

HEALTH HARMS OF SECONDHAND SMOKE

"The evidence is clear. There is no safe level of exposure to second-hand tobacco smoke. Many countries have already taken action. I urge all countries that have not yet done so to take this immediate and important step to protect the health of all by passing laws requiring all indoor workplaces and public places to be 100% smoke-free."

Dr. Margaret Chan, Director-General, World Health Organisation, May 29, 2007.

- Secondhand smoke (also referred to as involuntary smoking, environmental tobacco smoke, and passive smoking) is a complex mixture of more than 4,000 chemical compounds, including 69 known carcinogensⁱ. These chemicals are released into the air as particles and gases. The particulate phase of cigarette smoke include nicotine, "tar" (itself composed of many chemicals), benzene and benzo(a)pyrene. The gas phase includes carbon monoxide, ammonia, dimethylnitrosamine, formaldehyde, hydrogen cyanide and acrolein.ⁱⁱ
- The scientific evidence on the health risks associated with exposure to secondhand smoke is clear, convincing, and overwhelming. Secondhand smoke is a known cause of lung cancer, heart disease, low birth-weight births, and chronic lung ailments such as bronchitis and asthma (particularly in children).
- Overwhelming scientific evidence concludes that there is no safe level of exposure to secondhand smoke.

Secondhand smoke causes death, disease, and disability

- Article 8.1 of the Framework Convention on Tobacco Control (FCTC) states that "scientific evidence has unequivocally established that exposure to tobacco smoke causes death, disease and disability".ⁱⁱⁱ
- A 2002 report by the World Health Organization's International Agency for Research on Cancer (IARC) concluded that secondhand smoke causes lung cancer, heart disease and other health problems.^{iv}
- The Surgeon General's 2006 Report on The Health Consequences of Involuntary Exposure to Tobacco Smoke confirmed that secondhand smoke causes cancer, heart disease and serious lung ailments. As former Surgeon General Richard Carmona stated when releasing the report, "The debate is over. The science is clear. Secondhand smoke is not a mere annoyance but a serious health hazard."^v
- In January 2005, the U.S. Public Health Service's National Toxicology Program issued its 11th *Report on Carcinogens*, which unambiguously states:

"Environmental tobacco smoke is known to be a human carcinogen based on sufficient evidence of carcinogenicity from studies in humans that indicate a causal relationship between passive exposure to tobacco smoke and lung cancer. Many epidemiological studies, including large population-based case-control studies, have demonstrated increased risks for developing lung cancer following prolonged exposure to environmental tobacco smoke."^{vi}

- A 2004 study published in the *British Medical Journal* found that exposure to secondhand smoke increases the risk of heart disease among non-smokers by as much as 60 percent.^{vii}
- Reducing secondhand smoke exposure leads to fewer people becoming ill due to effects of cigarette smoke. Eight published studies of the immediate effects of smoke-free laws on hospital admissions for acute myocardial infarctions (AMIs) have found that admission rates have dropped significantly after smoke-free laws went into effect in US cities, Italy and Ireland.^{viii}
- Since the implementation of its smoke-free law, Scotland has seen a 17 percent reduction in hospital admissions for acute coronary syndrome, and 67 percent of the decrease was among non-smokers. The 17 percent decrease was significantly greater than the 4 percent decrease over the same time period in England, which at the time was not smoke-free. It was also significantly greater than the average 3 percent annual decline in Scotland in the decade prior to the smoke-free law.^{ix}
- Before the smoke-free law went into effect in Scotland, between 1500 and 2000 nonsmoker's deaths per year were attributable to secondhand smoke exposure.^x
- A pooled analysis of two large European and American studies found that exposure to secondhand smoke from spousal, workplace and social sources results in a 22 percent increased risk of lung cancer in people who never smoked. Those with the longest exposure had an increased risk of 32 percent.^{xi}
- A Japanese study concluded that wives of heavy smokers had up to twice the risk of developing lung cancer as wives of non-smokers.^{xii}
- Separation of smokers and nonsmokers within the same airspace does not eliminate the serious health effects of secondhand smoke. ASHRAE, the leading U.S. association of ventilation professionals, has concluded that ventilation technology is incapable of removing all the harmful elements of secondhand smoke.^{xiii}
- The cancer-causing effects of secondhand smoke were verified in a 2008 study of people in Tamil Nadu, India. It was found that there were significantly more potentially carcinogenic cells (cells with aberrations in the genetic material) in people exposed to secondhand smoke than in people who were not exposed to secondhand smoke. Secondhand smoke exposure increases the risk of cancer.^{xiv}

