Epidemiology and National Surveillance Breakout Session

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Overview

In epidemiology and public health, surveillance systems are designed to provide timely information on the occurrence of particular diseases and conditions, the presence of risk factors for those conditions, and the effects of disease control programs (1). Epidemiological and surveillance data are necessary to monitor tobacco use in women and trace the epidemic as it develops globally.

More specifically, epidemiology and surveillance data are needed to:

- *Understand the natural history and trends of tobacco use and the consequences of such use* (2, 3).
- *Justify and evaluate policies, programs, and legislation, taking into account numerous pro- and antitobacco influences* (4).
- *Set realistic objectives for program goals* (4, 5).
- *Assess the consequences of various harm-reduction strategies* (1).
- *Identify groups that are at high risk for various forms of tobacco use* (6-8).
- *Justify and conduct research initiatives, including ones that examine gender-specific differences and similarities in outcome and process* (6).

A comprehensive surveillance system would include information about the host (the smoker or potential smoker), agent (tobacco products), vector (tobacco industry activities), and the environment (economic, cultural, political, and historical activities and interventions that support or discourage tobacco use) (3, 9). Although current surveillance systems have the most information about the host, critical data are missing even in this area, particularly regarding the natural history of smoking and factors influencing tobacco use in diverse populations globally (6). In addition, our current surveillance systems focus largely on the host and do not systematically collect information to adequately describe the agent, vector, or environment (9). This information is important because it provides the basis for policy interventions and health communication messages. For example, information on product constituents from the industry (the agent), marketing of the products (the vector), and smoking prevalence (the host) is crucial for monitoring smoking-related disease incidence and prevalence. In many cases, however, the methods for such a comprehensive surveillance system still need to be developed.

In spite of the increasing amount of research on women and tobacco that appeared after the 1980 Surgeon General's report on women and smoking (10), many questions remain unanswered. In fact, some issues have not been addressed at all (see below).

Research is needed on both methods and content in:

- *Measurement and sampling issues* (e.g., how to access samples from diverse populations and how to ensure that measurements are culturally and community competent).
- *Better measures of the program capacity of tobacco control in each state, assessment of how funds are being used, and what capacities are being built to help establish programmatic priorities* (11-15).
- *Better measurement of adverse and protective comorbidities and identification of the impact of comorbidities on disease risk and smoking uptake and cessation* (e.g., multiple drug use, weight concerns).

- *The natural history of smoking in women (initiation, maintenance, cessation) versus men, taking into account the possibility that natural history varies by population subgroup.*
- *Psychosocial factors associated with smoking initiation, maintenance, and cessation.*
- *The differential health and economic effects of smoking on different populations and subpopulations.*
- *Disease reduction (i.e., harm minimization) in men and women from different subpopulations who are former users.*
- *Interactions among infectious diseases, smoking, and cancer.*
- *Antiestrogenic effects of tobacco.*
- *Triggers of smoking cessation.*
- *Cost-effectiveness of smoking cessation interventions.*
- *Effective ways to minimize weight gain with cessation.*
- *Data at the state level on smoking, pregnancy, and teen smokers.*

Recommendations

Research

*1. Identify disparities.

To more precisely identify where disparities lie, it is necessary to assess the interrelationships among specific population characteristics (race and ethnicity, sexual orientation, socioeconomic status, gender, age, disabilities, and others) as they influence tobacco use, exposure to secondhand smoke, and disease risk. The allocation of resources and programs is contingent on the identification of disparities.

Tobacco use varies by population group, and the adverse effects of tobacco are concentrated in certain populations. For example, African Americans smoke fewer cigarettes but have a higher prevalence of lung cancer than whites (7, 16-18). However, adequate data on tobacco use are lacking for many population groups (e.g., Asian/Pacific Islanders, American Indians), and even more striking is the absence of information on subgroups of these population groups. For example, little or no information is available to compare the smoking behavior of women from different American Indian groups (Navajo, Ojibwa, etc.) or women with different Asian backgrounds (from Japan, Taiwan, mainland China, Hong Kong, or Vietnam), including both those born in the United States and those born elsewhere. Given the host of possible influences on these diverse groups within one major racial or ethnic group, smoking behavior could vary widely (19).

Disparities

This recommendation focuses on disparities. Implementing it will help clearly define who is most at risk for initiation and continued use of tobacco products.

Partners

Populations must be involved in the development and implementation of this initiative. Partners should also include state legislative groups, state tobacco control programs, advocates, researchers, community-based organizations, and interventionists.

Impact

Within 2 years, this should be established as a priority, and information on what is currently known about tobacco use in various populations should be increased. Within 5 years, data should be used to inform interventions; more targeted interventions should be developed to reduce disparities; existing data should be completely analyzed; and better surveillance systems should be developed.

*2. State and local monitoring.

To better measure the extent of state and local tobacco control activities, tobacco use surveillance must be enhanced at the state and local levels, and creative, user-friendly measures must be developed to report the impact of tobacco control interventions on smoking and exposure to secondhand smoke.

Standardized monitoring of state and local tobacco control activities will provide the information needed for optimal program development, implementation, and evaluation. These measures can then be linked with measures of tobacco use to document pre- and postintervention behavior changes (20). These measures must be easy to use to ensure that they will be employed.

To determine "best practices" for tobacco control interventions, we must be able to understand the levels and types of interventions being implemented and their effects. For example, without adequate measurement of school programs and policies, cigarette prices, sales to minors, and possession, use, and purchase laws, it will not be clear whether reductions in the use of tobacco among adolescents are associated with specific state or local programs (21-24).

* Recommendations with an asterisk are those identified by the breakout groups as their top three recommendations.

