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# Tobacco-free Youth

## A “life skills” primer

Pan American Health Organization

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# Preface

If present trends hold, 10 million people will die worldwide from tobacco related causes in the year 2030; fully half of them will live in developing nations. Today, in the Region of the Americas, tobacco causes more deaths than AIDS, alcohol and drug abuse, traffic accidents, and violence combined. And yet, deaths from tobacco use are totally preventable.

Unfortunately, tobacco consumption is growing in the Region, bringing with it a deadly toll in lung cancer, cardiovascular diseases, and chronic respiratory diseases. More and more young people—especially girls—are experimenting with tobacco, and they are doing so at ever earlier ages. In short, more and more young people are becoming nicotine addicts. Moreover, despite any perceived economic gains to be had from tobacco, facts tell us that tobacco consumption has a net negative effect on the economies of producing countries. Any earnings from tobacco sales or exports are more than offset by higher health expenditures resulting from treating people for cancer, emphysema, and a host of other tobacco-related health problems. In fact, conservative estimates from the World Bank put the net drain from tobacco on the world economy at about US$ 200 billion a year. The true costs are likely to be much, much higher, because of underestimation of health costs, diminished quality of life, losses of caretakers in families, and other factors.

Alarmed by this situation, the Governing Bodies of the Pan American Health Organization (PAHO) urged that children and adolescents be protected by regulating tobacco advertising, enforcing laws and regulations designed to eliminate the sale of tobacco products to minors, and establishing effective prevention programs. PAHO has been actively engaged in the battle against tobacco since then.

We already know, from experts and from experience, that the best approach to tobacco control is to discourage people from ever starting to smoke—but the competition is fierce. Tobacco firms invest huge sums of money in marketing and advertising to persuade people to smoke. Life Skills prevention programs give young people the wherewithal to resist the social and media pressures that encourage tobacco use; as such, they are one of the most effective weapons in our anti-tobacco arsenal. We offer these guidelines as yet another way to level the playing field in the battle against tobacco.

**Dr. George A.O. Alleyne**
**Director**
**Pan American Health Organization**

# Introduction

In an effort to stem the rising tide of tobacco consumption in the Americas, the Pan American Health Organization (PAHO) has sponsored various activities, including research on tobacco control legislation and policies Regionwide; coordination and development of tobacco control action in the countries; and the implementation of a data collection instrument to survey tobacco use, attitudes, and beliefs. The Organization's support for the Life Skills methodology—an evidence-based prevention tool—holds particular promise as a way to reduce the use of tobacco, alcohol, and other drugs among the Region's young. In addition to promoting Life Skills school-based pilot programs in the Region, PAHO also will issue a series of publications on the methodology aimed a wide range of decision makers and health and social service providers. This book is the first in that series.

Part One details the scope of the tobacco problem, focusing on youth in developing countries in the Region of the Americas. It reviews Regional issues regarding the prevention of tobacco-related diseases and describes effective elements of various approaches to substance use prevention. Part Two provides both theoretical and practical discussions of the Life Skills approach to preventing the use of tobacco and other substances. This section includes guidelines for the planning and development of a Life Skills substance use prevention program tailored to the needs of developing countries in the Region.

Health professionals, program planners, educators, and government policy makers will find here a review of substance use trends in the Americas and the public health response, as well as figures on the increasing toll taken by tobacco use and exposure—currently the number one killer in the world among all lifestyle-related diseases.

# Substance Use and Addiction

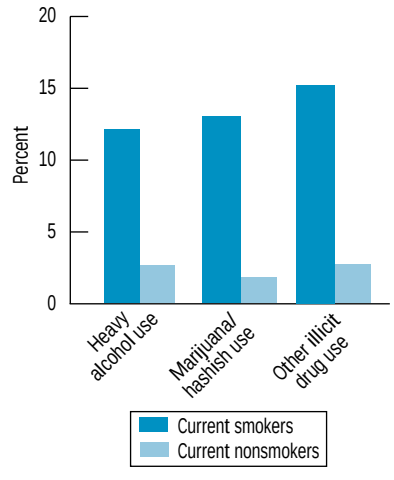
Addiction and related diseases are taking an ever greater toll on the health and well-being of people everywhere. Worldwide trends reflect an overall increase in the use of illicit, addictive drugs and alcohol. Even more disturbing is the increase in drug use among the youngest sectors of the population. According to the United States Substance Abuse and Mental Health Service Administration (SAMHSA, 1999), drug use has gradually but steadily increased, mainly due to increased use among 12–13-year-olds. The World Health Organization (WHO) reports a similar trend among youth throughout the globe, noting lower ages of initiation of drug use and a greater availability of illegal drugs (WHO,1996).

In both industrialized and developing countries, the use of inhalants and hallucinogens has increased significantly among 12–17-year-olds, particularly among street children, indigenous youth, and other marginalized adolescents. Other substances on the rise include heroin, opioids, cocaine, and alcohol (WHO, 1996).

Nicotine, a powerfully addictive substance, has long been known to serve as a "gateway" drug, leading to the use and abuse of other addictive substances such as alcohol and narcotics. In the United States, for instance, household survey data from 1997 reveal that the rates of illegal drug use by youth who smoked and used alcohol increased from 32.5% in 1996 to 42.8% in 1997 (SAMHSA, 1999). In fact, further analysis shows that the only increase in drug use during this period occurred among adolescent smokers and users of alcohol. See Figure 1.

Tobacco is dangerous to health not only because its use frequently leads to the initiation of other heavier drugs; more importantly, tobacco in and of itself endangers human health, and its use leads to nicotine addiction, tobacco related illnesses, and—among half of all adult smokers—premature death. As noted by WHO in *The World*

Figure 1. Comparison of substance use by smoking status, age-adjusted, United States, 1997.




Source: SAMHSA.

*Health Report, 1999—Making a Difference* (WHO, 1999), "The joint probability of trying smoking, becoming addicted and dying prematurely is higher than for any other addiction (such as alcohol, for which the likelihood of addiction is much lower)." Furthermore, experts characterize the dependency caused by nicotine-delivery products (e.g., cigarettes, cigars, pipes, smokeless tobacco) as greater than the dependency caused by either heroin or cocaine (WHO, 1999). Studies carried out by the United States Centers for Disease Control and Prevention (CDC) reveal that around 70% of smokers want to quit, but less than 3% are able to do so and remain smoke-free over the long-term (CDC, 1999 August).

**In 1997, adolescents between 12 and 17 years old who smoked cigarettes were nearly 12 times as likely as nonsmoking youth to use illegal, addictive drugs and 23 times as likely to drink heavily.**

*(United States Substance Abuse and Mental Health Services Administration)*

## THE DEPENDENCY THAT KILLS

Nearly thirty-five years have passed since the United States Surgeon General published the first report identifying the harmful effects of cigarettes on human health. In this groundbreaking report, the Surgeon General documented that smoking cigarettes led to chronic bronchitis, lung cancer, and cancer of the larynx in men (U.S. Department of Health, Education, and Welfare, 1964).

Subsequent studies have documented the relationship between tobacco use and more than thirty additional diseases, such as cardiovascular disease; cerebrovascular disease; chronic obstructive pulmonary disease; cancers of the mouth, esophagus, throat, bladder, cervix and pancreas; and, among infants exposed to maternal smoking, low birthweight and sudden infant death syndrome.

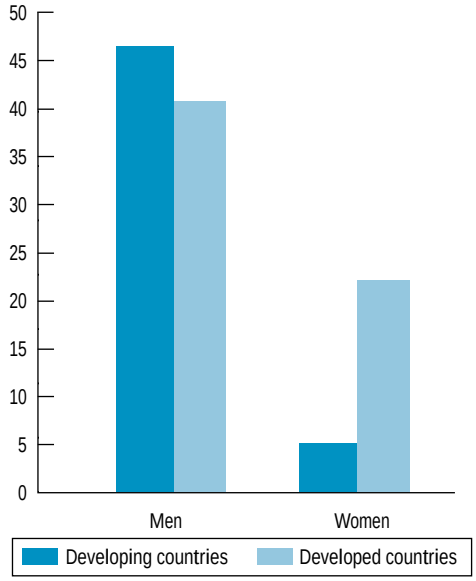
Exposure to environmental tobacco smoke also has been linked to death and disease. A recent WHO report (WHO, 1999) on environmental tobacco smoke and children's health reveals an association between this exposure and pneumonia, bronchitis, coughing, wheezing, worsening of asthma, and middle-ear infections in children. In addition, environmental tobacco smoke is associated with a higher risk of lung cancer —causing an estimated 3,000 deaths each year in the United States alone—and it also increases the risk of heart disease (CDC, 1999).

Every year, tobacco is responsible for 3.5 million deaths: it is the leading cause of foreseeable deaths around the world. Despite the dangers of tobacco use, people continue to smoke, and the annual death toll continues to rise. In fact, WHO estimates that there are 1.1 billion smokers in the world, and 88 million of them live in developing countries (WHO,1999) (see Figure 2). If this trend is not reversed, tobacco use will be responsible for 10 million deaths annually by the year 2030, of which 70% will occur in developing countries (WHO, 1998 April).

Preventing these deaths is of paramount importance and a priority of public health professionals around the world.

The longer a person continues to use tobacco, the greater the health risks. The mortality rate of smokers is three times greater than that of non-smokers in all age groups, starting in early adulthood. Individuals who become addicted to nicotine in adolescence—nearly 60% of all youth who experiment with smoking—have a 50% chance of dying from tobacco as they become adult smokers, with a loss of around 22 years of normal life expectancy (U.S. Department of Health and Human Services, 1994) (WHO, 1999 May).

Figure 2. WHO estimates of smoking prevalence in developing and developed countries, by gender, May 1999.




Source: WHO, 1999.

In the United States, more than 20% of deaths today are related to tobacco use initiated decades ago, when prevalence of consumption in adults was more than 45%. Since then, adult tobacco use has decreased to around 25%, and has remained somewhat stable for the last decade. However, the prevalence of tobacco use among adolescents, although declining in the 1980s, increased in the 1990s. In 1997, smoking rates among young adults ages 18 to 25 stood at 40.6%, up from 34.6% just three years earlier (SAMHSA 1999).

Since 1990, the CDC has surveyed adolescent smoking at schools across the United States using the Youth Risk Behavior Surveillance System. Data from 1997 show that 70% of the students surveyed had experimented with smoking at least once, 36% of students had smoked a cigarette in the previous thirty days, and 44.5% reported having used some form of tobacco (cigarettes, smokeless tobacco, or cigars) in the previous month (CDC, 1999 August).

The costs of tobacco use—in both human and economic terms—will wreak havoc on nations around the world at increasing rates as the numbers of new smokers continue to climb. In terms of economic costs, U.S. medical expenses to treat diseases related to tobacco use have been estimated at $50 to $73 billion annually (CDC, 1999 August). WHO has described the tobacco epidemic as both a "major drain on the world's financial resources," and a "major threat to sustainable and equitable development" (WHO, 1998 June).

## TOBACCO USE IN LATIN AMERICA

Historically, indigenous populations in the Americas have used tobacco in healing practices, ceremonies, and rituals. In the first part of the 20th century, tobacco began to be increasingly used as the popularity of the cigarette intensified after World War I (DHHS and PAHO, 1992). In the past couple of decades, several factors have begun to influence an increase in the use of

Of the 1.1 billion smokers in the world, 88 million live in the developing world. If smoking rates continue to rise, 7 million people in developing countries will die of tobacco-related causes in the year 2030.

tobacco in Latin America. Demographic changes have expanded tobacco's market potential, including a reduction in birth rates and mortality with subsequent population growth; greater urbanization; greater access to education, followed by higher employment and increased purchasing power; and a larger proportion of women in the workforce.

**In Latin America and the Caribbean, tobacco is responsible for 135,000 preventable deaths each year—a human cost too great to compensate for any financial gain from tobacco production.**

The fact that tobacco is cultivated in the Region also may have accelerated the smoking trend. In many tobacco-producing countries (e.g., Argentina, Brazil, Cuba, Honduras, and Mexico) and cigarette-manufacturing countries (e.g., Brazil, Colombia, and Venezuela), tobacco and its products translate into major export earnings (WHO, 1997). Population groups that are vulnerable to tobacco's appeal—such as adolescents—are likely to be exposed to tobacco if they participate in the tobacco production and manufacturing workforce. Such everyday exposure may reinforce a perception that tobacco use is widespread and socially acceptable.

In developing countries in the Region of the Americas tobacco is responsible for some 135,000 preventable deaths each year (WHO, 1997). In Mexico alone, an estimated one in four deaths is related to tobacco-use (Instituto Nacional de Enfermedades Respiratorias, 1997) (see Tables 1 and 2).

Unlike the United States and Canada, most Latin American and Caribbean

Table 1. Tobacco-related deaths in the Region of the Americas, 1996.

| | |
|---|---|
| United States | 500,000 |
| Latin America | 100,000 |
| English-speaking Caribbean | 35,000 |
| Canada | 35,000 |
| Total | 670,000 |

Source: WHO, 1997.

