
**PUBLIC HEALTH STRATEGIES
TO REDUCE
TOBACCO-RELATED ILLNESSES AND DEATHS
IN MILWAUKEE COUNTY**

EXECUTIVE SUMMARY

A REPORT FROM
THE PUBLIC HEALTH COMMITTEE
OF
THE MILWAUKEE ACADEMY OF MEDICINE

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*We must remember; there is no safe use of tobacco.
It's the only legal product I know that kills when used as intended.
(Antonia Novello, US Surgeon General, 1992)¹*

INTRODUCTION

Tobacco is the major known cause of addiction, preventable disease, disability, and death in our society. It can damage human life at every stage of development, from embryo to old age. In spite of this knowledge, however, it is estimated that smoking contributes to 3,000,000 deaths globally; 440,000 in the United States; 8,700 in Wisconsin, and 1,530 in Milwaukee County each year.²⁻⁴ Tobacco is the largest single cause of death in the developed world.

The overall purposes of this document, prepared by the Public Health Committee of the Milwaukee Academy of Medicine, are:

1. to examine the current scope of the problem both nationally and in Milwaukee County, using a public health model, and
2. to conceptualize strategies based on this model for reducing tobacco-related morbidity and mortality in Milwaukee County.

Specifically, the Milwaukee Academy of Medicine seeks to reduce both the incidence of morbidity and mortality and the economic costs attributed to tobacco use by 20% by the year 2000. Key to accomplishing these objectives is finding effective strategies for preventing the initiation of tobacco use among adolescents and children, assisting current smokers in their attempts to quit smoking, and effecting change in the political, economic, and regulatory climate that currently exist with regard to tobacco control.

SCOPE & MAGNITUDE OF TOBACCO AS A HEALTH HAZARD

The issue has touched all of us in personal ways. We all know friends or family members whose lives were shortened because of their involvement with tobacco.⁵

William J. Clinton, U.S. President, August, 1995

Tobacco causes approximately 8,700 premature deaths a year, or 24 deaths a day in Wisconsin. Included are about 780 non-smokers who die each year as a result of environmental tobacco smoke, perinatal conditions attributed to maternal smoking, or house fires for which cigarettes are the most common heat source. Tobacco use is the leading drug addiction among Wisconsin youth (age <18 years).

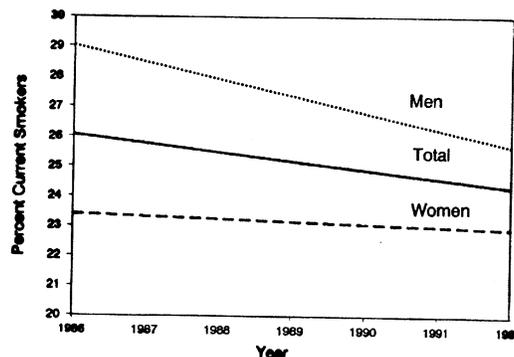
Milwaukee County tobacco deaths number 1,530 annually. (County figures reflect direct effects of tobacco only, and do not include those who die from secondary effects of tobacco). Using the same proportions reflected in national and state figures, Milwaukee County deaths due *directly* to tobacco use can be calculated at 4+ persons per day, or approximately 30 deaths per week. A minimum of four deaths a day, 30 deaths a week, in Milwaukee County alone -- and all of them *preventable!*

WISCONSIN RATES

- 1984-89: overall smoking rate declined by 0.5%
- 1989-92: smoking rate declined by 0.3%
- 1991: per capita sale of tobacco increased
- 1992: smoking rate remains at 1991 level.

For Wisconsin youth (≤ 18 years), fire injuries, including smoke inhalation and burns, constitute the second most frequent cause of death, and cigarettes are the largest single cause of fire fatalities.⁶

FIGURE 1: SMOKING PREVALENCE TRENDS IN WISCONSIN
1986 - 1992



MILWAUKEE COUNTY RATES

- 1991-93: adult smokers numbered 194,125 persons, or 27% of the population over 18 years, who smoked an average of 566 packs per year.
- 1991-93: youth smokers (11-17 years) numbered 20,880, or 23%, who averaged 131 packs each per year.⁴

TOBACCO-RELATED COSTS

Costs attributed to smoking can be calculated in a number of ways: human, economic, or health care costs, business costs due to lost productivity, or potential years of life lost (deaths before age 65). Costs are interrelated and tend to overlap.

