Tobacco Control Surveillance

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Section A

Principles of Tobacco Surveillance
Surveillance

“Ongoing, systematic collection, analysis, and interpretation of health-related data essential to the planning, implementation, and evaluation of public health practice, closely integrated with the timely dissemination of these data to those responsible for prevention and control”

— U.S. Centers for Disease Control and Prevention

Epidemiologic Triad

Host

Vector

Agent

Environment
Methods for Data Collection

- Direct observation
- Survey questionnaires
- Measurement of environmental and biological markers
- Data can be collected over time, space, or subpopulations (e.g., age, gender, socioeconomic status)

Points for Tobacco Surveillance

- Tobacco
  - Policy environment
  - Tobacco Industry
  - Tobacco use
    - Disease
      - Death
      - Medical care
        - $5
        - Death
Characteristics of the Agent: Tobacco

- Cigarette as a nicotine delivery device
  - Nicotine content of cigarette
  - Smoke nicotine yield
  - Filter ventilation
  - Burn rate
  - Cigarette length
- Brand names (mild, light)
- “Harm reduction” products
- Flavorsing

Tracking the Agent: Nicotine Content

PRESS RELEASE

Reanalysis of Cigarette Content Confirms Tobacco Companies Have Increased Addictive Nicotine 11 Percent Over Recent Seven-Year Period

For immediate release. Thursday, January 18, 2007

Boston, MA—A reanalysis of nicotine yield from major brand name cigarettes sold in Massachusetts from 1997 to 2005 has confirmed that manufacturers have steadily increased the levels of this agent in cigarettes. This independent analysis, based on data submitted to the Massachusetts Department of Public Health (MDPH) by the manufacturers, found that increases in smoke nicotine yield per cigarette averaged 1.6 percent each year, or about 11 percent over a seven-year period (1998–2005). Nicotine is the primary addictive agent in cigarettes.

Tobacco Control Surveillance: Benjamin Apelberg, PhD, MHS

Trends in Average Nicotine Yields: Marlboro

- Trends in average nicotine yields of Marlboro brand family cigarettes as reflected by reported nicotine disclosures, Philip Morris USA announcement, and predicted values

Image source: adapted by CTLT from Connolly et al. (2007).

Points for Tobacco Surveillance

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Tracking Exposure: WHO Surveillance

- World Health Survey
  - Household survey of adults (18+)
  - Conducted in 70 countries in 2002-2003
  - Probability sampling used to generate nationally representative estimates
  - Measures health status, risk factor prevalence, health care utilization, and expenditures

- STEPwise Approach to Surveillance (STEPS)
  - Modular survey of chronic disease risk factors
  - Targets 25- to 64-year-olds
  - Active in 96 countries

Tracking Exposure

- Global tobacco surveillance system (WHO and CDC)
  - Global Youth Tobacco Survey (GYTS)
    - School-based survey
    - Population: 13- to 15-year-olds
    - 140 countries
    - Multistage sampling design
    - Self-administered questionnaire
    - Standardized protocol for assessing
      - Tobacco use
      - Knowledge and awareness
      - Access to cigarettes
      - Exposure to secondhand smoke (SHS), tobacco advertising, and anti-smoking messages

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Tracking Exposure

- Global tobacco surveillance system (WHO and CDC)
  - Global School Personnel Survey
  - Global Health Professionals Survey
  - Global Adult Tobacco Survey (planned)

Trends in Youth Smoking: South Africa

<table>
<thead>
<tr>
<th>Selected Results</th>
<th>GYTS 1999</th>
<th>GYTS 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ever smoked cigarettes</td>
<td>46.7</td>
<td>37.6</td>
</tr>
<tr>
<td></td>
<td>41.8-51.6</td>
<td>34.4-40.8</td>
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<tr>
<td>Currently use cigarettes</td>
<td>23.0</td>
<td>18.5</td>
</tr>
<tr>
<td></td>
<td>19.0-27.0</td>
<td>16.7-20.3</td>
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<tr>
<td>First smoked cigarettes before 10 years</td>
<td>18.5</td>
<td>16.2</td>
</tr>
<tr>
<td></td>
<td>16.6-20.4</td>
<td>13.6-18.8</td>
</tr>
<tr>
<td>Frequent smokers</td>
<td>10.1</td>
<td>5.8</td>
</tr>
<tr>
<td></td>
<td>7.3-12.9</td>
<td>4.8-6.8</td>
</tr>
<tr>
<td>Tobacco products (other than cigarettes)</td>
<td>18.2</td>
<td>14.5</td>
</tr>
<tr>
<td></td>
<td>15.1-21.3</td>
<td>13.2-15.8</td>
</tr>
</tbody>
</table>

Tracking EXPOSURE: Biomonitoring

“The Third Report shows that median cotinine levels in nonsmoking Americans have decreased by 68% in children, by 69% in adolescents, and by about 75% in adults since the early 1990s. These results are encouraging, but children’s levels still are double those of adults.”

Trends in Exposure of Nonsmokers to SHS

- Trends in exposure of nonsmokers to secondhand smoke, NHANES*, 1988 to 2002

Source: adapted by CTLT from Pirkle et al. (2006).

Tracking Exposure: Nicotine Addiction and SES

- Plasma Cotinine in Adult Smokers by Socioeconomic Status

Source: adapted by CTLT from Health Survey, England. (1999); Bobak et al. (2000).