Table 2. Percentage of population (> 12 years old) using tobacco, by country.

| | At least once | In the previous year | In the previous month |
|---|---|---|---|
| Bolivia (1992) | 46.8 | 34.1 | 24.9 |
| Canada (1994) | 54.5 | 27.0 | … |
| Chile (1996) | 70.2 | 47.5 | 40.4 |
| Colombia (1996) | 38.8 | 25.9 | 22.2 |
| Costa Rica (1995) | 35.2 | 18.3 | 17.5 |
| Paraguay (1991) | … | … | 24.3 |
| United States (1994) | 73.3 | 31.7 | 28.6 |
| Mexico (1993) | 45.4 | … | 25.1 |
| Peru (1997) | 62.1 | 42.0 | 31.7 |
| Venezuela (1996) | 31.8 | 25.7 | 24.4 |

Source: PAHO, 1998.

countries do not have country-specific, standardized surveillance systems in place to systematically monitor either the prevalence of smoking or the toll it takes on human health and well-being. The most recent prevalence data available for the Americas was rendered through the WHO "Tobacco or Health" initiative in the mid-1990s (WHO, 1997).

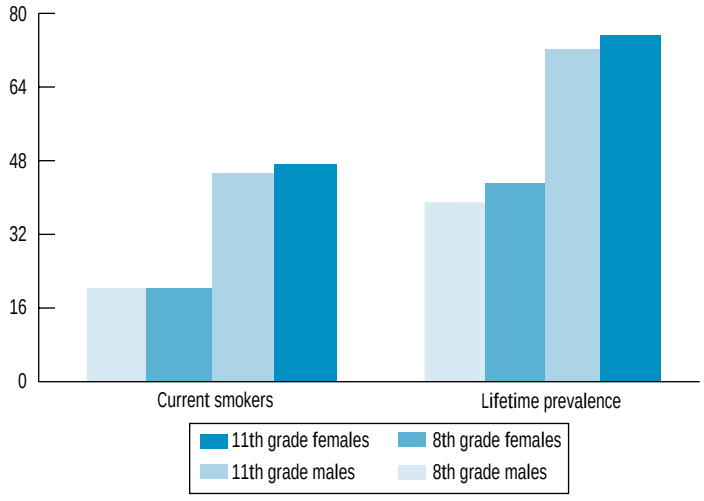
Analysis of this important, although limited, data reveals that in the early 1990s per capita consumption of cigarettes in persons over 15 years of age averaged 1,300 cigarettes per year. Low-consumption countries, such as Peru and Guatemala, reported only 350 cigarettes consumed per capita per year, and high consumption countries, such as Venezuela and Cuba, reported per capita consumption at around 2,000 cigarettes per year.

According to WHO estimates, 40% of men and 21% of women smoke in developing countries in the Region of the Americas (WHO, 1998), but this figure masks the considerable variation between countries and among population groups. For instance, data reveal that two out of three men smoke in the Dominican Republic, and as many as one-quarter of all women are smokers in Brazil, Chile, Cuba, and Uruguay (WHO, 1997) (See Figure 3).

A PAHO/WHO survey conducted in 1992 showed that in urban areas of the most developed Latin American countries, young people—especially young women—were beginning to smoke at a higher speed than that of their predecessors. Smoking among girls has been reported to almost equal smoking among boys in Argentina, Chile, and Cuba, for instance (see Figure 4).

However, the difference in smoking prevalence between genders is more accentuated in other countries. For instance, in Honduras in 1995, less than 10% of school age girls were reported to smoke, compared to more than 35% of boys the same age (Instituto Hondureño para la Prevención del Alcoholismo, Drogadicción y Farmacodependencia, 1996) (see Figure 5). And in Bolivia, the difference in smoking between genders was just as great in urban areas (43% male smokers v. 18% female smokers) as in rural areas (44% v. 17%) (Centro

Figure 3. Percentage of current smokers and lifetime prevalence of smoking among 3,635 students, by school grade and gender, Argentina, 1997.




Source: Morello, 1997.

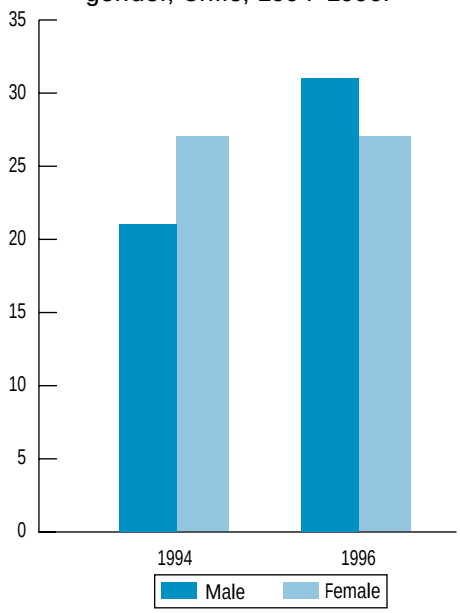
Tobacco cultivation in the Americas may also have helped to fuel the increase in tobacco use in Latin America and the Caribbean. Adolescents working in tobacco production are exposed to tobacco on a daily basis, which may reinforce their view that tobacco use is widespread and socially acceptable.

Latinoamericano de Investigacion Cientifica, 1998).

Although the reported age of smoking initiation varies across the Region, it does appear to be dropping. As measured by a nationwide survey in Cuba, for example, more than 35% of adult smokers surveyed in 1995 started smoking before the age of 14 (Ministerio de Salud Pública, 1995). A survey of students conducted in Uruguay in the 1980s revealed the average age of smoking initiation to be between 15 and 16 years old (Ruocco, et al., 1989).

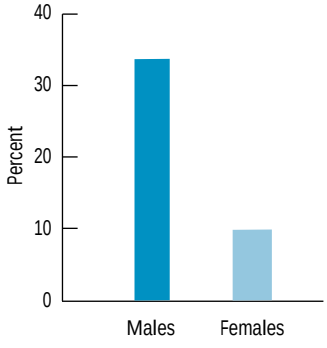
Partly as a result of earlier smoking onset, the number of young smokers addicted to nicotine continues to climb through adolescence into adulthood (see Figure 6). In Cuba, almost half of adolescent smokers between the ages of 17 and 19 years old described

Figure 4. Percentage of 12–18-year-olds who smoked in the previous month, by gender, Chile, 1994–1996.



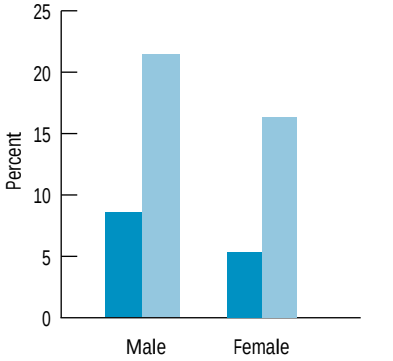

Source: CONACE, 1996.

Figure 5. Percentage of school-age children reported to have ever smoked, by gender, Honduras, 1995.




Source: IHADFA, 1996.

Figure 6. Smoking prevalence among youth 15-to-16 and 17-to-19 years old, by gender, Cuba, 1995.




Source: MINSAP, 1995.

that they had tried to quit at least once (Ministerio de Salud Pública, 1995).

## TOBACCO CONTROL EFFORTS

Tobacco control achievements vary between countries in the Region of the Americas: the United States and Canada have made great progress regulating tobacco, but other countries have made less progress in reducing tobacco use. This was reflected in the late 1980s, when tobacco use in Latin America declined only modestly (11%) while the United States and Canada experienced a reduction of 28% and 35%, respectively (PAHO, 1989).

Economic and political factors seem to be responsible for the disparity between tobacco control efforts in industrialized countries in North America and developing nations in the Region. The latter countries may be hindered in their ability to achieve better tobacco control due to the fact that many of these countries depend heavily on income generated from the production or manufacturing of tobacco products.

The relative lack of national regulatory action in some countries in the Region is likely associated with the dubious power of the tobacco industry to stimulate the economy and generate jobs and taxes. Both tobacco and alcohol are "legalized drugs" that contribute much needed income for resource-poor countries through taxation policies. In an effort to preserve this income, policy makers frequently fail to implement restrictions on the promotion and consumption of cigarettes. Anti-tobacco legislation is often minimal at best and is rarely enforced.

Economic losses resulting from tobacco, although staggering, have not been clearly communicated. WHO reports that most analyses of the economic effects of tobacco reveal that a decline in production would not result in overall lower employment or economic output (WHO, 1999 April). They further state that "the alleged economic benefits of tobacco are illusory and misleading" when all the costs associated with the product are not considered. Unfortunately, the economic losses associated with these drugs are rarely measured or factored into the equation.

The perceived economic benefits of tobacco also may be part of the reason why so few developing country governments in the Americas have initiated comprehensive tobacco control or prevention campaigns. Nongovernmental organizations have taken on much of the responsibility for leading such tobacco control activities as World No Tobacco Day or smoking cessation and substance abuse prevention programs.

Despite the lack of progress in tobacco control relative to their industrialized neighbors, several developing countries in the Region have made impressive strides. For instance, some advertising restrictions are now in place in Chile, Colombia, Costa Rica, Mexico and Panama, and smoking has been banned on most commercial flights in the Region (WHO, 1999).

The Coordinating Committee of Tobacco Control in Latin America (CLACCTA), founded in 1985, has been actively involved in motivating countries in the Region to adopt tobacco control policies. In addition, the Interagency Committee for the Control of Smoking in Latin America was created in 1995. It includes representation from the Centers for Disease Control and Prevention, the Society Against Cancer and the National Cancer Institute, both from the United States, CLACCTA, the International Union of Struggle Against Cancer, Health Canada, and the Pan American Health Organization. The Interagency Committee's main function is to provide financial and technical support for participating national programs that reduce the supply of and the demand for tobacco.


Tobacco-control efforts vary from country to country, and can range from prevention campaigns, to advertising restrictions, to legislation. This sign on a building in Costa Rica attempts to enforce a smoking ban legislation.

## SMOKING PREVENTION AND CONTROL PROGRAMS IN THE REGION

According to the report on the Regional Encounter on Smoking, which took place in Rio de Janeiro in August 1998, the status of smoking prevention and control programs in the Americas can be described as follows:

- Almost all the countries in the Region have a basic governmental or non-governmental infrastructure for the prevention and the control of smoking.
- Smoking cessation services are frequently led by ecclesiastic and community organizations. Financing by governments is rare.
- These systems use a multidisciplinary approach to monitor smoking.
- Educational programs in schools have not been used much in these control activities, although evaluation studies indicate that these programs can be effective.
- In almost all the countries, public information activities are carried out, but their effectiveness and impact on tobacco use behavior are unknown.

*Research for International Tobacco Control, 1998.*

In 1995, the Interagency Committee established the following five goals for participating countries:

- to increase by 10% the number of former smokers within five years,
- to reduce by 10% the incidence of tobacco use among young people between 12 and 16 years old within five years,
- to raise by 2 years the age at which tobacco consumption is permitted within five years, and
- to reduce by 5% mortality rates from noncommunicable, tobacco-related diseases within ten years.

In order to meet these targets, despite the tobacco industry's organized opposition, committed policy support and the assistance of private and governmental organizations is critical.

## TOBACCO INDUSTRY PRACTICES IN THE AMERICAS

As tobacco control tightens in industrialized countries, multinational tobacco companies are strategically increasing their penetration into resource-poor countries in the Region, where they can direct their efforts at potentially lucrative markets vulnerable to the tobacco appeal, such as adolescents and women.

By and large, these groups are not sufficiently protected by regulations limiting tobacco promotion or access to tobacco. Industry marketing and advertising that target these groups remains largely unchallenged. The tobacco industry in developing countries—whose financial resources often outstrip those of national governments—have organized powerful tobacco lobbyists

who have managed to thwart tobacco control legislation in countries such as Argentina and Uruguay as part of an aggressive tobacco promotion strategy aimed at increasing consumption in the Region (Weissman, 1998 [as cited in Hammond, 1998]).

Promoting tobacco products not only involves lobbying against tobacco control, but it also entails a huge investment in publicity and marketing campaigns—which, in effect, diminishes the impact of any existing national policies that attempt to regulate tobacco. Publicity is a very important component of the tobacco industry's strategy, and it is used worldwide to maintain tobacco demand. In 1996 the U.S. Federal Trade Commission estimated annual tobacco industry promotional expenses at $5 billion in the U.S. alone.

The industry has traditionally argued that their tremendous investment in publicity and marketing campaigns is not intended to increase consumption but to merely preserve market share, maintain the loyalty of smokers to a given brand, and promote cigarettes with low tar and nicotine content. Since very few smokers change brands of products, however, this enormous effort and expense hardly seem warranted.

The use of publicity as a strategic tool to increase tobacco use is ubiquitous in the Region's developing countries, where extensive publicity and promotion of tobacco have become commonplace. Promotional products such as clocks, lights, displays, and attractive posters have made their way to the most isolated towns and kiosks. In addition, most televised sports (e.g., auto racing and soccer matches) and cultural events have been sponsored by the tobacco industry for decades, making sports leagues now heavily dependent on tobacco money.