In Wisconsin, tobacco-related medical costs were estimated to exceed \$1 billion in 1992 while in Milwaukee County total tobacco-related medical costs were approximately \$206,393,591.⁴ The figures are specified below:

TABLE 1: 1993 MEDICAL COSTS ATTRIBUTED TO SMOKING⁷

	WISCONSIN	MILWAUKEE
HOSPITAL	\$ 538,000,000	\$111,039,752
PHYSICIAN	\$ 310,000,000	\$ 63,982,013
NURSING HOME	\$ 98,000,000	\$ 20,226,572
PRESCRIPTION DRUGS	\$ 36,000,000	\$ 7,430,169
HOME HEALTH CARE	\$ 18,000,000	\$ 3,715,085
TOTAL	\$1,000,000,000	\$206,393,591

(The methodology supporting these figures very likely underestimates actual costs. In highly populated counties such as Milwaukee, smoking rates tend to be higher among urban than suburban residents.⁸ Central city costs related to house fires, environmental tobacco smoke, or additional health care costs for low birth-weight infants of mothers who smoke are not factored in.)

Further Cost Considerations

- Wisconsin, 1990: Total years of potential life lost = 86,345. (54,529 years lost to men and 31,816 to women).⁷

The primary **host** is the smoker or user of smokeless tobacco. The secondary host is anyone affected by environmental tobacco smoke (ETS). The host's age, education, gender, as well as other factors influence the effects of tobacco. **Agent/vehicle** refers to the heat and/or chemicals delivered by the tobacco product. Its influence may vary depending on amount, form, and type of tobacco, and whether it is inhaled as mainstream or sidestream (second-hand) smoke. **Environment** encompasses social or peer pressure, ease of access to tobacco, tax and economic climate, tobacco industry advertising, and promotions, lobbying activities, and the public policy arena.

Each axis has characteristics that magnify or mitigate the occurrence of disease or death, and though distinct in the model, in reality, they interact among themselves. Thus, prevention and control strategies targeted to one axis affect all three.

Table 2 shows the variety of factors to be considered in tobacco control efforts. For example, prohibiting the tobacco industry's distribution of free cigarettes may affect the number of cigarettes to which a host has access.

TABLE 2: HOST, ENVIRONMENT, AGENT/VEHICLE CHARACTERISTICS ASSOCIATED WITH TOBACCO-RELATED ILLNESS AND DEATH

HOST	ENVIRONMENT	AGENT/VEHICLE
•number of cigarettes smoked	•easy access	•legal substance
•number of years smoked	•relatively low cost	•highly addictive
•age and developmental level	•peer pressure	•cigarette's tar yield
•gender	•community attitudes favor smoking	•carcinogenic to primary host
•daily or sometimes smoker	•smoking as a rite of passage	•carcinogenic to secondary host
•intensity/duration of exposure	•few regulatory barriers	•carcinogenic to environment
•risk perception	•lack of economic resources	
•member of vulnerable population	•limited access to health care	
•mainstream or sidestream smoke	•lack of social support	

HOST POPULATIONS

The host is any daily or sometimes tobacco user, or anyone indirectly affected by another's tobacco use. On a local level, the term *host* includes:

- approximately one-fourth of Milwaukee's adult population (1.4 million people, or 30% of Wisconsin's total population)
- a disproportionately high percentage of the following population segments:¹⁰
 1. **Young Children, Birth to 11 Years** -- Children born to and/or living with smokers are more vulnerable to tobacco effects than those not associated with smokers. Related facts include:
 - 1991 -- 23% of pregnant women in Wisconsin smoked.
 - Average hospital charge in 1991 = \$982 for normal birth-weight babies in contrast to \$83,547 for low birth-weight babies.⁶
 - Children of smokers are more likely to suffer from ETS and other smoking-related illnesses and to begin smoking (while still children) themselves. In addition, 6% will be victims of cigarette-related house fires.
 2. **Youth from Ages 11 to 17** -- Single most vulnerable group of tobacco users = children and teens ≤ 18 years. Numbers haven't decreased significantly since 1980. Current CDC figures show an increase since 1991 (largest increase is among the youngest smokers).⁵
 - 80% of new smokers begin prior to age 18.¹¹
 - In Wisconsin high schools, 22% of young women and 23% of young men report tobacco use on at least 6 of the last 30 days.⁶
 - White and Native American youths are most likely to report daily tobacco use; Black and Asian youths report lower rates.
 - Each day in Wisconsin:
 - 120 children begin to smoke
 - 60 of them become addicted
 - 30 will eventually die of tobacco-related illness.¹²

