Protect people from tobacco smoke

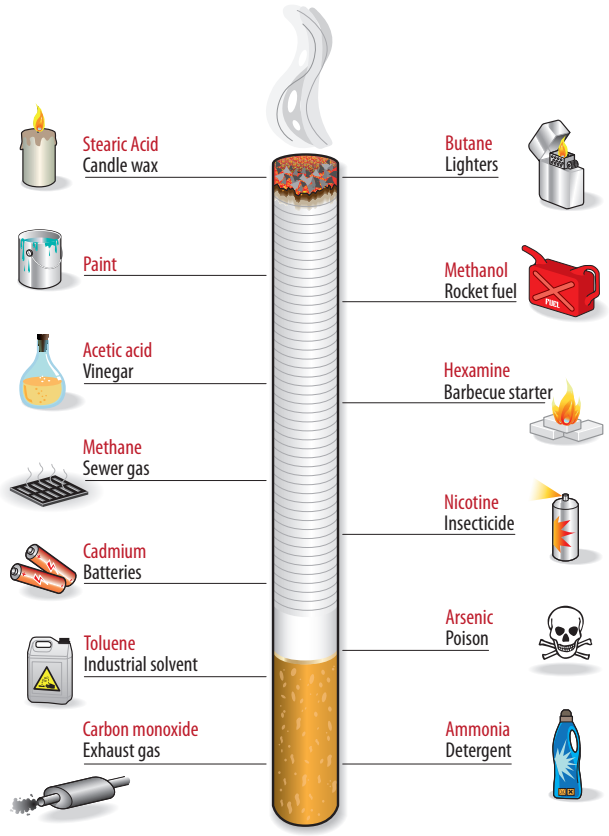
Second-hand tobacco smoke is dangerous to health

Second-hand tobacco smoke is the smoke emitted from the burning end of a cigarette (side-stream smoke) or from other tobacco products, usually in combination with the mainstream smoke exhaled by the smoker, and has similar components to inhaled or mainstream smoke (*6*). However, it is three to four times more toxic per gram of particulate matter than mainstream tobacco smoke, and the toxicity of side-stream smoke is higher than the sum of the toxicities of its constituents (*7*).

More than 4 000 chemicals have been identified in tobacco smoke, at least 250 of which are known to be harmful and more than 50 of which are known to cause cancer (*8, 9*). People in places that allow smoking can be subject to significant levels of toxins, as pollution from tobacco smoke can reach levels that are much higher than levels of other environmental toxins, such as particles found in automobile exhaust. Studies have shown that pollution levels in indoor places that allow smoking are higher than levels found on busy roadways, in closed motor garages and during firestorms (*10*).

Second-hand tobacco smoke can spread from one room to another within a building, even if doors to the smoking area are closed. Toxic chemicals from second-hand tobacco smoke contamination persist well beyond the period of active smoking, and then cling to rugs, curtains, clothes, food, furniture and other materials. These toxins can remain in a room weeks and months after someone has smoked there (*11, 12*), even if windows are opened or fans or air filters are used. Filters can become a source for deposited chemicals that are then recycled back into the air of a room rather than removed. Tobacco toxins that build up over time, coating the surfaces of room elements and materials and smokers' belongings, are sometimes referred to as "third-hand smoke" (*13*).

CHEMICALS CONTAINED IN SECOND-HAND TOBACCO SMOKE (PARTIAL LIST)



More than 4 000 chemicals have been identified in tobacco smoke.

Exposure to second-hand tobacco smoke and early death

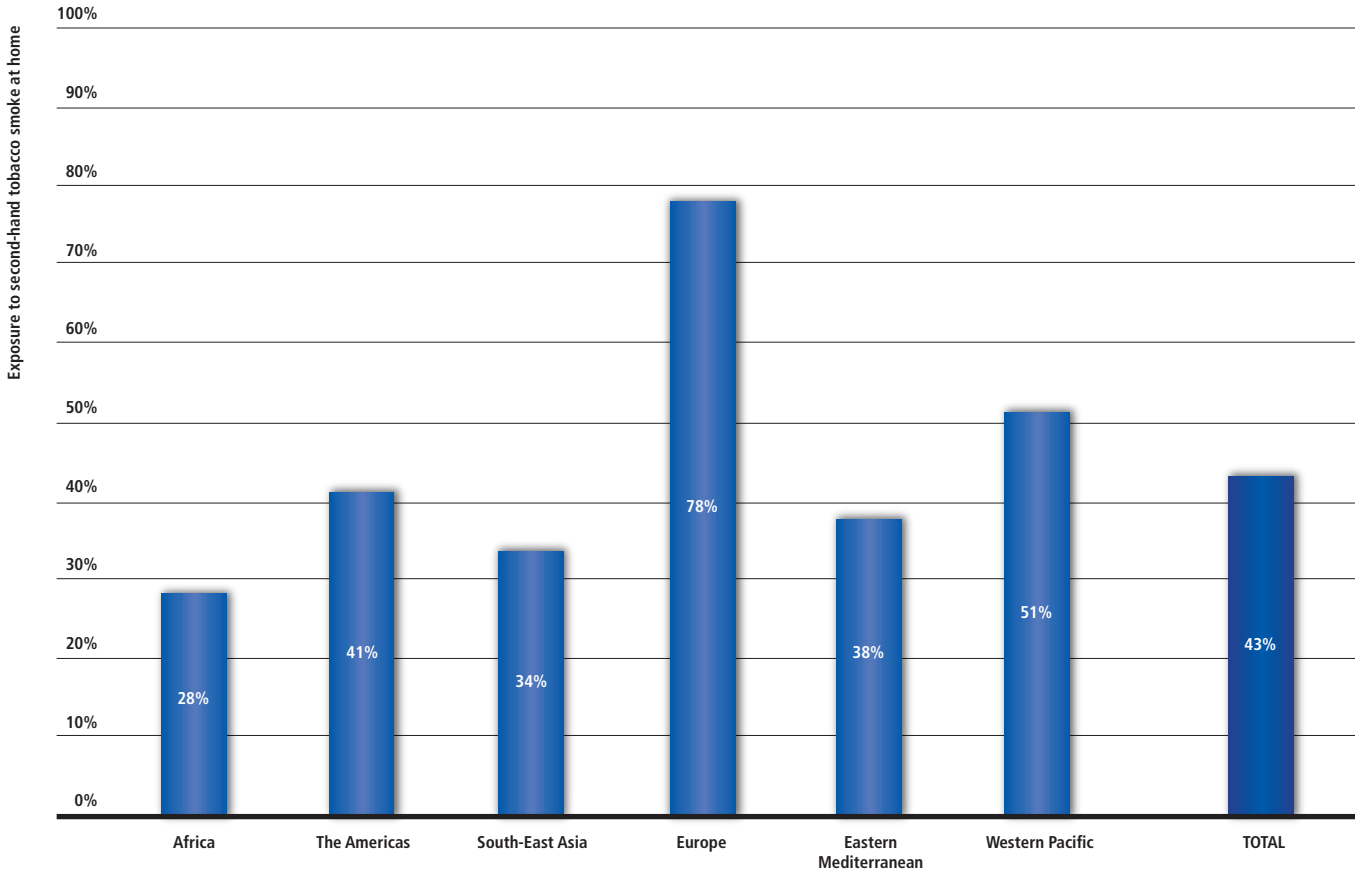
Second-hand tobacco smoke is present in virtually all public places where smoking is permitted (*14*), and there is no safe level of exposure (*15*).