In addition to promoting their potentially lethal products, tobacco companies also use publicity campaigns to try to shape their public image as an industry concerned about the health of adolescents. These campaigns frequently involve the creation of alliances between tobacco manufacturers or retailers and Ministries of Health and of Education, tobacco control organizations, or Offices of the First Lady. As a result of such alliances, government, university, or nonprofit organizations that have joined forces with the tobac-

## THE CASE OF MEXICO

In the recently published *Addicted to Profit: Big Tobacco's Expanding Global Reach* (1998), Ross Hammond describes the rise of 'big tobacco' (a.k.a. Philip Morris and British American Tobacco) in Mexico upon the opening of its markets to foreign investment. In July 1997, the two industry giants paid a total of US$ 2.1 billion for two Mexican cigarette companies.

The report explains that Mexico is especially attractive to multinational cigarette producers because of its cheap labor, quality tobacco leaf, young population, and few restrictions on tobacco. Industry critics believe that one of the primary goals of the buyouts is to establish the country as a platform from which to cheaply produce cigarettes for export to other developing countries.

However, the potential to develop Mexican markets (including the world's fifteenth largest cigarette market) has apparently not gone unnoticed. The foreign subsidiaries have boosted marketing expenditures and honed their advertising strategy to portray their product as meeting Mexican consumers' desires for international status, romance, and rebellion.

co industry are subsequently limited in their power to reduce tobacco consumption through anti-industry strategies. Unfortunately, such alliances are all too common in the Region's developing countries.

Industrialized countries have recently begun to acknowledge the consequences of the tobacco industry's targeting of developing countries on the global burden of disease, and they are beginning to help these countries promote national and local tobacco control measures. In addition, some developing countries—Guatemala, Nicaragua, and Venezuela, for example—have followed the example of the United States and have begun to hold multinational tobacco companies accountable by demanding compensation for health care costs stemming from tobacco-related death and disease.


Although required by law, health messages on cigarette packages often are inconspicuous or difficult to read. Note the contrast between the crisp and clear brand name on the front of the pack and the almost illegible health message on the side.

## TOBACCO INDUSTRY PRACTICES

### Marketing

Cigarettes can be heavily promoted with very positive imagery that promotes a notion that smoking is acceptable, even healthy, or that risk-taking is glamorous. Tobacco companies have also been allowed to engage in often quite deceptive behavior that reassures smokers and keeps them in the tobacco market. Tobacco companies, often unfettered by governments, manipulate the dependence of smokers by offering justification for continued smoking and marketing alternatives to cessation.

### Public Relations

Either directly, or through funded 'front' groups, tobacco companies often attack the scientific evidence on the effects of smoking. The industry also adopts the stance that smoking is not as harmful as other activities, or that "everything" is harmful. These public relations strategies are often so far removed from scientific reality that they would not work for most consumer products. But tobacco, because of the dependency it creates, is not like other products. Smokers are often strongly motivated to find ways to justify continued smoking, and while others might recognize these strategies as attempts to deceive consumers, smokers may view them as a beacon of hope in their efforts to justify continued smoking thereby avoiding the hardship of a cessation attempt.

### Packaging and Labeling

Cigarettes are sold in attractive packaging and offered in small quantities—such as a single day's supply). If health messages are required on packaging and advertising, tobacco companies often successfully ensure that messages are as small and inconspicuous as possible, and are rarely updated, essentially undermining the effect of the warnings.

### Products

A lack of health-based product standards means that cigarettes can be manufactured in order to be very effective nicotine delivery systems. Nicotine delivery can easily be manipulated and cigarettes can be made more palatable by leaf blending and using additives.

*PAHO, 1999.*

# Young People: A Generation in Jeopardy

Young people today face many attractive choices and challenges in both the industrialized and developing worlds. They are exposed to, and frequently influenced by, powerfully persuasive messages through the ever-growing media—messages that often compete with traditional family values and may exert more influence over lifestyle choices. This barrage of information and constant shift in fads is very compelling and can be overwhelming to young people who are trying to make choices.

In most societies, the family and the school remain the key emotional supports needed for youths' healthy development. But the psychosocial pressure caused by rapid cultural change and competing messages may lead young people to distance themselves from traditional protective influences. Experts theorize that these traditional mechanisms for passing on values and life skills may no longer adequately balance the power of other—often negative—influences to which young people are exposed (WHO, 1997b).

It is important to create opportunities where young people can acquire the skills and knowledge necessary to sort through this onslaught of information and the growing challenges encountered as they approach adulthood. In order to keep young people tobacco- and drug-free, youth development also must involve all who are in a position to influence them—family, media professionals, educators, counselors and teenagers themselves.

## ADDICTED BY CHOICE?

WHO reports that three out of five young people who experiment with tobacco will become addicted, daily smokers into adulthood, half of whom will die prematurely (WHO, 1998 April), and the majority of whom will suffer needlessly as a result of their nicotine addiction. Unfortunately, young people who choose to smoke and use other tobacco products may not understand the nature of addiction or appreciate the long-term consequences of their behavior. What begins as experimentation more often than not evolves into a daily dependence on tobacco products to satisfy the craving for nicotine.

**Three of every five young people who experiment with tobacco will become addicted smokers into adulthood—half of them will die prematurely.**

Furthermore, research has shown that young people who choose not to smoke before the age of 20 are not

likely to start smoking as adults (WHO, 1998b). This means that the prevention of the onset of smoking at an early age in effect reduces smoking at all ages.

Despite 30 years of decline in overall smoking prevalence, many young people are beginning to smoke and become addicted every day. Clearly, then, preventing smoking among young people is critical to stemming the epidemic of tobacco use. In 1994, the United States Surgeon General's report on smoking and health focused, for the first time, on young people.

The six major conclusions from that report can be summarized as follows:

- Between 75% and 90% of adult smokers started smoking before turning 18, which means that adolescence is a crucial stage for the prevention of tobacco use and tobacco-related deaths (DHHS, 1994). While the age of smoking initiation is increasing slightly in the U.S., the rate of increase is extremely gradual, roughly one month per year (SAMHSA, 1999) (see Table 3).
- The promotion of tobacco consumption in the mass media is linked to greater consumption among youth (DHHS, 1994). There has been a continuous shift from advertising to promotion, largely because of banning cigarette ads from the broadcast media.
- A growing number of adolescent smokers are already addicted to nicotine and describe withdrawal symptoms when they attempt to quit smoking. Once they become daily smokers, successful cessation is very difficult (WHO, 1998; DHHS, 1994).
- Cigarette smoking often leads to the use of other heavier drugs and is associated with distinct health problems among teens—mainly respiratory diseases. Various studies demonstrate that adolescent smokers have diminished lung capacity and contract a greater number of respiratory diseases than their non-smoking peers (Woolcock, 1984).
- Combined efforts, especially those that give adolescents the skills necessary for rejecting tobacco, can effectively reduce smoking onset (DHHS, 1994).
- Risk factors have been identified that are associated with increased likelihood of tobacco use by young people.

## PSYCHOSOCIAL DETERMINANTS OF SMOKING

Over the decades, social scientists have tried to understand why some adolescents experiment with smoking and others don't. Current research on the etiology of smoking has largely focused on the identification of psychosocial predictors of the onset of smoking. Researchers have identified several domains of predictors, including social bonding variables, social learning variables, and intrapersonal variables such as refusal skills, knowledge, attitudes, and intentions. In a meta-analysis of nearly 30 studies that included prospective data on the beginning of tobacco use, a combination of social and personal factors were found to be related to smoking onset (Conrad, Flay, and Hill, 1992):

Table 3. Average age of first use by adolescents aged 12 to 17, U.S.A.

| | 1988 (baseline) | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 2000 |
|---|---|---|---|---|---|---|---|---|
| Cigarettes | 11.6 | 11.5 | 11.5 | 11.7 | 11.7 | 12.2 | 12.3 | 12.6 |

- having parents or best friends who smoke,
- having poor self-esteem,
- performing poorly in school or having dropped out of school,
- having positive attitudes regarding tobacco use,
- engaging in other risk-taking attitudes,
- not having necessary refusal skills, and
- feeling anxious or depressed.

The problem is that, although researchers are now aware of most of the determinants that contribute to experimental substance use, they do not know yet how they all interact. Over the years, various theories have focused on different determinants, with subsequent implications for prevention strategies.

According to *cognitive-affective theories*, the roots of experimental substance use are found in adolescents' attitudes and beliefs about substances. The theory of planned behavior posits that self-efficacy directly affects intentions and behavior (Ajzen, I and Fishbein, M., 1980). Refusal self-efficacy represents adolescents' beliefs in their abilities to resist social pressure to begin using substances. According to this approach, prevention relies on persuasive messages that:

- increase adolescents' expectations regarding the adverse consequences of experimental substance use and decrease their expectations about its potential benefits,
- emphasize the cost rather than the benefits,
- challenge adolescents' perceptions concerning the normative nature of substance use, and
- provide information and skills that directly promote feelings of refusal self-efficacy.

*Social learning theories* assume that experimental substance use originates in the substance-specific attitudes and behaviors of people who serve as adolescent's role models, especially family and close friends. This theory suggests that a key to prevention lies in making substance-using role models less salient and substance-abstaining role models more salient. An additional key to prevention lies in teaching refusal skills and enhancing refusal self-efficacy (Bandura, 1969).

*Conventional commitment and social attachment theories* (Elliott, Hawkins and Weis, 1985) are based on classic sociological theories of control that argue that deviant impulses presumably shared by all persons often are controlled by strong bonds to conventional society, family, and school. When adolescents have weak bonds to conventional society, they feel they have little to lose through attachment to deviant peers. These theories imply that the prevention of substance use requires the nurturing of interpersonal and academic skills among children long before they form substance-specific beliefs as adolescents and become involved with substance-using peers.

Several theories try to explain substance use by the existence of intrapersonal characteristics such as stress, low self-esteem, or emotional distress, but longitudinal studies suggest that these intrapersonal characteristics are poor predictors of substance use.

The *problem behavior theory* (Jessor and Jessor, 1977) assumes that susceptibility to problem behavior results from the interaction of the person and the environment and tries to integrate the other theories. It implies that adolescents are at risk for substance use if they are unattached to their parents and are more influenced by their peers than by their parents. It also holds that adolescents who are prone to one problem behavior also are prone to others. Since tobacco use usually begins in adolescence and is associated with other risky behaviors, understanding the psy-

Young people who do not start to smoke by the time they turn 20 are unlikely to smoke as adults. Clearly, preventing the onset of smoking at an early age reduces smoking at all ages.


The tobacco industry has targeted most of its promotional campaigns to young people. By portraying smoking as attractive and feeding on young people's desire to feel grown up and free, tobacco marketers attract youth and keep them hooked.

chology of adolescent "risk-takers" is an important step in understanding how to prevent tobacco and other substance use. These risk-takers often desire independence and autonomy, want to assume the adult role, give importance to the peer group in decision-making, need to act in accordance with peer group rules, and feel "invulnerable."

The *domain model* by Huba and Bentler, a more comprehensive model, is an attempt to catalogue most of the causes of substance use. It includes more than 50 potential causes categorized into four domains:

- biological influences—genetic influences, physiologic reaction to substances, general health;
- intrapersonal influences—beliefs, personal values, sensation seeking, impulsiveness, sociability, extraversion, anxiety, and low self-esteem;
- interpersonal influences—characteristics of the people in close contact with the teen;
- sociocultural influences—media, market availability, social sanctions.

The emphasis on adolescents' rebelliousness and sensation seeking and the recognition that substance use is related to easy access to substances are important features of this theory that incorporates the concept that legal measures must be added to the prevention efforts.

Just as certain conditions or qualities have been associated with increased risk of substance use, specific characteristics are associated with decreased consumption. These *protective factors* range from behavioral characteristics such as harm avoidance and coping abilities, to positive life experiences and events.

Risk and protective factors that are modifiable are more appropriate variables to target with prevention programs. Factors more sensitive to change include attitudes (e.g., negative view of tobacco use), beliefs, and behavioral competencies (Pandina, 1996). Research has shown that, in general, the greater the number of risk factors encountered, the greater the number of protective factors are needed to counteract that risk (PAHO, Nov. 1998).

Neither risk factors nor protective conditions, however, function in a consistent, predictable pattern. They are dynamic and affect individuals differently. Most of these factors or characteristics constantly interact with environmental influences, affecting and modifying each other. For instance, individual characteristics interact with social and environmental conditions such as publicity, family behaviors, and perceived social norms, and subsequently either increase or diminish the individual's likelihood of using substances.

## UNPROTECTED TARGETS

Tobacco industry documents that recently have been made public reveal how the industry has targeted its tobacco promotion campaigns to adolescents. In an attempt to keep product demand high, adolescent consumers are frequently targeted to replace the large number of adult consumers who die each year from tobacco-related diseases. For example, Philip Morris, in a 1981 internal document cited in the 1998 Campaign for Tobacco-Free Kids, stated, "Today's teenager is tomorrow's potential regular customer, and the overwhelming majority of smokers first begin to smoke while still in their teens... The smoking patterns of teenagers are particularly important to Philip Morris (cited in Campaign for Tobacco-Free Kids, 1998). R.J Reynolds attempted to encroach on Philip Morris's young clientele with its own Camel campaign. A 1975 memo recommends that the national expansion of the "successfully tested "Meet the Turk' ad campaign and new Marlboro-type blend is another step to meet our marketing objective: to increase our young adult franchise. To ensure increase and longer-term growth for

Camel Filter the new brand must increase its share of penetration among the 14–24 age group which have a new set of more liberal values and which represents tomorrow's cigarette business" (Multinational Monitor July/ August 1998).