3. **Women of Child-bearing Age** -- This group has the highest adjusted smoking rate.¹³ Their children are more likely to smoke than children of non-smoking mothers.¹⁴
 - Milwaukee County ranks 34th of the 72 Wisconsin counties in the rate of women who smoke while pregnant.
 - Minority women, women who live in poverty, unemployed and blue-collar women, and women with lower educational levels are more likely to smoke while pregnant.
 - 1993 -- 25% of Milwaukee women in their child-bearing years smoked during pregnancies that resulted in 50,218 births.⁶
4. **Minority Populations** -- These populations have the highest overall smoking rates in Milwaukee and in Wisconsin.

Table 3 gives percentages of Wisconsin adults who smoke by ethnicity and sex. (as recorded in the Wisconsin Behavioral Risk Surveys)⁶

TABLE 3: SMOKING HISTORY OF WISCONSIN ADULTS, AGES 18 - 64 BY RACE/ETHNICITY AND SEX (1987-1991)

SMOKING HISTORY	TOTAL WISCONSIN POPULATION			BLACK			HISPANIC
	Males	Females	Total	Males	Females	Total	Total
CURRENT SMOKER	30%	28%	29%	51%	34%	41%	35%
FORMER SMOKER	27%	21%	24%	13 %	16%	15%	22
NEVER SMOKED	42%	51%	47%	36%	49%	44%	42
SURVEY RESPONSES	(2,5321)	(2,681)	(5,212)	(70)	9129)	(199)	(85)

Source: *Minority Health in Wisconsin*, Page 162, Wisconsin Behavioral Risk Factor Surveys, 1987 to 1991. The numbers of Asians and American Indians in the sample were too small to permit estimates.

- **Black Americans:** Adult African-American smokers have more tobacco-related cancers and higher overall cancer mortality rates than other minority populations. Their cancers may be potentiated by mentholated cigarettes which have higher tar

yields. (Menthol cigarettes also have an anesthetic effect. This enables smokers to tolerate deeper, more frequent inhalations resulting in more nicotine inhaled per cigarette.⁶

- *Native Americans:* Based on limited information, Native American smoking rates are thought to be roughly double the overall state rate.
- *Hispanics:* Limited information indicates that those who identify themselves as Hispanic smoke at a higher rate than is average in the state.

5. **Persons of Low Socioeconomic Status & Educational Levels** - This population cuts across ethnic and gender groups. They smoke more, start sooner, and have more difficulty quitting than other groups.¹⁰

- Smoking varies inversely with level of income and education.¹⁵
- Unemployed persons, service workers, and blue collar employees have the highest smoking rates when compared to white collar employees and farm workers.
- Risks of certain diseases are compounded for this group, if employed, by workplace exposure to disease-causing agents connected with the job itself.¹⁵

TABLE 4: SMOKING RATES - WISCONSIN ASSIST PRIORITY GROUPS, 1992⁶

PRIORITY GROUP	POPULATION SIZE	% SMOKERS	# SMOKERS
BLUE COLLAR WORKERS	897,000	43%	386,000
YOUTH	421,000	24%	101,000
WOMEN (18-44)	1,000,000	30%	300,000
BLACKS	156,000	34%	53,000
MEN	71,000	39%	29,000
WOMEN	85,000	28%	24,000
HISPANICS	57,000	32%	18,000
NATIVE AMERICANS	25,000	68%	17,000
LOWER EDUCATION (Unemployed)	169,000	47%	79,000

6. **Persons Affected by Environmental Tobacco Smoke** -- not an issue till 1972 Surgeon General's report -- impossible to quantify its effects.
- ETS = 15% mainstream smoke + 85% sidestream smoke + minute amounts of vapor phase smoke that filters through the cigarette paper into the environment.¹⁶
 - Causes 3,000± lung cancer deaths in non-smokers annually⁶
 - Especially harmful due to smaller particles and higher concentrations of carcinogens than mainstream smoke.¹⁶
 - Increases risk for respiratory and middle ear infections, decreased lung function, and more frequent, more severe asthma episodes in children.

