Outline of Presentation

- Public health surveillance
- Tobacco surveillance
- Conceptual models
- Historical, current, and emerging systems
- Data
- Key areas for surveillance
Public Health Surveillance

Definition

The ongoing, systematic collection, analysis, interpretation, and dissemination of data regarding a health-related event for use in public health action to reduce morbidity and mortality and improve health.

Data disseminated by a public health surveillance system can be used for immediate public health action, program and policy planning and evaluation, and formulating and testing research hypotheses.

Adapted from: CDC. Updated Guidelines for Evaluating public health surveillance systems: recommendations from the guidelines working group. *MMWR* 2001;50(No. RR-13), page 2.
Evolution of Surveillance in the 20th Century

1900s – Individual contacts of infected persons

1950s – Communicable diseases

1970s – Selected chronic diseases

1950s-present – Behavioral, occupational, and environmental risk factors

Source: Remington and Goodman, “Chronic Disease Surveillance,” in Brownson et al. (eds), *Chronic Disease Epidemiology and Surveillance*, 1998
Organizational Model for State-Based Chronic Disease Surveillance Programs

Source: Remington and Goodman; *Chronic Disease Epidemiology and Surveillance, 1999*
Purposes of a Tobacco-Related Surveillance System

To provide timely information from populations on:

• prevalence of use of various products (tobacco and pharmaceutical)
• factors that influence their use
• incidence, prevalence, and mortality from tobacco-attributable diseases
• impact of tobacco control programs and policies on relevant outcomes
Uses of Tobacco Surveillance Data

- Learn about nature of the problem
- Justify policies, programs, and legislation
- Monitor and evaluate these
- Set realistic objectives
- Identify high risk groups
- Justify research initiatives
- Conduct research
Tobacco Control
Model of Nicotine Addiction

Agent

Tobacco Products

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

Vector
Tobacco Product Manufacturers; Other Users

Host
Smoker/Chewer Incidental Host Involuntary Smoker

Source: Orleans & Slade, 1993

Data Source: Institute for Social Research, University of Michigan, Monitoring the Future Surveys
Major Sources of Data on Tobacco Use in the United States

Consumption Data

- U.S. Department of Agriculture (USDA)
- Federal Trade Commission (FTC)
- State-specific data
Adult Per Capita Cigarette Consumption and Major Smoking and Health Events – United States, 1900-2001

Source: United States Department of Agriculture
Trends in Per Capita Consumption of Various Tobacco Products – United States, 1880-2001

Source: Tobacco Situation and Outlook Report, U.S. Department of Agriculture, U.S. Census

Note: Among persons >18 years old.

Beginning in 1982, fine-cut chewing tobacco was reclassified as snuff.

Major Sources of Data on Tobacco Use in the United States

Surveys of Young People

- Teenage Tobacco Surveys
- Monitoring the Future Surveys (MTFS)
- National Household Survey on Drug Abuse (NHSDA)
- National Health and Nutrition Examination Survey (NHANES)
- Youth Risk Behavior Surveillance System (YRBSS)
- National Youth Tobacco Survey (NYTS)
- Youth Tobacco Survey (YTS)
- Global Youth Tobacco Survey (GYTS)
- Legacy Media Tacking Surveys
Current Use Among Middle and High School Students by Type of Tobacco Product – National Youth Tobacco Survey, 2000

Note: Used tobacco on ≥ 1 of the 30 days preceding the survey
Source: American Legacy Foundation, National Youth Tobacco Survey
Trends in Cigarette Smoking Anytime in the Past 30 days by Grade in School – United States, 1975-2001

Source: Institute for Social Research, University of Michigan, Monitoring the Future Surveys
Major Sources of Data on Tobacco Use in the United States

Surveys of Adults

• Current Population Surveys (CPS)
• Adult Use of Tobacco Surveys (AUTS); Adult Tobacco Surveys (ATS)
• National Health Interview Survey (NHIS)
• National Household Survey on Drug Abuse (NHSDA)
• National Health and Nutrition Examination Survey (NHANES)
• Behavioral Risk Factor Surveillance System (BRFSS)
• American Smoking and Health Survey (ASHES)
Trends in cigarette smoking* among adults aged ≥18 years, by sex - United States, 1955-2002

*Before 1992, current smokers were defined as persons who reported having smoked ≥100 cigarettes and who currently smoked. Since 1992, current smokers were defined as persons who reported having smoked ≥100 cigarettes during their lifetime and who reported now smoking every day day or some days.