Globally, it is estimated that about one third of adults are regularly exposed to second-hand tobacco smoke (*16*). In the European Union, 14% of non-smokers are exposed to other people's tobacco smoke at home, and a third of working adults are exposed to second-hand tobacco smoke at the workplace at least some of the time (17). In Canada, about a quarter of non-smokers report regular exposure at home, in vehicles or in public places (*18*).

An estimated 700 million children worldwide – about 40% of all children – are exposed to second-hand tobacco smoke at home (*19*). The global average of children with at least one smoking parent, according to the definition used by the Global Youth Tobacco Survey (GYTS), is estimated to be 43% (*20*). Data from the GYTS indicate that, among those surveyed, nearly half of youth aged 13 to 15 years who have never smoked are exposed to second-hand tobacco smoke at home, with a similar percentage exposed in places other than the home; these youth are 1.5 to 2 times more likely to initiate smoking than those not exposed (*20*).

Second-hand tobacco smoke is estimated to cause about 600 000 premature deaths per year worldwide (*16*), approximately the same number of people who are killed by measles or women who die during childbirth each year (*21*). Of all deaths attributable to second-hand tobacco smoke, 31% occur among children and 64% occur among women (*16*). About 50 000 deaths in the United States each year – about 11% of all tobacco-related deaths – are attributable to exposure to second-hand tobacco smoke (*22*). In the European Union, second-hand tobacco smoke exposure at work is estimated to cause about 7 600 deaths per year, with exposure at home causing an additional 72 100 deaths (*23*).

AVERAGE PERCENTAGE OF 13–15-YEAR-OLDS LIVING IN A HOME WHERE OTHERS SMOKE, BY WHO REGION, 2008



Source: (*20*).

Globally, it is estimated that about one third of adults are regularly exposed to second-hand tobacco smoke.

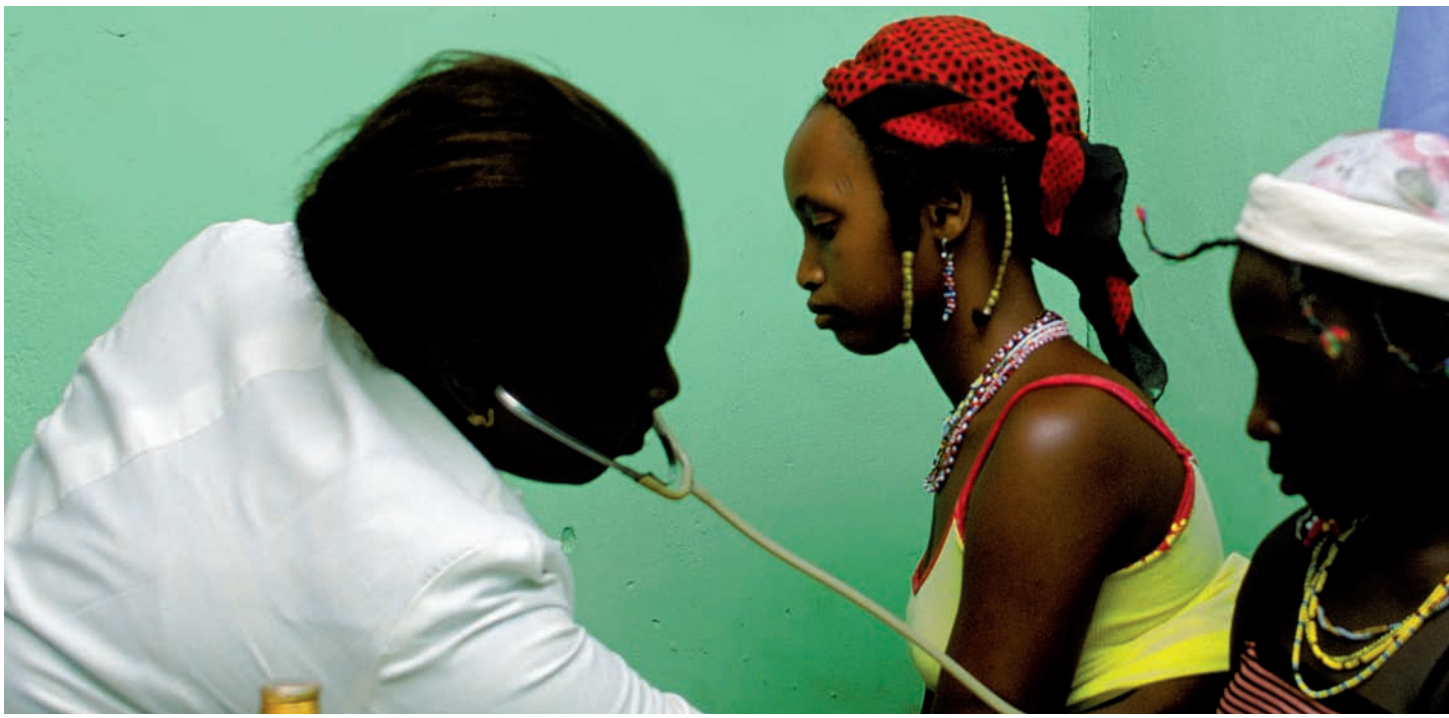
Second-hand tobacco smoke exposure causes serious health problems

The scientific evidence of the health harms of smoking has been conclusively established for more than 50 years (*24*). However, smokers are not the only ones sickened and killed by tobacco: non-smokers who breathe air containing second-hand tobacco smoke also face increased risk of disease and death.