Studies show that adolescents are particular susceptible—by some accounts three times as sensitive as adults (Pollay, et al., 1996)—to cigarette advertising schemes. In the U.S., this is manifested by youth loyalty to the three most heavily advertised brands: Marlboro, Camel, and Newport. The United States Centers for Disease Control and Prevention reports that close to 90% of the nation's teen smokers choose these three brands, as opposed to only about one-third of adult smokers (CDC, August 1994).

The tobacco industry has conducted sophisticated marketing studies identifying the psychological and developmental factors that make youthful 'replacement smokers' the most vulnerable to tobacco initiation: namely, their desire to feel "grown up", free, and independent, but also to "fit in" socially. As a result of industry advertising, adolescent smokers often see the cigarette as the essential element needed to achieve popularity and "sex appeal."

Cleverly manipulating these factors, tobacco marketers have managed to portray smoking in a way that attracts youth and keeps them hooked. In fact, the majority of tobacco advertisements show healthy, active young people of both sexes having a good time while smoking in some social situation. Tobacco marketing messages promote myths such as:

- smoking is a 'rite of passage' to the adult world;
- people who are popular and who are achievers smoke;
- cigarettes help to loosen you up when you are in a group;
- cigarettes are healthy and symbolize freedom;
- the whole world smokes.

## LATIN AMERICAN YOUTH AT RISK

Many conditions experienced by young people in developing countries in the Americas intensify their risk and may hinder the reversal of adolescent smoking trends in the Region:

**Tobacco regulation in the Region tends to be weak and, where it exists at all, it is often not enforced.** Multinational tobacco companies and their subsidiaries in the Region are relatively free to publicize and promote tobacco use among young people, and their efforts are both sophisticated and pervasive. They sponsor events popular with youth such as high school sporting and cultural events. At times, the industry will comply with one regulation just until the next loophole is found. For example, it is not uncommon to see tobacco ads jump from the billboard to the T-shirt.

**Anti-tobacco messages are often poorly disseminated**. The widespread ignorance of the real dangers of tobacco among the general public serves to safeguard the social acceptability of smoking. Even health professionals in many areas lack sufficient knowledge and training in the health risks of tobacco consumption. This results in missed opportunities to promote prevention among young people and cessation among patients who are already tobacco dependent.

**Anti-tobacco messages are often poorly developed.** Some so-called tobacco prevention messages disseminated in the Region cleverly disregard common adolescent attitudes that value rebellion, risk-taking and adult behavior in their purported prevention messages. Such alleged attempts to reduce youth smoking often only encourage young people to assert their independence and start or continue smoking by crafting messages that emphasize authority and age (Coe, 1999).

**Young people constitute a large share of the general population.** In

the Region's developing countries, young people represent anywhere from one-third to one-half of the economically active population (Burt, 1996; OAS, 1990). Most young people live in urban areas—by the year 2000, 80% of young people will live in urban areas—where they may experience an erosion of family and social support, poor housing and sanitation, and high levels of violence (PAHO, 1998 November; World Bank/PAHO, 1999 February). These stresses can increase anxiety levels, a major risk factor for substance use among youth.

**Young people in Latin America sometimes work in tobacco-related jobs.** While not widespread, children and adolescents in many countries in the Region work cultivating tobacco in rural areas and have been observed working for tobacco companies by handing out free product samples; in some urban areas, they even sell cigarettes.

**In some countries in the Region, cigarettes are relatively cheap and easy to purchase.** For instance, the purchase of a pack of cigarettes in Argentina would require only eight minutes of labor at the minimum wage, compared to twenty-two minutes in Canada and twenty-three minutes in the United Kingdom (WHO, 1997).

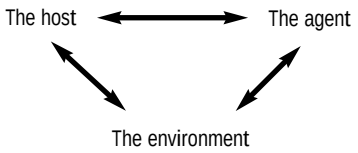
**Regional data collection describing youth tobacco consumption and the general demographics of youth is conducted sporadically and is insufficient for monitoring the true magnitude of the problem.** Country-level research analyzing the status of tobacco use by youth in discrete areas also is needed in order to target young people most at risk with appropriate prevention programs. Lack of adequate information that describes the magnitude of the tobacco problem—including "the causes, consequences and costs of tobacco use"—may contribute to the reluctance of area policy makers to support tobacco control action (WHO, 1999).


Most tobacco advertisements show active, healthy young people having a great time. If restrictions on tobacco advertisements curtail roadside ads, smoking messages often will leap from the billboard to t-shirts or other marketing objects.

# Taking Action

For policy makers and practitioners alike, the public health model can serve as a framework for building comprehensive health services and planning actions. The public health approach to reducing disease (such as tobacco-related death and disability) involves acting on all three domains of the problem.

One key to reducing tobacco use in the Americas—and the increased mortality associated with it—is to develop strategic actions to reduce consumption (host), diminish the power of tobacco (agent), and lower the accessibility and acceptability of tobacco use (environment) at the country and regional levels. Tobacco control strategies may take




the form of surveillance, policy initiatives, public information activities, prevention interventions, or, ideally, a combination of all of these activities.

## TOBACCO SURVEILLANCE

Recognizing the importance and the need for improved tobacco surveillance, in 1990 the World Health Assembly commissioned WHO to monitor the magnitude of smoking and tobacco use in the nations around the world. WHO then collected available country level statistics, later published in *Tobacco or Health: A Global Status Report* (WHO, 1997). This publication identifies important indicators for monitoring tobacco use. It targets the following categories as fundamental areas to survey in each country or Region:

- the sociodemographic situation;
- the tobacco-production and tobacco industry situation;

### SAMPLE NATIONAL PLAN OF ACTION FOR COMPREHENSIVE TOBACCO CONTROL

**Health Promotion**
- No-tobacco days
- Media advocacy
- School-based programs
- Community-based initiatives
- Sponsorship of cultural and sporting events

**Health Protection**
- Legislative efforts
- Fiscal measures

**Capacity Building**
- Training health and education professionals
- Partnerships between public and private health organizations
- Collaboration across sectors (e.g., health, education, youth development, children's rights)

**Monitoring and Evaluating**
- Programs and policies
- Surveillance of tobacco use

- tobacco consumption;
- the prevalence in different population groups: e.g., adults, young people, pregnant women;
- the rates of morbidity and mortality related to smoking; and
- existing legislation related to the tobacco use and its application.

The problem of smoking is one of the greatest challenges for preventive medicine in the Region. The lack of country-specific data needed to inform project design has been an obstacle to adequately respond to the challenge; standardized, disaggregated baseline data on tobacco consumption is not routinely available for many of the Region's countries. Country specific data can be transformed into effective policy, advocacy, and health promotion tools. According to the International Union Against Cancer (1990), this type of data is required to:

- influence policy and decision makers;
- recruit tobacco control allies among health professionals, educators, and the public at large;
- select or design appropriate interventions; and
- monitor progress in decreasing tobacco use.

## COMPREHENSIVE POLICY EFFORTS

Although tobacco control policies are gaining ground around the world, some countries have made more headway than others. As early as 1977, Finland prohibited smoking in public places. In 1988, Canada prohibited the advertisement of tobacco products. More recently, the United States and England have begun to restrict the promotion, sale, and consumption of tobacco. The British government, for instance, recently drafted legislation that will ban most tobacco advertising, and it plans to abolish all tobacco promotion—including sponsorship of sporting events such as Formula One—by the year 2006 (U.K. Secretary of State for Health, 1998; Hibbs, 1999). Norway, Belgium, Portugal, and Thailand also have adopted prevention measures that include a ban on tobacco propaganda, control of consumption in enclosed spaces, increase in cigarette taxes, and development of national prevention and cessation campaigns (WHO, 1998).

Such efforts have resulted from successful advocacy and public information campaigns that have effectively informed policy makers of the grave health consequences and enormous economic costs resulting from tobacco use and exposure.

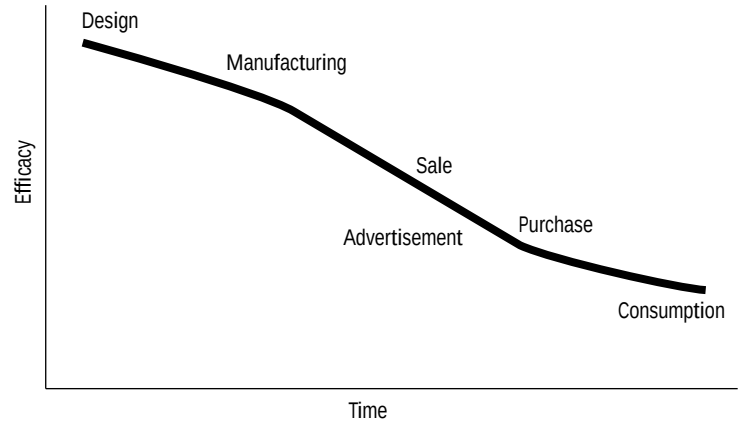
Fighting tobacco through legislative initiatives is an important component of national action plans. However, the actual impact of legislation varies and must be better evaluated in order to guide policy action, implementation, and enforcement. For instance, legislation affecting the design or manufacture of cigarettes would theoretically have the most immediate and powerful impact on tobacco use, but such initiatives have not been evaluated or promoted. More frequently, policy makers favor legislation that influences tobacco advertising and purchase instead. These types of legislative efforts can achieve an eventual impact, but over a longer period. The feasibility of implementing and enforcing various types of legislation must also be considered in the evaluation of policy options (see Figure 7).

The Toxic Substances Board of New Zealand conducted a study on the relationship between the regulation of tobacco promotion policies and consumption trends in thirty-three countries between 1970 and 1986. They found that, overall, the greater the restrictions on tobacco promotion, the greater the average annual reduction in tobacco use (Roemer, 1995).

## PREVENTION PROGRAMMING

Simply put, prevention works. It works not only to reduce disease and death, but in the case of tobacco, it also serves

Figure 7. Impact over time of legislative efforts targeting various aspects of tobacco manufacture and consumption.




to reduce the astronomical economic costs associated with lost productivity and health care costs. WHO estimates that effective tobacco prevention efforts cost around US$ 20–US$ 40 per year of life gained in a developing country setting (1999 April). But this cost is minuscule in comparison to the estimated US$ 18,000 per year required to treat a lung cancer victim.

Experts around the globe agree that effectively reducing death and disability caused by tobacco use requires strategies that integrate prevention efforts such as policy advocacy, health promotion and public awareness campaigns, with cessation programs for both adults and adolescents.

Regarding tobacco dependence, secondary prevention often addresses the early detection and primary care of tobacco dependents, including educational and behavioral approaches to quitting smoking. Tertiary prevention, on the other hand, aims to treat and rehabilitate individuals suffering more advanced tobacco-related disease, such as emphysema, cardiovascular disease, lung and larynx cancer.

Targeted, primary prevention efforts are essential to preventing the suffering as well as the predicted premature tobacco-related death of 250 million children and adolescents who are alive today (WHO, 1999b April). Targeting young people with tobacco use prevention programs can prevent the life-long dependence on nicotine that is associated with a myriad of diseases and eventual premature death.

In order to incorporate elements that will help target prevention programs, it is necessary to examine the huge body of evidence describing such programs. Behavioral scientists Dusenbury and Falco (1995) did this in their review of youth-focused, drug prevention programs implemented between 1989 to 1994. They also surveyed a group of fifteen experts in the field. Their investigation identified the following as essential features of effective prevention programs:

**The most effective strategies for reducing death and disability from tobacco couple prevention efforts with smoking cessation programs.**

- methods are based on behavioral theory (social learning theory);
- information is concrete and present-oriented;
- programs are school-based;

## PUBLIC INFORMATION EFFORTS

Policies that ensure that smokers and potential smokers are told the truth about tobacco must be developed and implemented. This entails three key steps:

1. Protecting children. Children are incapable of making fully informed decisions about tobacco use and should be protected from becoming dependent on tobacco. Messages that state that "smoking is for adults" may be one of the most effective incentives for children to start smoking; it is probably no coincidence that tobacco companies endorse such campaigns. In order to put a dent on tobacco sales to children, there must be consistent messages that restrict when, where, how, and to whom tobacco products may be sold.
2. Providing detailed information to the public. Fully informed decisions require more detailed knowledge of the diseases caused by tobacco use, the increased risk of such outcomes, and the prognosis. The public also should know the benefits and methods of cessation, as well as where and how to access cessation assistance.
3. Protecting the public from misinformation. Tobacco industry efforts resulting in consumer deception must be prevented; past deceptive practices must be acknowledged and corrected.