HOST STRATEGIES

- *Actively support all current prevention, education, and cessation efforts in Milwaukee County -- Project ASSIST, Wisconsin Tobacco-Free Task Force, Tri-Agency Coalition on Smoking or Health, etc.*

Strengths

- Milwaukee has active grassroots and state organizations working in schools and community which would be significantly strengthened by support and endorsement of the Milwaukee Academy of Medicine.
- Educational efforts can be tailored to a particular audience.
- Education is key to the success of nearly every other strategy: legislative, environmental, cessation.
- Educational efforts have been successful with Milwaukee's Black youth.

Limits

- Education's pay-off is in the long term rather than immediate.
- Evaluation is the weak spot in most educational efforts.

- *Treat tobacco abuse as a legitimate illness and lobby to have cessation efforts paid for by the smoker's health insurance.*

Strengths

Limits

- Insurance coverage is an incentive for patients in need of more costly cessation methods, e.g., the transdermal patch. Physician backing, especially on the organizational level, is key to recognizing tobacco abuse as an illness.
- *As physicians, encourage patients to quit smoking; educate them toward different cessation alternatives.*
 - Cessation efforts often work with encouragement from the patient's primary care physician.
 - Cessation methods and programs are varied.
 - Cessation and education can be coupled to strengthen the effect.
 - Cessation efforts are not always successful.
 - Smokers may not be aware there are alternatives to going it alone.

AGENT/VEHICLE CHARACTERISTICS

The direct causative agents of smoking-related illness and death are:

- the heat energy of the smoking tobacco, which causes roughly 25% of house fires, the second leading cause of death for children in Wisconsin
- the chemical content of the tobacco, much of which is carcinogenic.

In addition, it is well documented that nicotine, a tobacco component, is addictive.^{17,18}

Key Issues

- Fire-safe cigarettes -- Cigarettes with reduced capacity to ignite fires, i.e., a self-extinguishing cigarette, can be accomplished by:
 - altering the chemical composition of the tobacco
 - decreasing the density of the tobacco
 - decreasing the porosity of the paper
 - decreasing the diameter of the cigarette.¹⁹

A 3-year study commissioned by the federal government found that "it is technically, and may be commercially, feasible to develop cigarettes with significantly reduced propensity to ignite furniture or mattresses."²⁰

- Regulation/Oversight -- Tobacco is currently regulated by the Federal Trade Commission (FTC) not the Federal Drug Administration (FDA) or the Consumer Product Safety Commission which would offer the public more protection from its toxic effects. Hearings are underway to have the FDA take on the tobacco regulation as soon as possible because: 1.) all cigarettes available in the U.S. contain addicting levels of nicotine and 2.) burning cigarettes release known and probable carcinogens into both the lungs of the smoker and the air around them.

AGENT VEHICLE STRATEGIES

- *Publicly support the AMA's recommendation for FDA oversight of tobacco as a drug-delivery vehicle.*

Strengths

- The FDA has authority to enforce regulations nationally.
- FDA regulates manufacture, sale, distribution, labelling, advertising, promotion of products it regulates.

Limits

- FDA oversight would not automatically diminish demand.

- *Support the use of fire-safe cigarettes for adult smokers.*

- They would eliminate a deadly consequence of smoking.
- No state has yet succeeded with such legislation.