In the quarter century since evidence confirmed the health hazards of second-hand tobacco smoke (*25–27*), 14 scientific consensus reports by virtually all major medical and scientific organizations, including the WHO International Agency for Research on Cancer (*6*), the United States Surgeon General (*28*), the California Environmental Protection Agency (*29*), and the United Kingdom Scientific Committee on Tobacco and Health (*30*) leave no doubt that exposure to second-hand tobacco smoke contributes to a range of serious and often fatal diseases in non-smokers.

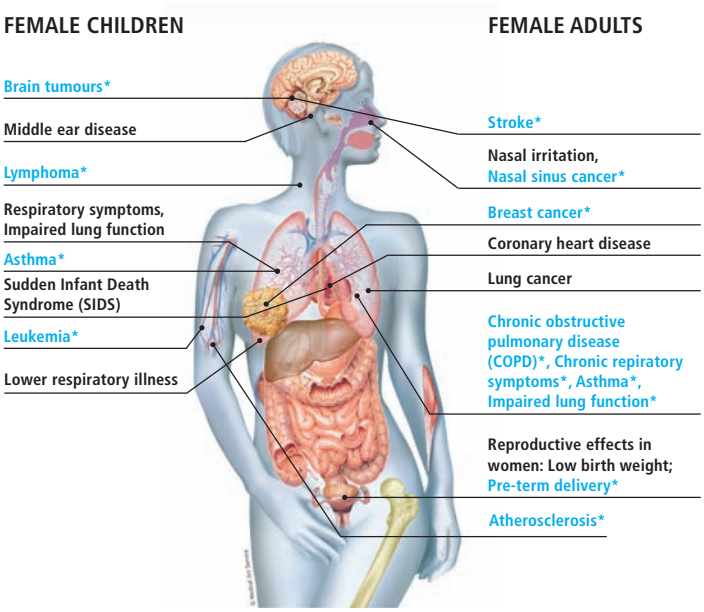
Multiple studies confirm that exposure to second-hand tobacco smoke causes illness, disability and death from a wide range of diseases (*31*). Second-hand tobacco smoke exposure contributes to about 1% of the total global disease burden, and represents about 10–15% of the disease burden caused by active smoking (*16*). Second-hand tobacco smoke exposure is also associated with reduced health-related quality of life among people who have never smoked, with higher levels of exposure resulting in a greater reduction in quality-of-life measures (*32*). Even house pets in homes where people smoke are more likely to develop cancer (*33–35*).

Among newborns exposed either in utero or after birth, there is an increased risk of premature birth (*36*) and low birth weight (*37*) and a doubling of the risk for Sudden Infant Death Syndrome (*38*). Among children exposed to second-hand tobacco smoke, there is a 50–100% higher risk of acute respiratory illness (*39*), higher incidence of ear infections (*28*) and an increased likelihood of developmental disabilities and behavioural problems (*40, 41*).

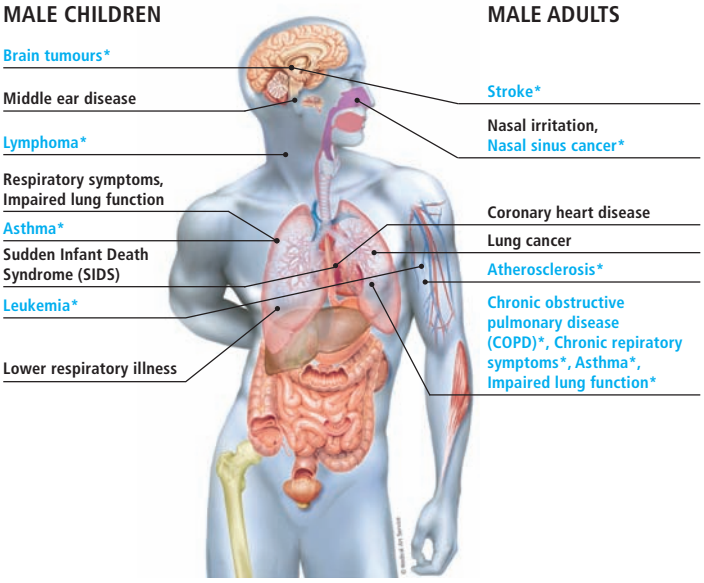


Breathing second-hand tobacco smoke has serious and often fatal health consequences.

DISEASES CAUSED BY SECOND-HAND SMOKE



* Evidence of causation: suggestive
Evidence of causation: sufficient



* Evidence of causation: suggestive
Evidence of causation: sufficient

Source: (*28*).

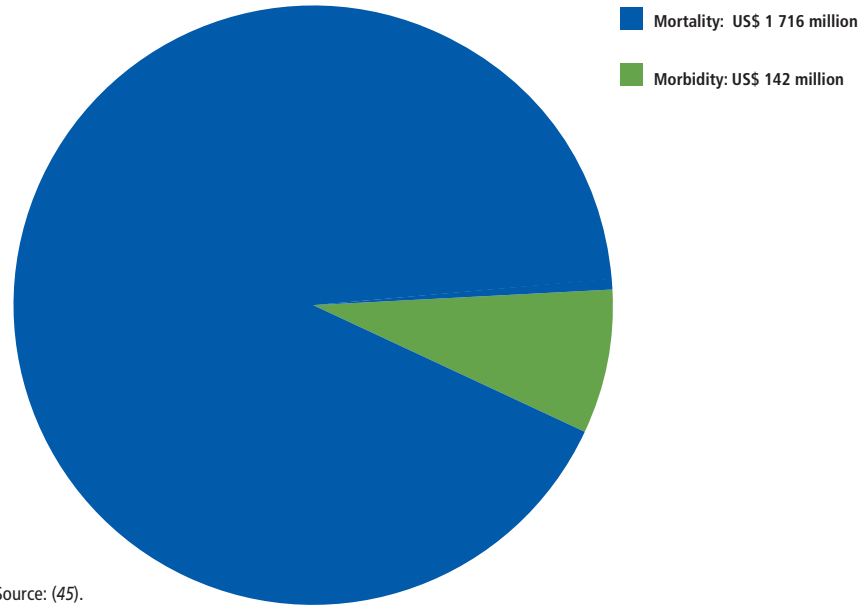
The economic threat of second-hand tobacco smoke

In addition to a large and growing health burden, second-hand tobacco smoke exposure also imposes economic burdens on individuals and countries, both for the costs of direct health care as well as indirect costs from reduced productivity. Second-hand tobacco smoke exposure in the United States alone costs an estimated US$ 5 billion annually in direct medical costs and another US$ 5 billion in indirect costs caused by productivity losses from lost wages due to disability and premature death (*42*). The US Occupational Health and Safety Administration estimated in 1994 that clean air increases productivity by 3% (*43*).