*PAHO, 1999.*

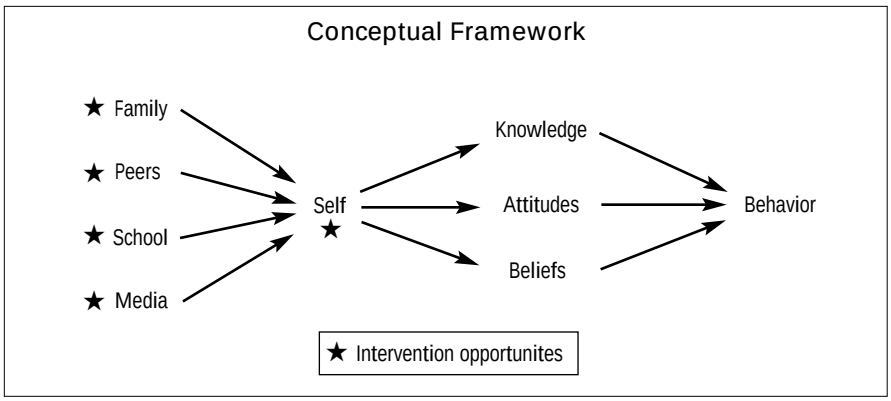
- normative education and interactive teaching are employed;
- teachers are adequately trained;
- programs offer at least 10 sessions, plus follow up or booster sessions in subsequent years;
- programs are culturally appropriate (i.e., attuned to the target population's culture); and
- programs are evaluated for effectiveness.

It also is important to examine effective programs implemented in specific locales or cultural settings. A fundamental strategy for better targeting prevention programs is to carefully design primary prevention programs so that they meet the unique needs of young people living in specific settings. Prevention programs that effectively influence positive change in young people's behavior (regarding the decision to smoke, for instance) must address not only individual factors but also the societal context of the behavior targeted for change (IUAC, 1990). A successful conceptual framework incorporates as many social channels of influence as possible.

## SCHOOL-BASED PROGRAMS

Since almost 90% of smokers begin using tobacco before the age of 18, and youth begin trying cigarettes on average at around 13 years of age, tobacco use prevention efforts logically have the greatest impact when focused on children and young people. Indeed, the majority of such prevention programs are directed toward school-age children, making schools an ideal setting for the application of these programs.

Of the six billion inhabitants of the world, one billion are registered in schools. In developing countries, 80% of young people are enrolled in schools, and of these, 60% complete at least four years of schooling (WHO, 1998b). The school is a place of special importance for the implementation of prevention




campaigns, since many, many youth at a critical stage in their development can be reached. It is important to keep in mind, however, that the young people most at risk for substance use may no longer be attending school and may have dropped out of the formal educational and social service system altogether. Prevention programs targeting out-of-school youth through non-formal venues also should be explored.

In addition to reaching most children and adolescents, schools present effective channels for reaching other segments of the population (i.e., school personnel, families, and community members). As a result, the formal educational system can be an important vehicle for the dissemination of public health information.

Although a consensus exists that schools are an ideal place to carry out substance use prevention efforts, experts do not always agree on the best grade level for initiating such a campaign. Some programs have focused on the first years of primary school. Other programs have targeted fifth, sixth or seventh graders—that is, students who have already reached a level of intellectual maturity sufficient to assimilate critical knowledge. In addition, children at these higher-grade levels are nearer the ages identified as "at risk" for experimenting with substances.

The Region of the Americas boasts one of the highest school enrollment rates in the world, providing an extensive infrastructure for health promotion and prevention programs (World Bank/PAHO, 1999 February). In developing countries in the Region, there are five times as many teachers as health workers, and these teachers, for the most part, have regular and long-term contact with students. Also, teachers have identified tobacco, alcohol, and other drug use as major barriers to learning. This may facilitate the acceptance on the part of school districts to utilize class time for substance use prevention curricula.

## CARRYING OUT PREVENTION CAMPAIGNS IN SCHOOLS CAN:

- Reduce program costs by using existing infrastructure;
- Expedite short and long term evaluation;
- Facilitate counseling and experimentation;
- Utilize experienced and capable teachers;
- Improve credibility with parents and links to community; and
- Lead to healthier, more productive adulthood

*Botvin & Tortu, 1988; WHO, 1998b; World Bank/PAHO, 1999 Feb.*

The U.S. National Cancer Institute has designated the following elements as essential to school-based prevention programs:

- Sessions should be held at least five times each year between the 6th and 8th grades.
- Emphasis should be placed on social factors associated with smoking initiation, short-term consequences of smoking, and refusal skills.
- Program should be integrated with the school curriculum.
- Program should be introduced during the transition between primary and secondary schools (around the seventh grade).
- Students should participate interactively in the program.
- Parental involvement should be promoted.
- Teachers should be appropriately trained.
- Program should be adapted to the culture of the target population.

*CDC, February 1994.*

Teachers have identified the use of tobacco, along with alcohol and other drug abuse, as a major barrier to learning. This should facilitate the acceptance of smoking prevention curricula by school districts.

In a recent analysis of school-based health interventions (World Bank/ PAHO, 1999 July), preliminary findings indicate an increased collaboration between the health and education sectors in developing countries across the Region, particularly in Colombia, Ecuador, and El Salvador. These findings imply that area governments view school-based prevention programs as increasingly important. A stronger link between sectors has resulted in an expansion of school-based prevention programming targeting substance use, school violence, accidents, and sexually transmitted diseases. This analysis also suggests that there is both a real and a perceived need for more skills-based (as opposed to disease-specific) school health projects, with particular assistance needed for teacher training and program development.

School-based prevention programs can be universal, aiming to reach the general population of students, regardless of their background risk; selective, targeting adolescents that have predictors for high risk behaviors; or indicated, targeting youth that show early signs of high-risk behavior involvement (Institute of Medicine, 1994). Historically, school-based substance use prevention programs have been grouped into four general categories (Botvin, 1979).

In the 1960s, prevention strategies were based on the empirical-rational theory that increasing the knowledge of the negative consequences of selected behaviors (e.g., substance use) will result in the rational decision to avoid the behavior. These strategies assumed that adolescent smokers must be uninformed of the adverse effects of smoking. Prevention programs sought to improve the students' level of knowledge through books, videotapes, pamphlets, and posters. However, evaluation of these programs demonstrated that they were not effective at lowering smoking rates (Thompson and Goodstadt, 1978). Although focused, updated information on the effects of substance use is fundamental to substance use prevention, programs that only offer information are not sufficient. Furthermore, there is reason to believe that such an approach may just pique the curiosity of young risk-takers, resulting in increased experimentation with substances (Kaminer).

Another popular approach used during the 1960s and early 1970s involved

affective education, which focused on increasing self-understanding and acceptance through activities such as values clarifications and responsible decision making; improving interpersonal relations by fostering effective communication, peer counseling and assertiveness; and increasing students' abilities to fulfill their basic needs through existing social institutions. Evaluations of these strategies have not shown an impact on behavior.

Starting in the 1970s, prevention programs began to utilize the bulk of evidence from the social literature that recognized that social factors played a major role in the initiation of substance use. The use of "psychological inoculation" was intended to make students aware of the various social pressures they would encounter that encouraged them to smoke, so they would be psychologically prepared (inoculated) to resist these influences (Evans, 1976). At the same time, the emphasis on teaching "drug resistance skills" or "drug refusal skills" increased. Students were taught how to recognize, avoid or respond to high risk situations in the most effective way and also how to recognize the pressure to use substances coming from the media. This approach views the teaching of basic and general life skills as a holistic way to promote youth development. The social development adherents promote involvement in cooperative learning during elementary school to avoid resorting to aggressive or other problem behaviors with impressive results. This group has identified a set of risk factors for problems (such as substance use, delinquency, teenage pregnancy, and school failure), as well as a set of protective factors (such as bonding to prosocial family, school, and peers and clear standards or norms for behavior) that reduce one's risk for later problems by buffering the effects of exposure to risk factors (Hawkins, Catalano, 1999). Another component of the social influence approach to substance use prevention debunks the myth that most people smoke by giving adequate data and promoting student's participation in prevention programs. Many of these prevention programs based on the social influence model include the use of peer leaders who have a higher credibility among young people.

Finally, the competence enhancement approach teaches general personal and social skills in combination with selected components of the social influence model. The most extensively used research competence enhancement approach to drug abuse is the "Life skills training program" (Botvin). The theoretical foundation for this approach is based on the social learning theory (Bandura, 1977) and the problem behavior theory (Jessor and Jessor, 1977), which proposes that the social environment and intrapersonal factors affect the susceptibility to use substances.

The social influence approach is designed to impart information and teach norms and refusal skills with a problem-specific focus. Competence enhancement approaches such as "life skills training" emphasize the application of general skills to situations directly related to substance use, such as the application of general assertive skills to situations involving peer pressure.

Research concerning the etiology of drug abuse and adolescent development indicates that a critical time for experimentation with tobacco, alcohol, and illicit drugs occurs at the beginning of adolescence. For this reason, most drug abuse prevention programs are implemented among seventh graders. However, there is a general agreement that at least some risk factors may have their roots in early childhood, arguing for beginning interventions at a younger age. Programs aimed at aggressive/disruptive classroom behavior and poor academic achievement among first and second graders have shown to be effective in reducing the incidence of smoking initiation among male students (Kellam and Anthony, 1998).

The Region of the Americas boasts one of the highest school enrollment rates in the world, which translates into an extensive infrastructure for carrying out health promotion and prevention programs.

# Life Skills

As do earlier prevention programs, "Life Skills" programs in operation today also are based on the social learning theory. This theory promotes opportunities for processing life experiences, structuring experiences, and actively gaining experiences (Bandura, 1977 [as cited in Botvin, 1986]). The Life Skills approach is built around creating opportunities for youth to acquire skills—such as media literacy or critical thinking—that enable them to avoid manipulation by outside influences.

The idea is for young people to be able to recognize the coercive forces of social pressures, as well as organized campaigns, such as tobacco advertising, that promote behaviors known to jeopardize their health. The Life Skills approach aims to assist young people to regain control over their behavior while taking informed decisions that can lead to positive behaviors and values (e.g., deciding not to smoke). Additional Life Skills generally taught by such programs include self-awareness, stress management, assertiveness, and negotiation.

Curricula based on this theory stress experiential learning and opportunities to practice new skills acquired during instruction. Program activities actively involve young people through work in small groups, peer facilitation, role-playing techniques, games, presentations, and other interactive events.

Aside from the actual benefits of the newly acquired Life Skills, this curricula also result in improved student/teacher relations, better academic performance, higher school attendance rates, and fewer behavioral problems in the classroom (WHO, 1998 April). Most importantly for the purposes of this discussion, the Life Skills approach, as used in the prevention of substance use, has been shown to reduce smoking initiation by between 25% and 87% at one- to six-year follow ups (Botvin, Renick, and Baker, 1983; Botvin and Eng, 1982; Botvin, G., Baker, Dusenbury, Botvin, E. and Diaz, 1995).

## LIFE SKILLS TRAINING

Beginning in 1979, noted behavioral scientist and professor of psychiatry, Dr. Gilbert Botvin, published a highly effective Life Skills training program

UNICEF (1997) recognizes several levels of Life Skills:

- Basic psychological and social skills (strongly shaped by cultural and social values);
- Situation-specific skills (e.g. negotiation, assertiveness, conflict resolution);
- Applied life skills (e.g., challenging gender roles or refusing drugs).

for youth in the seventh through ninth grades. The training employs strategies that build students' abilities to refuse the offer of drugs through improved assertiveness, decision making, and critical thinking skills. Opportunities to learn and practice these "problem-specific" skills are just one aspect of a broader instructional program that teaches more general Life Skills.

**Studies show that teaching and learning these skills as a generic group of "life skills" is more effective in the prevention of harmful behavior than teaching the skills as isolated solutions to specific problems such as teen pregnancy or substance abuse.**

Botvin's intention in developing this program was to create a single prevention strategy that could effectively target multiple types of substance use behaviors (Botvin, G., Baker, Renick, Filazolla, and Botvin, E., 1984). His conceptual framework is based in part on Jessor's problem behavior model (1977, [as cited in Botvin, et al., 1984]), which recognizes that an interaction of social and personal factors facilitates the use of a variety of substances, including tobacco. Botvin conceptualized smoking as a socially learned behavior that results from the highly complex interaction of social and personal factors (Botvin, et al.,1984).

Through interactive modules, his program offers students opportunities to 'socially learn' skills to resist peer and media pressure to use substances like tobacco. Skills learned in the program include: assertiveness, critical thinking, decision making, and problem solving abilities. These skills boost protective factors in students, such as self-confidence, self-esteem, autonomy, and self-control (Botvin, et al., 1995).

Program materials include a teacher's manual, a student guide, and a relaxation audiocassette tape. The students are actively involved in the educational process through a variety of experiential techniques such as discussion groups and presentations to peers.

Botvin's Life Skills Training has been implemented in different school settings, including urban schools serving a predominantly Hispanic population in New York City. The intervention has been adapted to target various populations ranging from public school students to high-risk youth incarcerated in juvenile detention centers. The program has also experimented with different program facilitators (teachers, older students, and "investigators") showing impressive results at each location and with each type of facilitator, particularly with peer facilitators (Botvin, et al., 1995).

## THE WHO LIFE SKILLS INITIATIVE

The World Health Organization promotes Life Skills school-based programs as a means to develop skills among young people that lead to healthy lifestyle choices and optimum physical, social, and psychological well-being. Depending on the culture, different specific abilities are emphasized. WHO considers the following Life Skills to be the most essential (WHO,1993):

**The ability to make decisions** helps students assess their options and carefully consider the different consequences that can result from their choices.

**The ability to solve problems** helps students find constructive solutions to their problems. This skill can significantly reduce anxiety.

