Bridging the Gap: Tobacco

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Introduction

- Tobacco control programs, policies, and surveillance occur at the national, state and local levels.

- Epidemiologic model of agent, host, vector, and environment is useful.

- Monitoring patterns of use, policies, attitudes, and interventions is an important component of public health practice.

- Research on how programs and polices influence use will expand the science base of tobacco control.
Tobacco Control
Model of Nicotine Addiction

Agent

Tobacco Products

Environment
Cultural, Political, Economic, Social, Media, Historical

Vector
Tobacco Product Manufacturers; Other Users

Host
Smoker/Chewer
Incidental Host
Involuntary Smoker

Adapted from Orleans & Slade, 1993
Tobacco control programs, policies, and surveillance occur at the national, state, and local levels.

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History of Project

• Grant to Roswell Park Cancer Institute (Mike Cummings)
• Identify data sources/determine gaps
• Assess utility of new data to fill the identified gaps
• Systematically update the data warehouse
  - Using feedback from expert panel
  - Using agent, host, vector, environment model
• For public dissemination and use
• For eventual turnover to CDC
Collaborations

• Highly integrated with CDC/OSH, NCI, RTI

• Strong liaisons with ALA, Mayatech, SAMHSA, ACCV, MIT, Others

• Collaborations Built/Strengthened For:
  - Local Ordinance Collection (NTOPS, ANRF)
  - State Legislation and Tobacco Control Efforts
  - Chartbook
  - Price Study
  - Media Measures
Tobacco Use Data

- Monitoring the Future Surveys – 1975+
- RWJF/A&S Worldwide Youth Surveys - 1996
- Youth Risk Behavior Surveillance System – 1991+
- Youth Tobacco Surveys – 1998+
- National Household Survey on Drug Abuse - 1999+
- State Tax-Paid Cigarette Sales – 1955+
Tobacco Policy and Legislative Data

- Tobacco Control Expenditures – CDC/NCI/RTI 1991+
- Price Data – Tax Burden on Tobacco, American Chamber of Commerce Researchers’ Association, Observational Data, Scanner Data, Self-Reported Data – 1955+
- Smoke-Free Air Laws – CDC, ALA, RPCI; 1991+
- Sales to Minors’ Laws – CDC, SLATI, MIT; 1991+
- Possession, Use, Purchase Laws - 1991+
Smoking Prevalence Among Youths Aged 12-17 Years Old and Adults Aged >26 Years Old in All 50 States and the District of Columbia, 1999 NHSDA

Note: Current smokers were persons who smoked on ≥1 day during the previous 30 days
Source: 1999 National Household Survey on Drug Abuse
State-Specific Estimates of Current Smoking Prevalence and Cigarettes Smoked Per Day* in All 50 States and the District of Columbia, 1998/1999

Source: 1998/1999 National Cancer Institute, Tobacco Use Supplement to the Current Population Survey

* Among Current Smokers

$r^2 = 0.375$
$\beta = 0.417$
$P < 0.001$
$N = 51$
State-Specific Estimates of Current Smoking Prevalence and Some Day Smoking* in All 50 States and the District of Columbia, 1998/1999

Source: 1998/1999 National Cancer Institute, Tobacco Use Supplement to the Current Population Survey

* Among Current Smokers

Sources: 1989 Surgeon General’s Report, ALA’s SLATI, CDC’s STATE system, Roswell Park Cancer Institute.

Note: Includes the District of Columbia; Alabama = only state with no restrictions on public smoking.
Mean Smoke-Free Air Law Rating Per State*
United States, 1988-2001

*Includes the District of Columbia; Theoretical Range = -5-42
Sources: ALA’s SLATI, CDC’s STATE system, and Roswell Park Cancer Institute.
Mean Smoke-Free Air Law Rating Per State*
United States, 1988-2001

*Includes the District of Columbia; Theoretical Range = -5-42
Sources: ALA’s SLATI, CDC’s STATE system, and Roswell Park Cancer Institute.
Mean Number of Possession, Use, and Purchase Laws Per State* United States, 1988-2001

*Includes the District of Columbia; Theoretical Range = 0-3
Sources: ALA’s SLATI, CDC’s STATE system, and Roswell Park Cancer Institute.
Cigarette Smoking Among Youth by the Average Price of a Pack of Cigarettes in 50 States and the District of Columbia, 1999

Sources: 1999 NHSDA (12-17 year olds); 1999 Tax Burden On Tobacco.