Several studies estimate that 10% of total tobacco-related economic costs are attributable to second-hand tobacco smoke exposure (*44*). The economic costs related to tobacco use in the United States total approximately US$ 193 billion per year (smoking-attributable health-care expenditures of US$ 96 billion and productivity losses of US$ 97 billion) (*22*).

Economic studies on the cost of tobacco use have been conducted in some other countries, but in most cases these do not assess costs specifically related to second-hand tobacco smoke exposure. Where data exist, economic costs related to second-hand tobacco smoke exposure elsewhere are roughly similar to those in the United States. In the China, Hong Kong Special Administrative Region, for example, the cost of direct medical care, long-term care and productivity losses attributable to second-hand tobacco smoke exposure is approximately US$ 156 million annually (about US$ 24 per capita, or 23% of total tobacco-related costs) (*45*).

COSTS OF TOBACCO-RELATED ILLNESS AND DEATH, CHINA, HONG KONG SPECIAL ADMINISTRATIVE REGION, 1998



Source: (*45*).

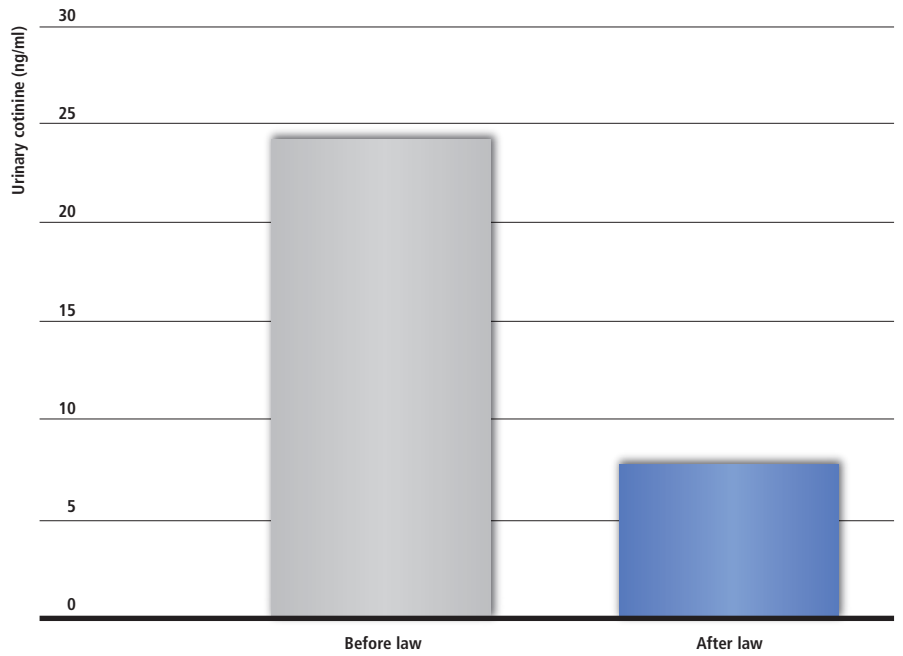
Smoke-free laws reduce exposure to second-hand tobacco smoke

The International Agency for Research on Cancer concluded: "there is sufficient evidence that implementation of smoke-free policies substantially decreases second-hand smoke exposure" (*46*). Studies of the effects of smoke-free policies consistently show that these policies decrease exposure to second-hand tobacco smoke by 80–90% in high-exposure settings, and that they can lead to overall decreases in exposure of up to 40% (*47*). People who work in places that are smoke-free are exposed to 3–8 times less second-hand tobacco smoke than other workers (*48*). Non-smoking adults who live in communities with comprehensive smoke-free laws are 5–10 times less likely to be exposed to second-hand tobacco smoke than those who live where there is no smoke-free legislation (*49*). Ireland provides strong evidence of the effects of reducing exposure to second-hand tobacco smoke. Following the country's implementation of smoke-free legislation in 2004, ambient air nicotine and particulate matter concentrations in monitored indoor environments decreased by 83%, and there was a 79% reduction in exhaled breath carbon monoxide and an 81% reduction in salivary cotinine* among bar workers. Bar workers' exposure to second-hand tobacco smoke plunged from 30 hours per week to zero (*50, 51*).

These findings were confirmed in numerous other places that enacted comprehensive smoke-free legislation. In Toronto, Canada, a complete smoke-free law for bars implemented in 2004 led to a reduction of 68% in the level of urinary cotinine* of bar workers in one month, while bar workers of a control community without

Smoke-free policies decrease exposure to second-hand tobacco smoke by 80–90% in high-exposure settings.

URINARY COTININE LEVELS AMONG BAR WORKERS IN TORONTO, CANADA, BEFORE AND AFTER INTRODUCTION OF COMPREHENSIVE SMOKE-FREE LEGISLATION



Source: (*52*).

* Analysis of salivary or urinary cotinine concentrations is used as a biological marker to measure exposure to second-hand tobacco smoke.

smoke-free legislation did not experience any significant change in the level of urinary cotinine levels (*52*). In Scotland, comprehensive smoke-free legislation enacted in 2006 resulted in an 86% decrease in the concentration of airborne particulate matter in pubs (*53*) and a 39% reduction in salivary cotinine levels among adult non-smokers (*47*).

In New York State, salivary cotinine levels in non-smoking adults decreased 47% in the year after enactment of a comprehensive smoking ban in 2003 (*54*); in New Zealand, comprehensive smoke-free legislation enacted in 2004 appears to have reduced exposure of bar patrons to second-hand tobacco smoke by about 90% (*55*); and in Finland, a nationally implemented smoke-free law resulted in a reduction in second-hand tobacco smoke exposure in workplaces covered by this law, from 51% of workers reporting exposure before the law to 12% reporting exposure three years after the law became effective (*56*).