**The capacity to think creatively** is essential to decision making and problem solving. It enables students to explore all possible alternatives together with their consequences. It helps students look beyond their personal experience.

**The capacity to think critically** helps students objectively analyze available information along with their own experiences. It is this ability that helps students recognize the factors that influence their behavior, such as societal values, peer influence, and influence of the mass media.

**The ability to communicate effectively** helps students to express their feelings, needs, and ideas to others—verbally or otherwise.

**The ability to establish and maintain interpersonal relations** helps students to interact positively with people whom they encounter daily, especially family members.

**Knowledge of self** is the capacity of students to know who they are, what they want and do not want, and what does and does not please them. It also helps students recognize stressful situations.

**The capacity to feel empathy** is the ability to imagine what life is like for another person in a very different situation. It helps students to understand and accept diversity, and it improves interpersonal relations between diverse individuals.

**The ability to handle emotions** enables students to recognize their emotions and how they influence their behavior. It is especially important to learn how to handle difficult emotions such as violence and anger, which can negatively influence health.

**The ability to handle tension and stress** is a simple recognition by students of the things in life causing them stress.

With the Global School Health Initiative and the Health-Promoting Schools campaign, WHO has supported Life Skills activities through workshops, the development of materials, and the consultation with governmental and non-governmental agencies interested in this approach to youth health and development (WHO, 1995 and 1998b).

## LIFE SKILLS PROGRAMS IN LATIN AMERICA AND THE CARIBBEAN

Life Skills school-based programs have been implemented in several countries in the Region, including Chile, Colombia, Mexico, Peru, Venezuela, Uruguay, Brazil, Costa Rica, and the Caribbean countries (World Bank / PAHO, 1999 February).

In the Caribbean, the Caribbean Community (CARICOM) operates a Health and Family Life Education project responsible for introducing Life Skills curricula in all preschool, primary, and secondary schools in participating Caribbean countries (UNICEF, 1997). The Life Skills curricula address multiple health issues (WHO, in press). The CARICOM project is made up of partners representing UN agencies, the University of the West Indies, and ministries of education and of health.

**"Life Skills" programs not only help prevent smoking among adolescents, they have the added value of improving student-teacher relations, academic performance, and school attendance rates.**

In 1996 in Costa Rica, the Latin American Network of Health Promoting Schools adopted Life Skills Education as one of its priorities for improving health education in the school curriculum reforms. A workshop on life skills education conducted at the time produced excellent feedback. In 1998 in Mexico, the Latin American Network of Health Promoting Schools reinforced the commitment made two years before and another workshop was offered to participants. Materials for the workshop included a translation of the WHO documents on Life Skills.

The Ministries of Health and of Education of Colombia, with support from PAHO/WHO and other agencies, also developed a school-based Life Skills

program in response to high rates of mortality and morbidity associated with homicide and violence. The Colombian Life Skills program includes instructional materials and activities designed for grades four through nine (Bravo, Galvez, and Martinez, 1998). To date, the Life Skills program serves some eighty-five health-promoting schools in very poor urban areas in twenty Colombian cities, with participants totaling around 15,000 students (WHO, 1998; World Bank / PAHO, 1999 February).

In situations such as these, where the Life Skills methodology is already being used and the infrastructure is adequate to support an expansion of the program, tobacco or substance use prevention could be easily incorporated into the Life Skills program.

Through "Life Skills" interactive training, students learn assertiveness, critical thinking, decision making, and problem solving. These skills, in turn, boost their self-confidence, self-esteem, self-control, and autonomy.

# Adopting the Life Skills Approach

If the Life Skills approach is to be incorporated into prevention efforts that are part of a national education or health curriculum, there must be sufficient political will to support the initiative at the country level. Public health professionals, educators, and social service providers are in a unique position to make the case for adopting this important intervention.

## MOBILIZING SUPPORT

In order to win a place for the Life Skills intervention in school curricula, decision makers must appreciate the methodology's capability to promote students' psychosocial development and improved overall well-being. Policy makers must understand that by using the Life Skills approach one can simultaneously address a variety of issues threatening the health and well-being of youth (e.g., conflict, violence, smoking, depression). This approach also can prevent substance use by passing on to students skills for conflict resolution, stress management, decision making, and drug refusal skills. In generating the political commitment needed to spur the adoption of the Life Skills methodology, the connection between these skills and improved health, maturity, and emotional intelligence must be made clear. The cost-effectiveness and economic benefits of the approach also must be argued.

Political support also can be generated by connecting the school-based Life Skills program with a broader campaign or national priority, such as a national tobacco control campaign or a citywide, youth development initiative. Integration into existing initiatives, along with the support of intersectoral partnerships, can help ensure a broader community of participants, increased public attention, and sustainability of the program. When looking for appropriate campaigns with which to partner, moving beyond the health and education sectors—that is, the traditional advocates of substance use prevention—and linking up with other social welfare and children's rights initiatives can help ensure a broader base of support for the Life Skills initiative.

The health sector can certainly play an important role in advocating the adoption of the life skills methodology.

## LIFE SKILLS PROGRAM PLANNING

The long-term success of prevention programs can benefit from a participatory approach that ensures the active involvement of as many stakeholders as possible. Stakeholders are persons or organizations that could benefit from program involvement or successful program outcomes. Stakeholders of a Life Skills school-based substance use pre-

vention program may include youth, parents, teachers, administrators, and health and social service practitioners.

Participating stakeholders in the planning process should provide input into the definition of the problem (particularly regarding "perceived needs") and feedback on planned activities. In addition, the active participation of teachers and other practitioners can inform the efforts of planners regarding the design of appropriate training activities. Early and active participation by stakeholders not only increases their connection to the project, ensuring a higher level of support and involvement, but it also makes program elements more realistic and relevant to participants' life experiences.

## Completing a Needs Assessment

The first step in designing a prevention program is to determine as precisely as possible the extent of the problem. This assessment of the problem, often referred to as a *needs assessment* or *situation analysis*, is meant to describe in demographic terms precisely what the problem is, who is affected, and why.

Even though data in the Region are scarce, it is important that program planners review all available secondary data, including research and programmatic literature, that can help describe the nature of the tobacco problem. In addition, it may be necessary to collect primary data. This body of information can provide a baseline from which to measure trends in tobacco use and related beliefs or attitudes.

This diagnosis ideally should include a description of all the resources needed to solve the problem, for example, financial resources, human resources (e.g., client participants and staff), and material resources (e.g., facilities, materials, equipment, and supplies). The analysis should consider country-specific methods for disseminating new ideas, behaviors, and trends (IUAC, 1990).

The needs assessment is a useful tool for identifying the gaps that exist in services and resources, as well as the possible barriers to meeting needs. In addition, this assessment can provide policy makers with country-specific evidence needed to facilitate policy changes and commitment of resources.

Upon describing the magnitude of the problem (e.g., increased tobacco use by teens) the program hypothesis can be created (i.e., "If teens have the skills to resist social influence to smoke, then smoking prevalence among this group will decrease"). Next, the needs assessment process should determine the *target audience* and *catchment area* that the program will serve.

The target audience and catchment area should be rendered as precisely as possible. In order to target the intervention toward reducing risk among the most susceptible individuals, planners must examine the patterns of individual characteristics or social conditions inferring the greatest risk on youth. Possible characteristics of the target audience and catchment area include:

- age group—for instance, preteens or older adolescents;
- gender;
- socioeconomic status—education level, social class, economic factors;
- ethnicity—language and cultural context;

Data sources for assessing and evaluating activities;

- surveys or questionnaires,
- interviews,
- observation,
- focus groups or community forums,
- medical and program literature,
- vital statistics,
- clinical and school records, and
- physical examinations.

- special population groups—e.g., pregnant teens or homeless youth;
- geographic area—urban, rural, disadvantaged areas; and
- locale—public schools, private schools, schools serving high-risk populations

This analysis not only should define who in the catchment area is most at risk, but it also should reveal which risk elements experienced by these youth are modifiable. During recent years, knowledge of the etiology of substance abuse—including tobacco use—has demonstrated that there is no single factor that determines consumption; clearly, tobacco use depends on multiple factors. This makes the design of such prevention programs more complex, since they must address several modifiable risk factors at the same time. The interplay of protective factors must also be carefully assessed.

## Setting Goals and Objectives

The next step in the planning process is the formulation of *program goals and objectives*. Program goals describe in general terms what outcomes are expected from program activities. The goals provide program direction. Program objectives, on the other hand, describe in specific, measurable terms what the program hopes to achieve. The objectives guide the project and provide indicators and time frames that are useful for determining progress towards achieving program goals.

Careful attention to the development of program objectives will help ensure the success of the Life Skills intervention. Objectives are critical tools that program monitors (at national and regional levels) as well as project facilitators (teachers and counselors at the classroom level) will use to measure progress.

According to some health planners (Kettner, et al, 1990), there are several elements that characterize well-written objectives. The first is *clarity*: any jargon or confusing terminology should be eliminated; the easier the objective is to understand, the more likely it is to be used by program staff. Objectives also should also be *measurable*, specifying what results are expected and how they will be measured (e.g., post-test, observation, or questionnaire). In addition, objectives should be *time-limited*, with specific target dates set for achieving and measuring results. They should also clearly *assign responsibility* both for achieving and measuring the targeted action. Finally, it is important that objectives be *realistic*.

To be truly successful, a "Life Skills" program must clearly establish its target audience, including determining characteristics such as age, gender, socio-economic status, and ethnicity.

Since the Botvin Life Skills Training project has been widely evaluated with impressive results, this framework can serve as an excellent model for program planners. The design of the program incorporates the following principal goals:

- to promote students' abilities to resist social pressure to smoke;
- to diminish students' susceptibility to indirect pressure from society to use tobacco and other drugs by creating a greater sense of self-esteem, "self-mastery," and self-confidence ;
- to help students control anxiety produced by certain social situations;
- to increase knowledge of the immediate consequences of tobacco and alcohol use; and
- to promote the development of negative attitudes and beliefs regarding tobacco and alcohol use.

*Botvin, 1979.*

**Defining program scope, sequence, and duration** involves deciding when to initiate the program (i.e., at what grade level), what general topics will be addressed, how to sequence program sessions (e.g., when to schedule booster sessions), and how long the intervention will run. (See Appendix B for evaluating results of various formats used in Botvin's Life Skills Training.)

It is important to take into consideration how the prevention program fits into the larger existing school curricula. The better the integration of the program into current curriculum initiatives, the more likely the intervention will be supported and sustained over the long-term.

**"Life Skills" program objectives should set specific target dates for achieving measurable results.**

At this stage in the process, a decision should be made regarding whether to design a Life Skills program or to adapt an existing one. For programmers who choose to adapt an existing program, WHO has published several resource materials that include samples of Life Skills programs and case studies of countries that have developed or adapted such programs (WHO, 1997b). WHO recommends carefully weighing the costs and time associated with adapting programs versus developing programs, keeping in mind how much each offers toward obtaining a culturally and linguistically appropriate intervention.

## Creating Program Strategies

Whether designing or adapting program strategies, the most fundamental characteristic of Life Skills activities is interaction. Examples of instructional activities that are interactive include role playing, debate, dramatization, paired and small group instruction, and cooperative learning activities (e.g., team projects).

Life Skills are taught using an interactive, problem-solving approach that arranges activities as a series of steps. First, the students identify the problem, then they brainstorm all possible solutions. They then examine the advantages and disadvantages of each solution, and the best solution is agreed upon. Students next devise plans for carrying out selected solutions. Based on these fundamental problem-solving and negotiating skills, more specific

abilities can be developed, such as the ability to manage peer pressure or media influence.

## Designing Training Modules

Effective training is critical to the full implementation of the intervention. The Life Skills program should address technical assistance needs and resources in terms of program orientation, initial training in Life Skills, ongoing support and motivation, and program evaluation. Whether the instructor chosen for this intervention is a classroom teacher, school counselor, or peer facilitator, opportunities should be created for program facilitators to interact with student leaders during the training and orientation phases (IUAC, 1990).

In the training assessment, plans should carefully note the traditional teaching styles and methods used in regional and local settings. In some countries in the Region where didactic methods or learning "by rote" or memorization is the preferred approach to instruction, the interactive, seemingly non-formal methods that characterize Life Skills instruction may be completely new to teachers and counselors. In this case, such innovative methods may appear to threaten the status quo, and programmers must plan accordingly.

The training of Life Skills facilitators should follow the experiential methods that have been found to be so critical to the success of these prevention programs. The training program should offer sufficient assistance to program facilitators to acquire the necessary expertise in methods they may perceive as unconventional or opposed to their traditional methods. Experiential or participatory training validates the trainees' expertise and insight, and creates ample opportunities to share information and practice new skills. Opportunities to practice program activities can serve as both a skill-building and confidence-building tool.

Training modules should include activities that provide trainees with an understanding of the theoretical and conceptual framework underlying Life Skills; such an understanding is needed to increase facilitators' commitment to the program. Eventual mastery of program methods and belief in program principles by facilitators will prove crucial to full implementation of the intervention.