ENVIRONMENTAL CHARACTERISTICS

Environment is the setting where host and agent/vehicle meet. It may be:

- **Economic:**
 - Pricing and taxation -- Wisconsin legislators passed a 6¢ cigarette tax increase when the majority of its residents favored a \$1 increase.
 - Health costs -- Wisconsin spends more than \$1 billion annually on tobacco-related health care costs; Milwaukee spends over \$206 million.⁷
- **Political and regulatory:**
 - National -- Key tobacco issues include FDA regulation and the growing series of tobacco product liability suits across the nation.
 - Wisconsin -- State legislators still cling to pre-emption keeping local voting districts from passing more restrictive laws. Lack of enforcement of anti-tobacco regulations is also an issue. Tobacco lobbies are increasingly active in the state to maintain the status quo.
 - Metropolitan Milwaukee -- A coalition of grass-roots and state anti-tobacco organizations have concentrated on prevention, education, and enforcement. Efforts have paid off in the significant reduction of smoking among Milwaukee's Black youth.
- **Social:** Primary strategies focus on creating an environment in which smoking is unacceptable and trying to change behaviors and beliefs within such an environment.
 - Tobacco Advertising & Promotion -- Educational efforts focus on facts about smoking rather than the images projected in tobacco advertising.
 - Restaurants -- A partnership between the Wisconsin Initiative on Smoking and Health and the American Lung Association has resulted in exponential growth smoke-free restaurants in Milwaukee.
 - Workplace - Over 93% of Milwaukee workplaces have smoking policies. Statewide, smoke-free workplaces grew from 42% to 71% since 1991.
 - Media -- Project ASSIST is initiating a media effort to support prevention and education strategies already in place in Milwaukee.

ENVIRONMENTAL STRATEGIES

- *Support a \$1 per pack cigarette tax increase.*

Strengths

- The primary beneficiaries will be youth smokers.
- It's supported by the Wisconsin State Medical Society as well as the majority of the public.
- State revenues will rise significantly.

Limits

- Marlboro and Camels cut their prices the last time Wisconsin raised cigarette taxes.²¹

- *Add the support of the Milwaukee Academy of Medicine to the efforts of the local and state anti-tobacco coalition.*

Strengths

- The Academy has prestige, credibility and influence among local physicians and the Milwaukee community.

Limits

- *Support repeal of the state preemption statute.*

Strengths

- It will open the door to strong local anti-tobacco legislation.
- It's the single most important element of tobacco-control legislation.

Limits

- The current political climate in Madison favors pre-emption.

- *Mobilize physicians to work toward enhanced record keeping re: 1) hospitalizations attributable to smoking or burns, and 2) proper filling in of death certificates to show smoking as the underlying cause of certain cancers and cardiovascular illnesses.²²*

Strengths

- It would give incontrovertible medical facts to refute claims of tobacco companies that smoking is harmless.
- Publication of these data might mobilize Milwaukeeans to vote in support of legislators who favor tobacco control.

Limits

- A broad-based computer system is needed to track data.

- *Publicly join the local anti-tobacco coalition(s,) especially in their efforts to prevent children and teens from beginning to smoke and helping women in their childbearing years to stop smoking.*

Strengths

- Pediatricians and other physicians have credibility both with the public and with their patients.
- The support and presence of the Milwaukee Academy of Medicine will strengthen current state/local anti-tobacco coalitions and their activities.

Limits

- *Share media access and spotlight with local anti-tobacco coalition(s) who are already working to promote public health.*

Strengths

- Media shapes public perception.
- Media can help mold policy.
- It will strengthen the Project ASSIST effort to focus media attention on ways the tobacco industry undermines public health and civic decision making.

Limits

- *Publicize tobacco use as a public health issue and a pediatric disease.*

Strengths

- The prestige and influence of the Milwaukee Academy of Medicine could add significant clout to these messages for the public.

Limits**SUMMARY**

Tobacco use is a public health issue in general and a pediatric health issue in particular. The tobacco habit is expensive and deadly. It exacts a toll across every level of the population, but nowhere more so than among children, women, minorities, persons of low socioeconomic status, and those in blue collar jobs.

Using a model which approaches public health hazards through three focal points -- host, agent/vehicle/, and environment -- effective strategies can be developed, targeted, and implemented in conjunction with local anti-tobacco efforts. Metropolitan Milwaukee is a key intervention area, currently having a broad-based coalition of state and local anti-tobacco groups working for change.

Key objectives not met in Milwaukee at the midterm of Healthy People 2000 are reduction of smoking among youth and among pregnant women. Efforts in these areas could benefit greatly by greater involvement of physicians, particularly on the organizational level.

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