Enforcement needed to ensure protection against second-hand tobacco smoke

Based on the scientific evidence, the Conference of the Parties to the WHO Framework Convention of Tobacco Control (WHO FCTC) has concluded that 100% smoke-free environments are the only proven way to adequately protect the health of people from the harmful effects of second-hand tobacco smoke because no level of exposure is acceptable (*2*).

Once smoke-free laws have been enacted, governments must maintain strong support through active and uniform enforcement that achieves high compliance levels, at least until such time as the law becomes self-enforcing. Although an increasing number of countries have passed legislation mandating smoke-free environments, the overwhelming majority of countries have no smoke-free laws, very limited laws, or ineffective enforcement. Legislation that is comprehensive, but that is not well enforced, does not protect against second-hand tobacco smoke exposure, and legislation that covers only some places, even if well enforced, also does not provide significant protection.

Full enforcement of smoke-free laws is critical to establishing their credibility, especially immediately following their enactment (*57*). It may be necessary to actively and publicly enforce the law in the period directly after smoke-free laws are enacted to demonstrate the government's commitment to ensuring

100% smoke-free environments are the only proven way to adequately protect the health of people from the harmful effects of second-hand tobacco smoke.

compliance. Unannounced inspections by the appropriate government agency can be very effective.

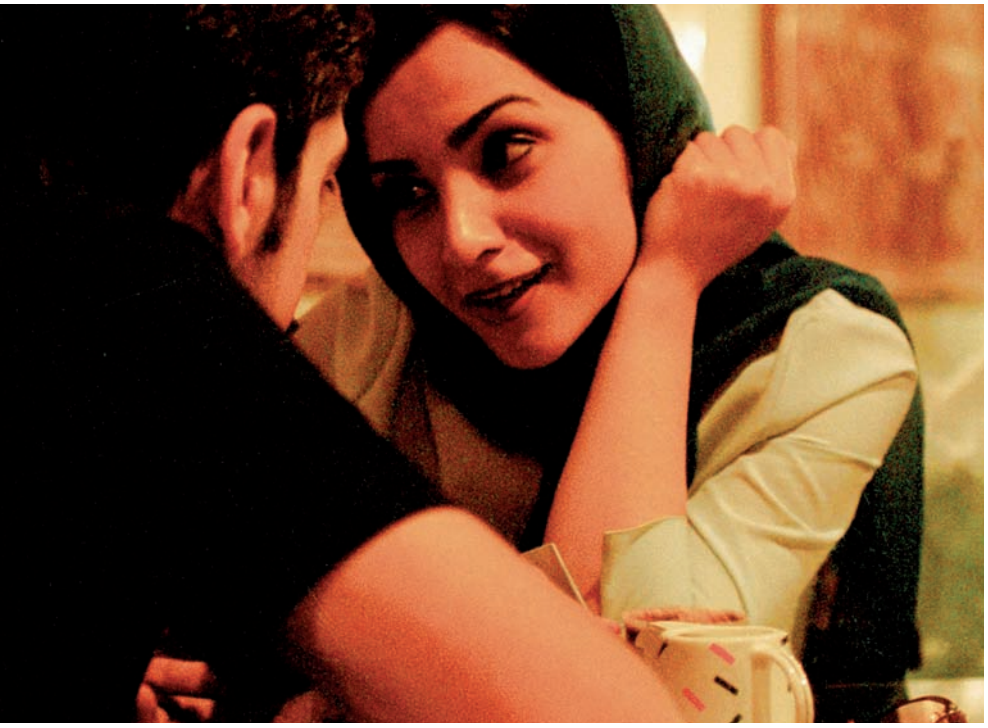
Once a high level of compliance is achieved, it may be feasible to reduce the level of formal enforcement, as maintenance of smoke-free places is largely self-enforcing in areas where the public and business communities support smoke-free policies and legislation. Placing the responsibility for enforcing smoke-free places on facility owners and managers is the most effective way to ensure that the laws are enforced. In many countries, laws have established that business owners have a legal duty to provide safe workplaces for their employees. Levying of fines and other sanctions against business owners is more likely to ensure compliance than fining individual smokers.

Enforcement of legislation and its impact should be regularly monitored. Assessing and publicizing the lack of negative impact on business following enactment of smoke-free legislation will further enhance compliance with and acceptance of smoke-free laws.

Ventilation and designated smoking rooms are not effective

Smoking anywhere in a building significantly increases concentrations of second-hand tobacco smoke, even in parts of the building where people do not smoke (*58*). Physically separating smokers from non-smokers by allowing smoking only in designated smoking rooms reduces exposure to second-hand tobacco smoke only by about half, and thus provides only partial protection (*59*).

The American Society of Heating, Refrigerating and Air-Conditioning Engineers concluded in 2005 that comprehensive smoke-free laws are the only effective means of eliminating the risks associated with second-hand tobacco smoke, and that ventilation techniques should not be relied upon to control health risks from second-hand tobacco smoke exposure (*60, 61*). This position statement concurs with other findings that ventilation and designated smoking rooms do not prevent exposure to second-hand tobacco smoke (*62, 63*).



Ventilation and designated smoking rooms do not prevent exposure to second-hand tobacco smoke.

Health impact of smoke-free regulations

Smoke-free laws reduce respiratory symptoms

Because of the immediate drop in pollution levels and second-hand tobacco smoke exposure after implementation of smoke-free laws (*64*), improvements in respiratory health are experienced very quickly. In Scotland, bar workers reported a 26% decrease in respiratory symptoms, and asthmatic bar workers had reduced airway inflammation within three months after comprehensive smoke-free legislation was enacted (*65*). In California, bartenders reported a 59% reduction in respiratory symptoms and a 78% reduction in sensory irritation symptoms within eight weeks after implementation of the law requiring bars to be smoke-free (*66*).