In addition to building facilitators' expertise in the instructional methods and theory behind Life Skills, most facilitators will likely need additional training on the facts and issues related to substance use among young people. To serve as a resource for their students, they must exhibit a good grasp of the

Elements of the facilitator training program may include:

- rationale for implementing Life Skills in schools;
- allocation of decision making authority and resources to a training coordinator responsible for planning, managing, and coordinating training activities;
- development of a trainers-of–trainers group to conduct initial training;
- regularly scheduled follow-up or in-service training to address facilitators' concerns and provide updates on tobacco use and progress toward reaching program goals; and
- evaluation of training activities to assess both skill and confidence levels of participants.

*Adapted from WHO, 1998 June.*

facts. Training in this area will also increase their confidence with students and their commitment to reducing substance use.

Particular attention also should be given to developing the program capacity needed to carry out intervention evaluation activities. Planners should explore a wide range of options for addressing this type of capacity building. For instance, it may be that a core staff of trained evaluators already exists at the national level, whether working through the ministries of health and of education or attached to universities or non-governmental organizations. If the decision is made to train local facilitators to conduct evaluation activities, special care should be taken to streamline and simplify the activities so that facilitators do not feel overburdened by these additional demands.

"Life Skills" activities rely on interaction—role playing, debates, dramatizations, and paired and small-group instruction. Facilitators for these activities can be teachers, school counselors, or peers.

## Developing Materials

The development of program materials can often become a resource-intensive aspect of program design, due to the amount of time, money, and technical expertise required to produce high quality, effective products. Programmers should explore alternatives that can facilitate material design in a more cost-effective manner, such as:

- Enlist the support of universities or research institutions that are looking for training and publication opportunities for their graduate students or research associates.
- Adapt materials that have already been tested with groups as similar as possible to the target audience.

Although the amount and variety of training materials will differ according to local needs and resources, many Life Skills substance use prevention programs have found the following types of materials necessary:

- training guides, including materials for simulation exercises ;
- instructor's manual, including background information, suggested strategies, and discussion guides for each session;
- student workbooks;
- visual aids (e.g., videos, posters, and cassette tapes); and
- evaluation materials (e.g., surveys, interview guides, checklists).

Some of Colombia's experience working with parents has shown that there might be a need to develop workbooks for parents (Bravo, Gálvez and Martínez 1998). There also has also been some experience working with peer facilitators, and training guides for young people may also be needed.

Program developers may also choose to develop or adapt promotional materials that schools and regional officials can use to advise the media and larger community of their Life Skills substance use prevention efforts. This effort would educate the public, enlist its support for program activities, and publicize progress toward reducing tobacco use.

Before moving from the planning to the implementation stage, program developers should outline the responsibilities of stakeholders, staff, and part-

nering institutions so that *accountability* is clearly communicated. Reaching consensus on the assignment of responsibilities is particularly critical to the success of large, national programs that involve players from a range of sectors and organizations.

## EVALUATION OF LIFE SKILLS PROGRAMS

Life Skills interventions for substance use prevention should be evaluated to ensure their effectiveness, optimal operation, and overall impact of the program. Evaluation objectives should be quantifiable, clear, and explicit, and they should incorporate baseline data describing both the target population and the parameters of the problem identified during the program planning. The purpose of the evaluation is to measure program operation and outcomes in relation to stated objectives.

Evaluation should begin at the start of program implementation by *piloting* the newly adopted materials. This makes it possible to determine how the program is functioning and which elements are working the best. This type of evaluation, often called *process* or *formative evaluation*, should be repeated periodically to determine the extent to which planned activities are being carried out. It provides an opportunity to "fine tune" program operations and activities. It also assesses the acceptance of the program by both instructors and students, and it can gauge their level of participation in planned activities.

*Outcome evaluation*, another type of program evaluation, measures program outcomes. Outcome evaluation can also include an assessment of the overall impact of the intervention.

*Indicators* related to substance use that could be assessed pre- and post-intervention include:

- use of tobacco,
- age of onset,
- cotinine (a metabolite of nicotine) or carbon monoxide levels,
- intention to smoke, and
- quit rates.

Other "soft" indicators describe students' level of knowledge regarding the negative effects of smoking, the perception of social acceptance of tobacco use—or norms—and the awareness of tobacco advertising and promotion (i.e., media literacy). In addition, the evaluation should include an open-ended segment where other, perhaps unexpected, indicators of success can be described, such as parental and community involvement, media reaction, changes in participants' self-esteem or confidence, anti-tobacco or peer education materials produced by students, and initiation of spin-off programs in the larger community.

It also is important to include demographic information in the assessment tools used. This type of data is needed to identify whether the intervention is equally effective among all types of participants (DHHS, 1993).

The ideal *evaluation instrument* incorporates an experimental design comparing case and control groups. Data describing both groups is collected via a pre-tested survey to assess and compare the prevalence of smoking, age of onset, and knowledge, attitudes and practices associated with tobacco use. However, using controls may not be feasible and could raise ethical questions about unequal access to services. There also are limitations to a survey design (e.g., impossible to ensure the accuracy of the information self-reported; difficult to control completeness of answers), and the high level of expertise needed to design such an instrument might be prohibitive. However, existing

**Prevention programs that do not incorporate evaluation or that do not act on evaluation findings can operate inefficiently or ineffectively, target the wrong group, relay confusing messages, or waste scarce resources.**

pre-tested tools are certainly available for adaptation and their use should be encouraged.

Primary data also can be collected through interviews, observations, or physical examinations, such as measuring the cotinine levels of student participants. Program planners must assess the accuracy, cost, and time associated with each option in order to choose the best evaluation method. Planners should consider using existing and available validated instruments or partnering with research institutions or organizations skilled in evaluation methods.

Program evaluations typically involve the following steps:

1. posing questions about the project and determining outcomes to measure;
2. developing conceptual framework or "logic model;"
3. setting standards (or indicators) of effectiveness;
4. determining level of measurement and type of evaluation needed;
5. selecting or designing evaluation instruments;
6. selecting participants and piloting test instrument and batteries;
7. revising instruments;
8. collecting and analyzing data.

*Fink, 1993; DHHS, 1993.*

# "Trazando el Camino": The Costa Rican Experience

The experience of "Trazando el Camino" in Costa Rica provides an excellent example of a school-based, culturally appropriate Life Skills program working to prevent the use of alcohol and tobacco by young people.

## BACKGROUND

Population-wide surveys conducted in Costa Rica in the mid-1990s detected that drug consumption was one of the problems deemed most serious by the population. In 1995, the Institute on Alcoholism and Drug Dependency (IAFA) examined substance use among the in-school adolescent population and detected that in the previous year 51% of the students had consumed alcohol, 15% had smoked, and fewer than 1% had consumed illegal substances. While present consumption was lowest in the seventh grade, the age of substance use initiation averaged around 13 years old (Madrigal, Sandi and Avila, 1998).

Since adolescent programming had already been targeted as a priority by the Government's National Center on Drug Abuse (CENADRO), the Ministry of Education and IAFA joined CENADRO to develop a solution to the substance use problem. They started by reviewing the programmatic literature on various prevention programs, and they identified those that had been evaluated as having the best results. The Life Skills training approach set up by Botvin and his colleagues in New York was chosen as a model, since it demonstrated excellent results in both the short- and long-term. Also, some schools had previously received some training in the Life Skills approach, as promoted by WHO. None, however, had addressed tobacco use prevention specifically through the Life Skills curricula.

Staff from the three partnering institutions supervised the development of "Trazando el camino," a proposal for the implementation of a national substance use prevention program based on the teaching of Life Skills. The curriculum was adapted from Botvin's training manual and includes most program components. Every attempt was made to reflect Costa Rica's reality.

The "Trazando el camino" prevention program includes five major components:

1. a *cognitive* component designed to provide information concerning the short-term consequences of smoking, prevalence rates, the current social acceptability of smoking, and the addictive nature of regular smoking;

2. a *decision making* component designed to facilitate critical thinking and independent decision making;
3. a *stress management* component that helps students develop skills for coping effectively with anxiety and peer pressure;
4. a *communication component* designed to teach social and assertiveness skills, including specific techniques for resisting interpersonal influences to smoke; and
5. a self-directed *behavior change* component designated to facilitate self-improvement, self-esteem and a sense of personal control.

The initiative also promotes the provision of smoking cessation activities in the schools. This component was added to address the needs of adolescents who already are addicted smokers. It has been demonstrated that stopping smoking substantially reduces the risk of tobacco related diseases and can prevent a great many premature deaths.

**"Trazando el Camino" aims to equip students with refusal skills, so that substance use is prevented, the age of substance use initiation is delayed, and the number of youth using substances like tobacco is decreased.**

Moreover, studies have shown that without assistance, less than 3% of individuals who want to stop smoking actually achieve and maintain smoking cessation (Hughes, Gulliver, Fenwick, et al., 1992).

The initiative, which is based on existing policy regarding smoking-free schools, also recognizes the need for schools to be maintained as smoke-free environments. Respecting non-smoking rules on school campuses works to lower the social acceptability of smoking and is absolutely necessary for the full implementation of a school-based tobacco use prevention program.

## PLANNING AND IMPLEMENTATION PROCESS

Planners chose to target seventh grade students in both public and private schools with their national initiative. However, materials are being developed for the expansion of the program to reach students in the eighth and ninth grades as well.

The project's *first phase* involved 1) reaching consensus on criteria for developing the program, 2) preparing materials (video and audio cassettes, student workbook, teacher's guide, and flip charts; see Appendix A for further description of materials), and 3) planning the program evaluation.

The *second phase* consisted of piloting the program and methodology at thirteen public and private schools. Specialists from IAFA, CENADRO, and the Ministry of Education assisted with monitoring the pilot programs and finalizing the curriculum.

During the *third phase*, teacher training was planned and implemented at the national level. The training was done in tiers: first, the IAFA, CENADRO, and the Ministry of Education performed an orientation for the technical advisers and regional supervisors. The regional supervisors then led the training and orientation of instructors at the school level.

During this stage, national program staff also conducted a randomized baseline survey across the country. A sample of 2,600 students completed an extensive survey incorporating questions on family, social environment, and personal characteristics to measure students' knowledge, beliefs, attitudes, and behaviors related to smoking. The survey results were used to provide both baseline measurements and information for refining program objectives.

The *fourth phase* marked the implementation of the program throughout the country, which began in 1999 at the start of the school year. At present, the "Trazando el camino" intervention is in place in more than 95% of the

public high schools across the country. These schools are implementing the program once a week during an hour earmarked for "counseling" which, prior to the intervention, had lacked a structured curricular component.

## TEACHER TRAINING

The training of the teachers included, as a first step, the training of the regional assessors who work for the Ministry of Education and are in charge of supervising the schools by region.

Their training involved a one-week workshop provided by the Ministry of Education, CENADRO and IAFA, with support from PAHO. The highly interactive workshop allowed regional assessors to practice their new skills. As a second step, the regional assessors trained school counselors from their region ("orientadores"), also using an interactive methodology. These school counselors, in turn, trained guidance teachers ("profesores guía") in their own schools. The length of training received by the guidance teachers depended on the time that the director of each school allocated to training purposes. In most cases, it was a two-day workshop. In private schools, the guidance teachers were trained by IAFA's personnel.

## EVALUATING "TRAZANDO EL CAMINO"

### Process Evaluation

Developers for the "Trazando el Camino" program designed evaluation instruments to measure different areas of interest:

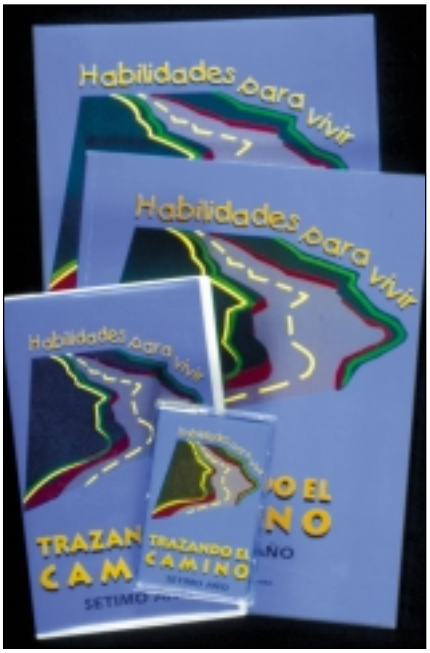
**Training**. Records of all teachers who participated in the training sessions were kept.

Soon after completing the training sessions, regional supervisors, schools supervisors, and classroom teachers filled out a survey developed by personnel from the Ministry of Education. This survey aimed to identify the adequacy of training, including length, content, and acceptance. During August, CENADRO distributed a survey in a sample of schools to assess program implementation. The survey also included a question on adequacy of training. IAFA will conduct a survey at the end of the school year that will include questions about adequacy and compliance with training sessions.

**Implementation.** During the school year, Ministry of Education personnel sent periodic surveys to the schools to monitor the program's implementation. Efforts have been made to contact the regional supervisors and ascertain if any administrative obstacles inhibited full implementation of the project.

Classroom teachers also have been contacted to confirm the extent of program implementation at the classroom level (e.g., number of hours devoted to each subject and use of all materials).

CENADRO conducted a survey in a sample of schools to assess implementation compliance independently from the Ministry of Education. This survey included questions regarding availability of materials, adequate use of materials, and number of hours devoted to the program. An open-ended question was included to identify any obstacles for an adequate implementation.