Note: Past Month Smoking = smoking on ≥ 1 day during the previous 30 days.
Cigarette Smoking Among Youth by the Clean Indoor Air Legislation Rating in 50 States and the District of Columbia, 1999

Sources: 1999 NHSDA (12-17 year olds); ALA’s SLATI, CDC’s STATE system, and the Roswell Park Cancer Institute.

Note: Past Month Smoking = smoked on \( \geq 1 \) day in the previous 30 days.
Cigarette Smoking Among Youth by the Historical PPU Legislation Rating in 50 States and the District of Columbia, 1999

Sources: 1999 NHSDA (12-17 year olds); ALA’s SLATI, CDC’s STATE system, and the Roswell Park Cancer Institute.

Note: Past Month Smoking = smoked on ≥ 1 day during the previous 30 days
Historical PPU Legislation Rating = Sum of PPU laws for previous 8 years (0 = no law; 1 = law present).
Analyses of Merged MTF/Policy Data

- Study of Purchase, Possession, and Use Laws:
  - Weak Evidence That Combination of Laws are Associated With Lowered Youth Smoking – But Only in Young, Low-Risk Youth
  - Need to Study Enforcement and Local Laws

- Price Studies:
  - Numerous Econometric Studies on Prevalence, Consumption, Initiation, and Quitting
    - Price increase lead to reduced smoking initiation (Tauras, O’Malley and Johnston, 2001)
  - New York State Experience:
    - Significant price increase associated with larger reduction in prevalence
Table 1. Logit Analyses of the Association Between Purchase, Possession, and/or Use Laws and Cigarette Smoking among Minors – United States, 1991-1998

<table>
<thead>
<tr>
<th>Past Month Smoking</th>
<th>Adjusted*</th>
<th>Coefficient (z-score)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Past Month Smoking Intensity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adjusted*</td>
<td>Coefficient (z-score)</td>
<td>p-value</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Adjusted for demographics, risk, and tobacco control variables
N (Weighted) = 248,369
### Table 2. Logit Analyses of the Association Between Purchase, Possession, and/or Use Laws and Past Month Smoking among Minors, by Age and Risk Group – United States, 1991-1998

<table>
<thead>
<tr>
<th>Age/Risk Group</th>
<th>Purchase</th>
<th>Possession</th>
<th>Use</th>
<th>PPU Index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>z-score</td>
<td>p-value</td>
<td>z-score</td>
<td>p-value</td>
</tr>
<tr>
<td>≤ 14 yrs/Low</td>
<td>-2.13</td>
<td>0.033</td>
<td>-2.00</td>
<td>0.046</td>
</tr>
<tr>
<td>≤ 14 yrs/Medium</td>
<td>-0.68</td>
<td>0.497</td>
<td>-2.05</td>
<td>0.040</td>
</tr>
<tr>
<td>≤ 14 yrs/High</td>
<td>0.15</td>
<td>0.885</td>
<td>-0.22</td>
<td>0.826</td>
</tr>
<tr>
<td>15-16 yrs/Low</td>
<td>-0.96</td>
<td>0.336</td>
<td>-0.52</td>
<td>0.602</td>
</tr>
<tr>
<td>15-16 yrs/Medium</td>
<td>-0.61</td>
<td>0.541</td>
<td>0.89</td>
<td>0.373</td>
</tr>
<tr>
<td>15-16 yrs/High</td>
<td>-1.83</td>
<td>0.068</td>
<td>1.02</td>
<td>0.309</td>
</tr>
<tr>
<td>17 yrs/Low</td>
<td>-2.08</td>
<td>0.038</td>
<td>-1.36</td>
<td>0.174</td>
</tr>
<tr>
<td>17 yrs/Medium</td>
<td>-0.58</td>
<td>0.559</td>
<td>-0.18</td>
<td>0.859</td>
</tr>
<tr>
<td>17 yrs/High</td>
<td>-1.60</td>
<td>0.111</td>
<td>-0.26</td>
<td>0.795</td>
</tr>
</tbody>
</table>

Note: Adjusted for demographics and tobacco control variables
N (Weighted) for each age/risk strata ranges from 9,894 – 62,766
Analyses of Merged MTF/Policy Data

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Future Directions ....

• Ongoing/Planned Analyses of Merged Data Sets (Cross-Sectional and Longitudinal):
  - Tobacco Control Expenditures, Smoke-Free Indoor Air Laws
  - Other Outcomes, Such as Purchase Experiences, Attitudes, Quitting
  - Outlet Density Proposal (Hyland)

• Smokeless States Evaluation

• Chartbook
  - Trends (expanding CDC’s work)
  - Behaviors, Attitudes, and Policies
  - Accompanying NCI/RWJF Monograph of Tables