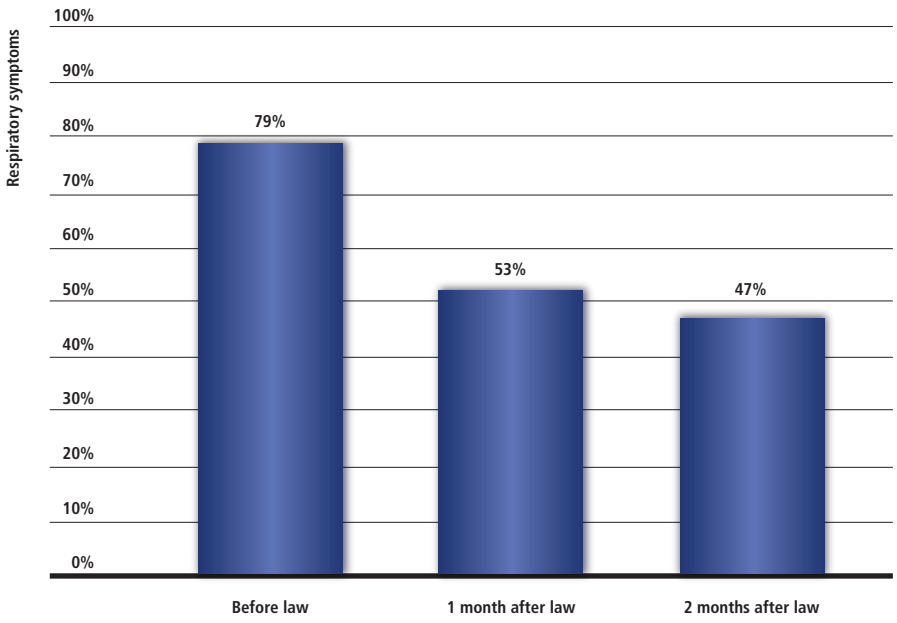
Smoke-free laws reduce illness from heart disease

Even low-level exposure to second-hand tobacco smoke has a clinically significant effect on cardiovascular disease risk (*67*). Smoke-free environments reduce the incidence of heart attack among the general population almost immediately, even in the first few months after being implemented (*68*). Several studies have confirmed decreases in hospital admissions for heart attacks after comprehensive smoke-free legislation was enacted (*69–74*). Moreover, many of these studies, conducted in subnational areas (states/provinces and cities) where smoke-free laws had not been enacted on a national level, show not only the impact of such laws, but also the potential benefit of enacting smoke-free legislation on a local level when national bans are not in place.

Smoke-free laws are expected to reduce lung cancer

Because of the long time lag between second-hand smoke exposure and the development of lung cancer, complete data are not yet available regarding the expected decline in lung cancer after implementation of smoke-free policies. Between 1988 and 2004, a period during which the state of California implemented comprehensive smoke-free legislation, rates of lung and bronchial cancer declined four times faster in California than in the rest of the United States, although at least some of this decrease may result from the sharper decline in smoking prevalence experienced in California compared with the rest of the country that began in the early 1980s (*75*).

RESPIRATORY SYMPTOMS OF BAR WORKERS IN SCOTLAND, BEFORE AND AFTER INTRODUCTION OF COMPREHENSIVE SMOKE-FREE LEGISLATION



Source: (*65*).

Other benefits of smoke-free regulations

Smoke-free laws help smokers to reduce smoking or quit

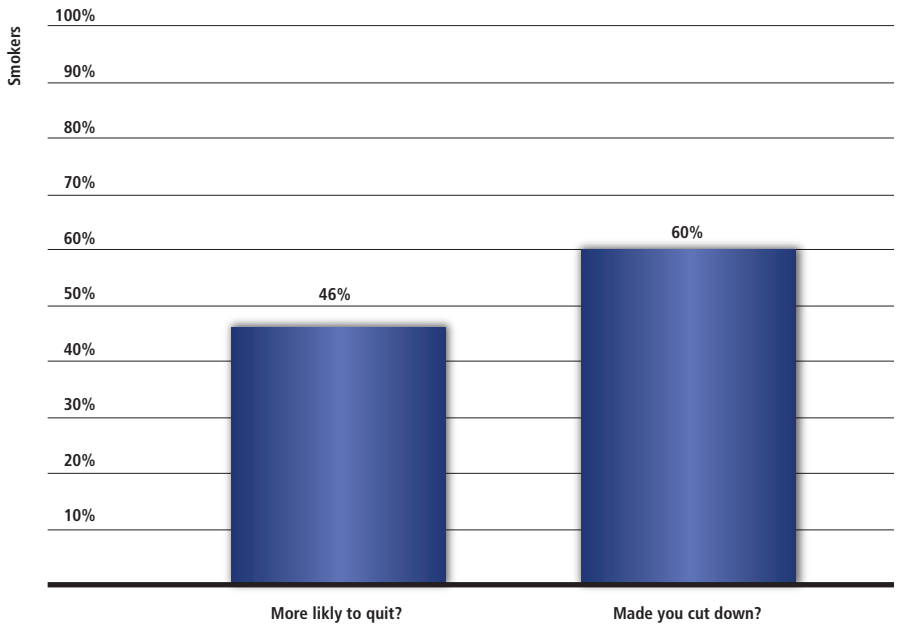
Smoke-free environments not only protect non-smokers, they reduce tobacco use in continuing smokers by 2–4 cigarettes a day (*76*) and help smokers who want to quit, as well as former smokers who have already stopped, to quit successfully over the long term. Per capita cigarette consumption in the United States is between 5% and 20% lower in states with comprehensive smoke-free laws than in states without such laws (*77*).

Complete workplace smoking bans implemented in several industrialized nations are estimated to have reduced smoking prevalence among workers by an average of 3.8%, reduced average tobacco consumption by 3.1 cigarettes per day among workers who continue to smoke, and reduced total tobacco consumption among workers by an average of 29% (*78*). People who work in environments with smoke-free policies are nearly twice as likely to quit smoking as those in worksites without such policies, and people who continue to smoke decrease their average daily consumption by nearly four cigarettes per day (*79*).

After comprehensive smoke-free legislation was enacted in Ireland, about 46% of smokers reported that the law had made them more likely to quit; among those who did quit, 80% reported that the law had helped them to quit and 88% reported

Smoke-free environments not only protect non-smokers, they reduce tobacco use in continuing smokers and help smokers who want to quit.

EFFECTS OF IRELAND'S SMOKE-FREE LAW ON SMOKERS' REPORTED BEHAVIOURS



Source: (*80*).

that the law helped them to maintain cessation (*80*). In Scotland, 44% of people who quit smoking said that smoke-free legislation had helped them to quit (*81*).