Current Use Among U.S. Adults of Various Tobacco Products, by Sex – National Health Interview Survey, 2000

Note: Current users report using either every day or on some days
Source: National Center for Health Statistics
<table>
<thead>
<tr>
<th>Survey</th>
<th>Percent Using in Past Month</th>
<th>1999</th>
<th>2001</th>
<th>Change (%)</th>
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</thead>
<tbody>
<tr>
<td>NHSDA (Ages 12 to 17)</td>
<td>14.9</td>
<td>13.0</td>
<td>-15%</td>
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<tr>
<td>NHSDA (Grades 8,10,12)</td>
<td>21.1</td>
<td>17.5</td>
<td>-17%</td>
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<tr>
<td>MTF (Grades 8,10,12)</td>
<td>25.9</td>
<td>21.0</td>
<td>-19%</td>
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<tr>
<td>YRBS (Grades 9 to 12)</td>
<td>34.8</td>
<td>28.5</td>
<td>-18%</td>
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Comparison of Current Cigarette Use Prevalences from NHSDA, MTF, and YRBS, by Grade: 1999 and 2001 Averages

Percent Using in Past Month

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>12th Grade</td>
<td>30.6</td>
<td>32.1</td>
<td>39.0</td>
<td>30.6</td>
<td>32.1</td>
<td>39.0</td>
</tr>
<tr>
<td>10th Grade</td>
<td>19.2</td>
<td>23.5</td>
<td>30.8</td>
<td>19.2</td>
<td>23.5</td>
<td>30.8</td>
</tr>
<tr>
<td>8th Grade</td>
<td>8.2</td>
<td>14.9</td>
<td></td>
<td>8.2</td>
<td>14.9</td>
<td></td>
</tr>
</tbody>
</table>
### Potential Reasons for Differences in Survey Estimates

- **Setting**
  - Mode of Administration
- **Questionnaire content**
  - Definitions used
- **Sample design**
  - Editing procedures
- **Perception that biochemical validation might occur**
  - Consent procedures
- **Response rates**
Major Sources of Legislative Data on Tobacco Issues in the United States

Legislation

- Americans for Nonsmokers’ Rights (ANR)
- State Cancer Legislative Data Base (SCLD)
- State Legislated Actions on Tobacco Issues (SLATI)
- State Tobacco Activities Tracking and Evaluation System (STATE)
Restrictiveness Of State Laws Regulating Smoking

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.
Number of U.S. States including D.C.*, with Legislation Restricting the Purchase of Cigarettes to Persons aged ≥18 years, 1988-2001

*District of Columbia

Emerging Systems

- Bridging the Gap
- Assessing Youth Smoking Cessation Needs and Practices Survey
- Beliefs About Nicotine Dependence (BAND) survey
- International Tobacco Control (ITC) Policy Study
Emerging Issues

• CDC lab and NCI resources to better characterize the product. Massachusetts regulation.

• California and other systems to monitor vector. Often involves proprietary data.

• Environmental monitoring - legislation, media, price. Often involve proprietary data.
Key Areas for Surveillance

• Evaluating Tobacco Control Programs in a Multi-variate World

• Surveillance for Tobacco Harm Reduction

• Understanding Natural Histories

• Understanding Trends
Lessons Learned

• “Why?” is inevitable
• Timeliness matters
• Analyses and reporting takes time and resources
• Categorical surveys are needed
• Relationships count