Disparities

This recommendation will make it possible to assess how well tobacco control measures are reaching disparate groups, measure progress in different groups, obtain measures of the reach of programs to generate interest in participating in state and local tobacco prevention and control activities, and facilitate buy-in from involved populations.

Partners

Partners include all funding agencies, states, health services researchers, advocacy groups, purchasers, insurers, and health care systems.

Impact

Within 2 years, the ability to document activities will be increased; methods for assessing programs should be developed; funding should be maintained and increased; and success stories should be disseminated. Within 5 years, funding should be maintained and increased, and more rigorous assessment methods developed under the 2-year plan should be implemented.

3. Natural history of tobacco use.

We must document the natural history and etiology of smoking initiation, maintenance, and cessation among diverse populations by gender (including rolling cohorts with adequate duration and frequency of follow-up and documentation of relevant genetic and molecular markers).

Most current surveillance data are cross-sectional; information on tobacco use and risk factors is collected at the same point in time. Thus, we lack historical data on the natural history of tobacco use, including initiation, maintenance, cessation, and relapse (9). Such data are particularly important because some recent data indicate that the patterns of initiation and maintenance may be changing. Less-than-daily smoking is more common in some states and among specific groups than it was a decade ago (25). This apparent change in behavior may be related to future changes in smoking prevalence and the incidence and prevalence of tobacco-related morbidity and mortality. To determine whether identifiable subgroups adopt a behavior, variables associated with the behavior must be determined. Furthermore, we must determine if the predictions by college students that they will quit when they leave college are accurate (26). The question remains whether the patterns noted are similar for different subpopulation groups. Also, little is known about the relationship between the ceremonial use of tobacco among different American Indian tribes and the use of manufactured cigarettes.

Disparities

Disparities are a focus of this priority.

Partners

- Tobacco Etiology Research Network
- National Organization of Tobacco Use Research Funders
- Potential to tap into other existing cohort studies (e.g., those of the U.S. Environmental Protection Agency, National Institute of Child Health and Human Development, National Center for Health Statistics, U.S. Census Bureau, or Community Intervention Trial for Smoking Cessation [COMMIT])

Impact

Within 2 years, methods for the study or studies should be developed. Within 5 years, study implementation and data collection should begin.

4. Methodology.

To achieve the recommendations listed above, methodological research needs to be conducted, including questionnaire development, sampling strategy development, and validation of reported histories of smoking and exposure to secondhand smoke.

Improving current surveillance systems will require the development of methods, particularly around measuring disparities, and of systems to monitor the host, agent, vector, and environment. Surveillance systems needed to monitor these factors in diverse populations rapidly become complex. Given the cultural diversity of the population, questions regarding attempts to determine patterns of tobacco use may not be similar. For example, the interpretation may vary widely among different subgroups for a question about whether someone currently smokes some days, every day, or not at all. Moreover, sanctions in different subcultures against women who smoke could preclude them from answering honestly if they do smoke. In addition, mechanisms must be developed to ensure that the individuals who are sampled are representative of the target populations, as response rates for different groups may vary widely.

Disparities

Key methodological gaps exist in survey questions and sampling strategies, especially with regard to diverse populations.

Partners

Partners will include members of specific populations, survey methodologists, and survey funders.

Impact

Within 2 years, some instruments and sampling strategies should be developed, and pilot studies should be conducted. Within 5 years, the lessons learned from the pilot studies should be implemented through local, state, and national surveys.

Application

*5. Tobacco marketing.

Tobacco advertising and promotion targeted to diverse populations of women domestically and internationally need to be monitored and publicized to help stem the tide of tobacco use by women. This information is important for countermarketing programs to educate women and for policy and program planning to address industry messages.

The tobacco industry spends billions of dollars annually to market and advertise its products (27). For example, the tobacco industry supports women's magazines through advertising dollars (6). One such ad campaign was the Philip Morris Company's "Find Your Voice" campaign, which stressed the liberation of women from a broad range of cultures. The impact of the tobacco industry's efforts can be seen in attempts to control advertising through policies at the state (28), national (29), and international levels (30). Information on tobacco company advertising and promotion activities could be used to show women that they have options for becoming liberated and independent other than smoking cigarettes.

Disparities

This recommendation affects diverse groups internationally and domestically.

Partners

- Women's organizations
- Schools
- Industry researchers
- Consumer groups
- Social scientists
- Community organizations representing specific populations
- Tobacco control programs
- Advocates
- World Health Organization
- International Network of Women Against Tobacco
- American Medical Women's Association

Impact

Within 2 years, partnerships should be built; examples of targeted marketing should be documented; and pilot studies should be conducted on how to perform more systematic studies. Within 5 years, systematic studies should begin and hard data should be gathered.

6. Global surveillance.

Gender-based global surveillance is needed of tobacco use and exposure to secondhand smoke among adults and children, using standardized measures so that cross-country comparisons are available. Because of the range of support, both cultural and financial, and the differences in infrastructure for surveillance activities in different countries (31), this recommendation is critically important for cross-national programs. Ensuring that surveillance and monitoring are comparable across countries is a complex and difficult task (32); particularly in low- and middle-income countries, surveillance systems for monitoring tobacco use and its health consequences are very limited. One model of a standardized and cost-effective approach is the Global Youth Tobacco Survey (33), in which standard training is provided for data collection and analysis (34, 35).

Disparities

This recommendation addresses diverse populations globally.

Partners

- World Health Organization
- Nongovernmental organizations
- Specific governments

Impact

Within 2 years, methods for adult surveys should be developed. Within 5 years, pilot surveys for adults should begin.

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