

- Ever Smokers: 25%
- Current Daily: 37%
- Quit at Least 1yr: 37%
- Current Some Day: 21%
Non-Hispanic Whites

- Ever Smokers: 44%
- Quit at Least 1yr: 43%
- Current Some Day: 9%
- Current Daily: 44%
Ever Smokers
(100+ cigarettes in Lifetime)

• Smaller proportion of the population of racial/ethnic minorities have ever smoked compared to Non-Hispanic Whites
Ever Smokers
(100+ cigarettes in Lifetime)
Quitting Smoking

- Smaller proportion of the population of racial/ethnic minorities have ever smoked compared to Non-Hispanic Whites

  - But proportions of successful quitting are smaller among African Americans (especially) and Hispanics/Latinos
Former Smokers (Quit at Least 1 Year)

Among Ever Smokers

- African American
- Asian/PI
- Hispanic/Latino
- Non-Hispanic White
Quitting Smoking

- Smaller proportion of the population of racial/ethnic minorities have ever smoked compared to Non-Hispanic Whites
  
  But proportions of successful quitting are smaller among African Americans (especially) and Hispanics/Latinos

  Such that almost 50% of African American ever smokers still currently smoked daily
Current Daily Smoking

Among Ever Smokers
Quit Attempts
Stopped Smoking at Least 1 Day in Past Year in an Attempt to Quit Among Daily Smokers

Among Daily Smokers

Percent Quit 1+ Day

African American  Asian/PI  Hispanic/Latino  Non-Hispanic White
In Last Quit Attempt, Used Help & Support of Family

Among Daily Smokers
Relapse among smokers in the past year
Odds of Using NRT
(among those who made a quit attempt last year)

Adjusted for age, sex, education, income, smoking consumption
Presence of a Total Home Smoking Ban among Current Daily Smokers

Odds Ratio (with 95% C.I.)

Adjusted for age, sex, education, income, smoking consumption
Successful (6 months +) quits among smokers in the last year who made at least a 1-day attempt

<table>
<thead>
<tr>
<th>Age group</th>
<th>OR</th>
<th>L 95%</th>
<th>U 95%</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-34</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>.</td>
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<tr>
<td>35-49</td>
<td>0.68</td>
<td>0.59</td>
<td>0.79</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>50-64</td>
<td>0.84</td>
<td>0.72</td>
<td>0.97</td>
<td>0.022</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Highest educational level</th>
<th>OR</th>
<th>L 95%</th>
<th>U 95%</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; H. S.</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>.</td>
</tr>
<tr>
<td>H.S. graduate</td>
<td>0.99</td>
<td>0.79</td>
<td>1.25</td>
<td>0.945</td>
</tr>
<tr>
<td>Some college</td>
<td>1.13</td>
<td>0.89</td>
<td>1.43</td>
<td>0.313</td>
</tr>
<tr>
<td>College graduate</td>
<td>1.72</td>
<td>1.39</td>
<td>2.12</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Under 2X poverty level</th>
<th>OR</th>
<th>L 95%</th>
<th>U 95%</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>.</td>
</tr>
<tr>
<td>Yes</td>
<td>0.81</td>
<td>0.69</td>
<td>0.95</td>
<td>0.012</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race/ethnicity</th>
<th>OR</th>
<th>L 95%</th>
<th>U 95%</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>0.51</td>
<td>0.36</td>
<td>0.72</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Asian/PI</td>
<td>1.05</td>
<td>0.66</td>
<td>1.69</td>
<td>0.824</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>1.22</td>
<td>0.92</td>
<td>1.61</td>
<td>0.159</td>
</tr>
<tr>
<td>Native American</td>
<td>0.75</td>
<td>0.48</td>
<td>1.18</td>
<td>0.218</td>
</tr>
<tr>
<td>NH White</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>.</td>
</tr>
</tbody>
</table>
Discussion

• Differences across race/ethnic groups highlight significant challenges in addressing smoking and smoking cessation for various groups

• Specific needs and program focus for cessation may vary across groups such that 1 size fits all strategies might not be optimal
Future Research

- Future research on reasons racial/ethnic minorities are less likely to use NRT

- Population groups & subgroups
  - Native Americans/American Indians
  - Race/ethnic subgroups
  - Gender
  - Acculturation
Acknowledgements

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