Smoke-free laws encourage establishment of smoke-free homes

Legislation mandating smoke-free public places also encourages families to make their homes smoke-free (*82*), which protects children and other family members from exposure to second-hand tobacco smoke (*83*). In Australia, the introduction of smoke-free workplace laws in the 1990s was accompanied by a steep increase in the proportion of adults who avoided exposing children to second-hand tobacco smoke in the home (*84*). Even smokers are likely to voluntarily implement a "no smoking" rule in their homes after comprehensive smoke-free legislation is enacted (*85, 86*).

Voluntary smoke-free home policies also decrease adult and youth smoking. Home smoking bans reduce progression to smoking experimentation among youths who live with non-smokers. Teenagers who live in homes where smoking is allowed are nearly twice as likely to start smoking, even if adults are non-smokers themselves, than in homes where smoking is prohibited (*87*).

Smoke-free laws are popular

Public opinion surveys show that smoke-free legislation is extremely popular wherever it is enacted, even among smokers, and that support tends to increase over time after these laws are in place. Support is generally strongest for making hospitals and other health-care facilities smoke-free, while there is usually the least support for making bars and pubs smoke-free (*88–90*).

In 2006, Uruguay became the first country in the Americas to become 100% smoke-free by enacting a ban on smoking in all public spaces and workplaces, including bars, restaurants and casinos. The law won support from eight out of every 10 Uruguayans, including nearly two thirds of the country's smokers (*91*). After New Zealand passed smoke-free laws in 2004, 69% of its citizens said they supported the right of people to work in a smoke-free environment (*92*).

The smoke-free workplace law introduced in Ireland in March 2004 has been judged successful by 96% of people, including 89% of smokers (*93*). In California, 75% of the population approved of smoke-free workplace laws that included restaurants

In every country where comprehensive smoke-free legislation has been enacted, smoke-free environments are popular and result in either a neutral or positive impact on business.

and bars within the first few years after being enacted by that state in 1998 (*94*).

Although China has few smoke-free public places, 90% of people living in large cities – smokers and non-smokers alike – support a ban on smoking on public transport and in schools and hospitals (*95*). More than 80% of urban residents in China support smoke-free legislation in workplaces, and about half support banning smoking in restaurants and bars (*95*). In Russia, which also has few restrictions on smoking in public places, nearly a third of people support a complete ban on smoking in restaurants (*96*).

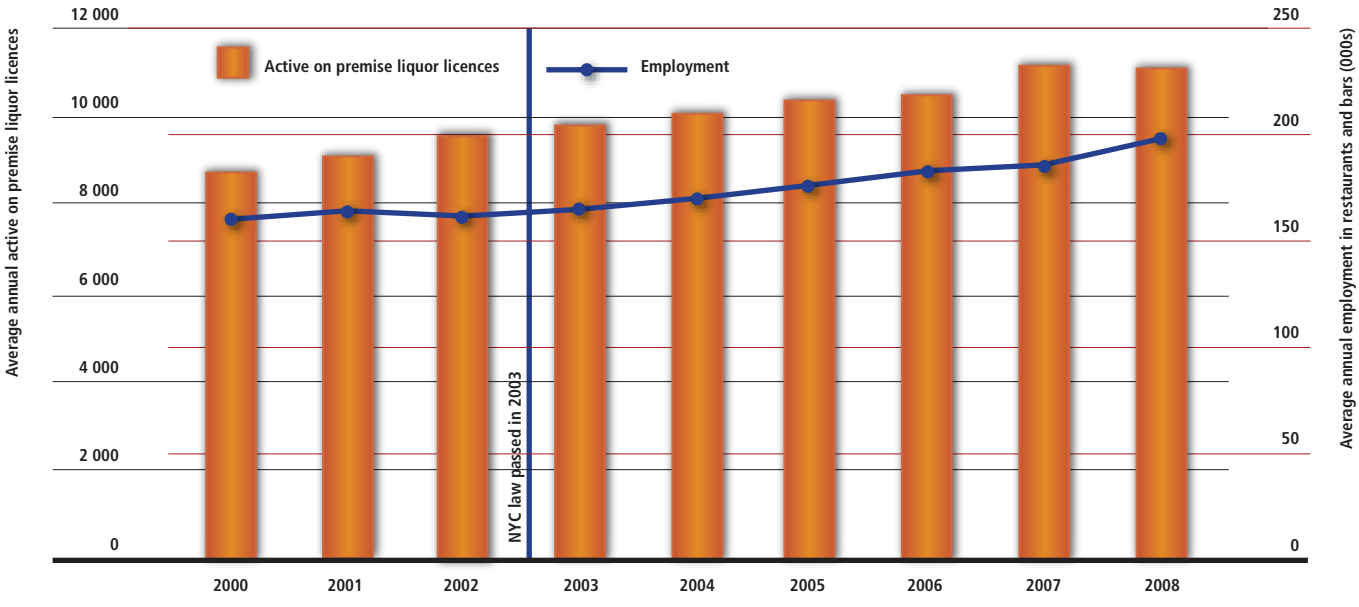
Smoke-free laws do not hurt business

Despite tobacco and hospitality industry claims, experience shows that in every country where comprehensive smoke-free legislation has been enacted, smoke-free environments are popular, easy to implement and enforce, and result in either a neutral or positive impact on businesses, including the hospitality sector (*97, 98*). These findings were similar in all places studied, including in Australia, Canada, the United Kingdom and the United States (*99*); Norway (*100*); New Zealand (*101*); the state of California (*102*); New York City (*103*); and various US states and municipalities (*104*).

In New York City, which implemented smoke-free legislation in two stages (covering most workplaces including most restaurants in 1995 and adding bars and remaining restaurants in 2003), restaurant employment increased after enactment of the 1995 law (*105*). Combined bar and restaurant employment and receipts increased in the year after enactment of the 2003 ordinance (*103*), and have continued increasing since.

After comprehensive smoke-free legislation was implemented, there were no statistically significant changes observed among hospitality industry economic indicators in Massachusetts (*106*), no economic harm to bar and restaurant businesses reported in the mid-sized US city of Lexington, Kentucky (*107*), and no adverse economic impact on tourism in Florida (*108*). When bars located in communities with smoke-free laws were sold, they commanded prices comparable to prices paid for similar bars in areas with no restrictions on smoking (*109*). This type of economic evidence can be used to counter false tobacco industry claims that establishing smoke-free places causes economic harm (*97, 110*).