The use of multimedia materials—video and audio cassettes, student workbooks, teachers' guides, and flip charts—was critical to the success of "Trazando el Camino."

Project design

| Experimental group | March 1999 | School year | November 1999 |
|---|---|---|---|
| *Sample of 7th graders in Costa Rica* | O1 | X | O2 |
| Control group | | | |
| *Sample of 8th graders in Costa Rica* | | | O2 |

**Acceptance.** The Ministry of Education and the CENADRO surveys included questions about acceptance. For example, the surveys asked whether the program had been relevant to the local culture. Other questions included: did facilitators enjoy leading the program; did the students enjoy the program; did students adapt well to the participatory methodology; and did parents of students accept the existence of such a program?

## Outcome Evaluation

A sample of 2,600 students completed a baseline survey at the beginning of the school year and will complete one at the end of the school year. The instrument that was used at the beginning of the school year has been revised, and it will be conducted at the end of the program's first year. This instrument aims to identify changes in student knowledge, beliefs, attitudes, and behaviors and will measure population-wide declines in the use of tobacco and other substance. At present, all evaluation data are being collected and analyzed in aggregate form, since the baseline measurements used for comparison were collected in this manner. If the program continues, it has been suggested that individual data be recorded in the future. It also is important to note that the evaluation of the reduction in age of smoking onset will be carried out in subsequent years.

A sample of local facilitators also was surveyed before the beginning of the school year, so as to have a baseline of teachers' consumption of tobacco and other substances. Not surprisingly, many facilitators refused to complete the survey. Nonetheless, the plan is to ask the same sample similar questions at the end of the program. It is hypothesized that there may be some association between the facilitator's attitude toward substance use and changes in the attitudes of their students.

The self-reported survey completed by the students aims to answers the following questions:

- Did students exhibit newly acquired skills as a result of the program?
- Have these skills resulted in decreased substance use?
- Is there a change in the students' knowledge?
- Is there a change in students' attitudes and beliefs?
- Is there a reduction in the number of students who intend to use substances?
- Is there an increase in the number of students who want to quit smoking?
- Were other changes produced?
- Were relationships between teachers and students or among students improved?
- Was the dropout rate or academic performance affected?

A survey done at the beginning of next year will be able to assess whether behavioral changes persist after the program ends.

*Preliminary findings from the project's process evaluation reveal*, in general, a high acceptance of the program by participants and facilitators. Findings also have revealed some limitations or obstacles identified by program facilitators, including:

- Some facilitators did not have enough time.
- It required more than one session per subject to develop the curriculum
- Some facilitators felt they did not have a grasp of the background of the substance use problem and, therefore, could not adequately field questions from students or serve as a good resource on the issue.

- Video and audio materials were inconsistently used because necessary equipment often was not available.
- Some schools did not receive all the materials they needed to fully implement the program
- Some facilitators found it difficult to use participatory methods in classrooms of 35 or more students.
- In some cases, students were chronically absent during the "counseling" hour used for "Trazando el Camino" sessions.
- In many cases, parents were not informed about the program.

Other elements also could be inhibiting the full implementation of the program. First, there seemed to be some inconsistencies in the performance of project facilitators charged with local implementation. This is not unusual; previous research has shown that similar prevention curricula are not always uniformly implemented by participating teachers (Botvin, et al., 1995). In addition, the process evaluation revealed that the pre-test needed to be revised—it was too long and students often failed to fill it out completely. Finally, some schools complained of low participation due to a lack of motivation among students who feel that substance abuse is not a problem.

One reason for the inconsistency in implementation could be related to the selection of facilitators. It has been hypothesized that facilitators who have a background in the humanities or health may be more motivated than facilitators who are professors of science or math. Unfortunately, the selection of facilitators for "Trazando el Camino" is not based on teaching background or even teacher interest; the teachers who are selected as facilitators are simply those who need to add an additional hour of instruction to their teaching schedule in order to complete their forty-hour work week.

*Preliminary analysis suggests that implementation could be made more uniform by strengthening the ongoing training and support provided to regional and local facilitators.* To this end, it may be helpful to revise the instructor's manual to include more background information on the substance use problem so that facilitators feel more confident about the subject matter.

The usefulness of using videos or audiocassettes to relay program information also should be reconsidered. Many resource-poor schools simply do not have the necessary equipment to make use of such audiovisual aids. Sessions that require the use of the audio tape should be revised to ensure fuller implementation. A more practical use of program resources might be to increase the size and quantity of posters for use in large classrooms.

Implementation also might be strengthened by training staff from the three partnering institutions to periodically monitor training and implementation at the local level and to assess adherence to the program protocol. An ongoing consultation by national project staff might also remedy the problem by better supporting teachers as they encounter barriers to program implementation, such as low student participation.

*The analysis of evaluation results also suggests that program credibility* needs to be strengthened among students, facilitators, and parents. In order to counteract low levels of motivation or participation, it is important to reinforce "Trazando el Camino" activities as part of a national campaign to reduce substance use among young people. Publicity efforts should be led by the three institutions directing the program. Improved promotion of the program and communication of program results will lead to higher acceptance and fuller participation by all the stakeholders.

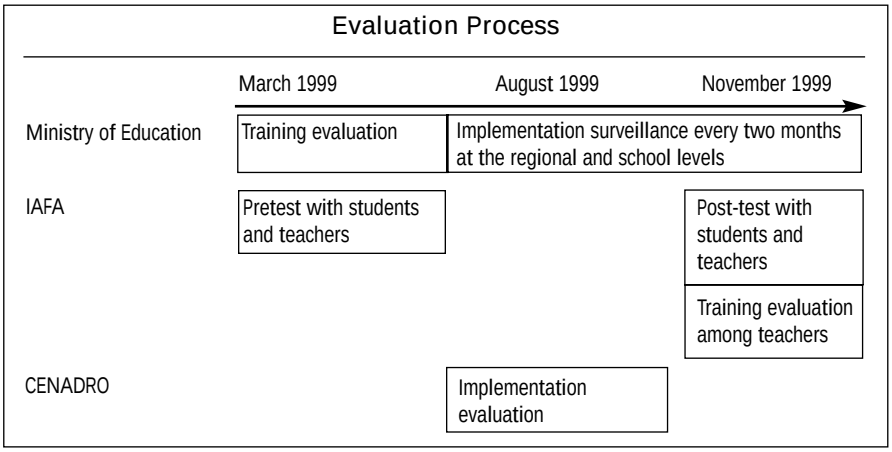
*While partnerships lend an excellent mix of resources, expertise, and broad-based support to prevention programs,* it is important to recognize the inherent dif-

ficulties in sharing the management of such programs among collaborating institutions. IAFA, CENADRO, and Ministry of Education staff working on "Trazando el Camino" have accomplished a great deal in carrying out this collaboration and continue to adopt strategies to improve program implementation. For instance, since the program developers represent three separate institutions, it was decided that each institution should carry out a separate component of the process evaluation. In addition, representatives from the institutions have found that regular meetings where they share evaluation results and other information are critical to the avoidance of duplication of efforts.

Further analysis of the present and future evaluations of "Trazando el camino" will provide direction for the continued fine-tuning of the program. It is hoped that this life skills tobacco prevention program will become a permanent part of the national educational curriculum in Costa Rica.

## LESSONS LEARNED TO IMPROVE IMPLEMENTATION

- Schools need to be ready to easily incorporate new programs
- Directors and teachers must believe that substance use is an important issue
- Teachers should volunteer to teach the curriculum
- Teachers should be provided with adequate and sufficient training
- Teachers should be selected for their commitment and sensitivity
- All teachers in the school should be aware of the program
- There should be a good relationship between the Ministry of Health and the Ministry of Education
- The implementation is done progressively



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# Appendix A: Materials Used in Costa Rica's "Trazando el Camino" Program

## Instructional kit

- an 8-minute introductory videotape and cassette,
- a student workbook,
- a teacher's guide, and
- classroom flip charts.

## Student workbook

The workbook contains activities organized by session:

Session # 1: Analysis of student expectations
Session # 2: Comparison of primary and secondary school experiences
Session # 3: Identification of positive and negative characteristics
Session # 4: Decision making case study
Session # 5: Analysis of decision making practices
Session # 6: Influence of advertising
Session # 7: Stress management
Session # 8: Characterizing family members
Session # 9: Opinion poll on smoking
Session # 10: Monetary consequences of cigarette consumption
Session # 11: Rights of non-smokers
Session # 12: Myths associated with alcohol
Session # 13: Review of skills
Session # 14: Beliefs statement
Session # 15: Development of a prevention project

## Instructor's guide

The instructor's guide contains a letter of endorsement from the President of Costa Rica, a brief explanation of the theoretical basis of the program, expected outcomes, and strategies for developing session activities.

# Appendix B:
# Life Skills Training:
# Summary of Selected Evaluation Results

| Source | Location | No. of Students | Design | Content | Results |
|---|---|---|---|---|---|
| Botvin, Eng, and Williams, C. (1980) | New York<br>2 schools<br>suburban middle class | 281students from 8th, 9th and 10th grades; 121 in intervention group and 160 in control group | A O1 X O2<br>C O1 O2<br>No objective measure | X: 10 sessions (once a week)<br>"self improvement project"<br>Outside specialist used<br>**Tobacco** | A: onset rate 4%,<br>C: onset rate 16%<br>Overall 75% reduction in incidence; increase in knowledge |
| Botvin and Eng, (1982) | New York<br>2 schools<br>suburban middle and upper class<br>>90% white | 426 7th graders;<br>357 completed intervention | A O1 X O2 O3<br>B O1 O2 O3<br>0m 3m 1y<br>Saliva samples | X: 12 sessions (once a week)<br>Led by paired peer leaders who had 4 h. training plus 1 h. briefing each week<br>Tobacco | Reduction in incidence by 58%; increase in knowledge.<br>**After one year:** 25% fewer non-smokers in experimental group |
| Botvin, et al., (1983) | New York<br>7 schools<br>suburban middle and upper class<br>91% white | 902 7th graders | A O1 X O2 O3<br>B O1 X O2 O3<br>D O1 X O2 b O3<br>C O1 O2 O3<br>0m 4m 16m<br>Saliva samples | X: 15 sessions<br>b: 8 booster sessions<br>Implemented by teachers<br>A: 1 session per week<br>B: Intensive minicourse = Sessions everyday for one month<br>D: Minicourse plus 8 weeks of booster sessions<br>C: control group = no intervention<br>**Tobacco** | **At one year follow up**<br>Intensive minicourse reduced new smoking onset by 50% the first year and by 55% the second year.<br>New smoking was reduced by 87% in the 2nd year when booster applied. |
| Botvin, Dusenbury, Baker, James-Ortiz, and Kerner, (1989) | New York<br>8 urban schools<br>>70% Hispanic | 471 7th graders | 2A: O X O (156)<br>2B: O X O (99)<br>4C: O O<br>3.5m<br>Breath samples | 15 sessions<br>A: high implementation<br>B: low implementation by teachers<br>**Tobacco** | Level of implementation is related to the efficacy of the intervention; teachers in high implementation group were younger and less experienced, and reported feeling better prepared than teachers in the low implementation group. |

## Appendix B, cont.: Life Skills Training: Summary of Selected Evaluation Results

| Source | Location | No. of Students | Design | Content | Results |
|---|---|---|---|---|---|
| Botvin, G., Baker, Filazolla and Botvin, E., (1990) | New York<br>10 schools<br>suburban<br>middle class<br>80% white | Year 1:<br>1311 7th graders<br>Year 2:<br>1185 8th graders<br>Year 3: (one-year follow up):<br>998 or 76% of initial sample | A O1 X O2 O3<br>B O1 X O2 b O3<br>D O1 X O2 O3<br>E O1 X O2 b O3<br>C O1 O2 O3<br>4m 1y<br>Saliva samples | X: 20 sessions in 7th grade<br>b: 10 sessions in 8th grade<br>A: implemented by older students (4 h. training); no booster<br>B: implemented by older students (4h. training) with booster in 8th grade<br>D: implemented by teachers (one day training); no booster<br>E: implemented by teachers (one day training) with booster<br>C: control group = no intervention<br>**Tobacco, alcohol, marijuana** | **At one year follow up:**<br>*Peer-led sessions*<br>79% lower weekly and 82% lower daily smoking; 69% lower marijuana use<br>*Teacher-led sessions*<br>44% lower weekly smoking and daily smoking reduced by 50% among females |
| Botvin, et al., (1995) | New York<br>56 public schools<br>middle class<br>mostly white | 5954 7th graders in 1985<br>Six-year follow up:<br>3597 students in 1991 (60% of original sample) | A O1 X1 X2 X3 O2<br>B O1 X1 X2 X3 O2<br>C O1 O2<br>Breath CO samples | X1: 15 sessions in 7th grade<br>X2: 10 sessions in 8th grade<br>X3: 5 sessions in 9th grade<br>Implemented by teachers<br>A: teachers attended one-day workshop; implementation feedback given<br>B: teachers were trained with a 2 h. videotape (no feedback)<br>**Tobacco, alcohol, marijuana** | **Long-term follow up:**<br>Intervention group had 15% lower monthly and 27% lower weekly smoking. Also had 25% lower heavy tobacco use (>=1 pack/day) and 66% lower multiple substance use |