AVERAGE ANNUAL EMPLOYMENT IN NEW YORK CITY RESTAURANTS AND BARS, BEFORE AND AFTER COMPREHENSIVE SMOKE-FREE LEGISLATION



Source: (*103*) and additional unpublished data from the New York State Liquor Authority and New York City Economic Development Corporation.
Note: Average annual employment calculated from monthly totals.

Tobacco industry efforts to avoid 100% smoke-free legislation

The tobacco industry has long known that side-stream second-hand tobacco smoke contains higher concentrations of carcinogenic substances than does mainstream tobacco smoke (*7*). In a confidential 1978 report, the industry described increasing public concerns about second-hand tobacco smoke exposure as "the most dangerous development to the viability of the tobacco industry that has yet occurred" (*111*). The industry acknowledges the effectiveness of smoke-free environments, and how creating exceptions can undermine their impact. A 1992 internal report by Philip Morris stated: "Total prohibition of smoking in the workplace strongly affects industry volume. … Milder workplace restrictions, such as smoking only in designated areas, have much less impact on quitting rates and very little effect on consumption" (*112*).

The tobacco industry has a history of creating the appearance of scientific controversy in an attempt to counter initiatives intended to restrict tobacco use. However, the ultimate goal of these types of industry-backed initiatives is to maintain the social acceptability of smoking and prevent adoption of meaningful smoke-free policies in public places and in workplaces (*113*). Measures such as ventilation and separate smoking rooms, promoted as "reasonable" accommodations by the tobacco industry, also undermine the intended effects of legislative measures by continuing to expose people to second-hand tobacco smoke and reducing the incentive for smokers to quit (*114*).

Despite the incontrovertible scientific evidence of the harms of second-hand tobacco smoke, the tobacco industry has referred to such findings as "junk science" in an attempt to discredit them (*115*). The industry has also used front groups in an attempt to successfully convince some people to resist accepting these findings. Much of the impetus for discrediting scientific studies of the health effects of second-hand tobacco smoke comes from the tobacco industry, which develops and publicizes its own biased research to minimize the harmful effects of second-hand tobacco smoke because it fears that restrictions on smoking will reduce sales and profits (*116–119*). The tobacco industry has also resorted to attacks on researchers studying the effects of second-hand tobacco smoke by criticizing their motives or qualifications, even while acknowledging internally the validity of their research findings (*120, 121*).

Researchers funded by or affiliated with the tobacco industry are nearly 100 times more likely than independent researchers to conclude that second-hand tobacco smoke is not harmful to health (*122*). Much of the research funded by the tobacco industry is not published in peer-reviewed medical journals, is of poor scientific quality, and should not be used in scientific, legal or policy settings unless its quality has been independently assessed (*123*). The tobacco industry has even attempted to create its own peer-reviewed medical journals to publish papers on the effects of second-hand tobacco smoke that are favourable to its interests (*124*). A US federal court has ruled that tobacco industry assertions that second-hand tobacco smoke exposure does not cause disease are "fraudulent" (*125*).

The tobacco industry has a history of creating the appearance of scientific controversy in an attempt to counter initiatives intended to restrict tobacco use.

Key recommendations

These key recommendations – consistent with the WHO FCTC Article 8 guidelines – build on lessons learned from the experiences of several countries and hundreds of subnational and local jurisdictions that have successfully implemented laws requiring indoor workplaces and public places to be 100% smoke-free, as follows (*4*):

1. Legislation that mandates completely smoke-free environments – not voluntary policies – is necessary to protect public health.

2. Legislation should be simple, clear and enforceable, and comprehensive.

3. Action should be taken at any and all jurisdictional level(s) where effective legislation can be achieved.

4. Anticipating and responding to the tobacco industry's opposition, often mobilized through third parties, is crucial.

5. Involving civil society is central to achieving effective legislation.

6. Education and consultation with stakeholders are necessary to ensure smooth implementation.

7. An implementation and enforcement plan together with an infrastructure for enforcement, including high-profile prosecutions to include fines or closing of businesses of repeat violators, are critical for successful implementation.

8. Monitoring of implementation and compliance is essential, as is measurement of the impact of smoke-free environments; ideally, experiences should also be documented and the results made available to other jurisdictions to support their efforts to successfully introduce and implement effective legislation.

9. Physically separating smokers from non-smokers (for example by establishing designated smoking rooms) or providing ventilation of smoking areas does not eliminate the health risk resulting from exposure to second-hand tobacco smoke.

Because smokers and non-smokers alike are vulnerable to the harmful health effects of second-hand tobacco smoke, governments are obligated to protect health as a fundamental human right (*3*). This duty is implicit in the right to life and the right to the highest attainable standard of health as recognized in many international legal instruments, including the International Covenant on Economic, Social and Cultural Rights; the Convention on the Elimination of All Forms of Discrimination against Women; and the Convention on the Rights of the Child. These are formally incorporated into the Preamble of the WHO FCTC, and have been ratified in the constitutions of more than 100 countries. Voluntary agreements, often promoted by the tobacco industry as a "compromise", have proven insufficient to achieve public health goals because they do not eliminate, and at best only reduce, exposure to second-hand tobacco smoke (*126*). Comprehensive smoke-free legislation with strong enforcement is the best strategy for reducing exposure to second-hand tobacco smoke.

Recent progress has highlighted the feasibility of achieving smoke-free environments and generated increased worldwide interest in promoting them. Although much more work remains to be done, there are many examples where there have been improvements in smoke-free policies. Even smoking bans in restaurants, bars and other hospitality venues, generally considered the most difficult places to make smoke-free, have been successfully implemented in several countries with near universal compliance and strong public support. Other countries can learn from these experiences as they create and expand smoke-free environments for the vast majority of people worldwide who remain without protection against the harm of second-hand tobacco smoke exposure.

There is no risk-free level of exposure to tobacco smoke. The health risk resulting from exposure to second-hand tobacco smoke is the primary reason to ban smoking in workplaces and public places, because an individual's decision to smoke results in damage to others. Smoke-free environments help guarantee the right of non-smokers to breathe clean air, motivate smokers to quit, and allow governments to take the lead in tobacco prevention through highly popular health measures.