Secondhand smoke harms workers

- Exposure to secondhand smoke in the workplace is estimated by the International Labor Organization to cause approximately 200,000 deaths per year worldwide.^{xv}
- A 2006 review in the *European Respiratory Journal* estimated that 7.5 million workers in the EU are exposed to secondhand smoke at work.^{xvi}
- Prior to the introduction of smokefree legislation in England, Scotland, Wales and Northern Ireland, 54 hospitality workers died every year as a result of exposure to secondhand smoke.^{xvii}

- A study in Leicestershire, England found non-smoking bar staff had levels of carbon monoxide equivalent to smoking 3-5 cigarettes a day.^{xviii}
- Data from New Zealand indicates that nonsmoking hospitality workers in establishments that allow smoking have cotinine levels between 3 and 4 times those of nonsmoking workers in smokefree establishments.^{xix}
- An investigation by the British Broadcasting Company (BBC) tested bar staff prior to England's smokefree ban in 2007, and found that they had cotinine levels which were the equivalent of smoking 300 cigarettes a year.^{xx}
- In Japan, one study published in 2008 found that workers that are exposed to secondhand smoke in the workplace are more likely to develop diabetes.^{xxi}
- A 2008 survey of restaurant employees in Shanghai found that 66% of workers exposed to secondhand smoke experienced symptoms due to exposure, including difficulty breathing, increased phlegm, coughing, sore throat and irritated eyes.^{xxii}

Secondhand smoke harms children and pregnant women

- Approximately 700 million children – nearly half of all children in the world – are regularly exposed to secondhand smoke,^{xxiii} increasing their risk of developing asthma and increasing the frequency and severity of attacks in those with asthma.^{xxiv}
- A study conducted in 31 countries, including developing countries such as Guatemala, Thailand, India, and Georgia, found that women and children who live in the house of a smoker are exposed to significant levels of secondhand smoke, increasing their risk of premature death and disease.^{xxv}
- A large study of a cohort of children in Hong Kong found that children exposed to secondhand smoke during the first year of life were hospitalized significantly more often for serious infections during youth.^{xxvi}
- In a study in the US of children with family members who smoke, smoking in the home was associated with a 5 percentage point increase in emergency room visits for respiratory conditions among children ages 0-4 years.^{xxvii}
- A 2008 study of children in Singapore found that children with family members who smoke at home are at higher risk to develop allergies and asthma than children whose family members don't smoke.^{xxviii}
- Children exposed to secondhand smoke are at an increased risk for sudden infant death syndrome (SIDS), acute respiratory infections, ear problems, and more severe asthma.^{xxix}
- Numerous research studies have found that smoking and exposure to secondhand smoke among pregnant women is a major cause of spontaneous abortions, stillbirths, and sudden infant death syndrome (SIDS) after birth.^{xxx}
- A June 2001 study published in the journal *Pediatrics* found that exposure to secondhand smoke through the mother in utero was associated with increased rates of hospitalization in infants with non-smoking mothers, and that use of tobacco products by household members has an "enormous adverse impact" on the health of children.^{xxxi}

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- i This section is largely based from a document prepared by Action on Smoking and Health/United Kingdom entitled, *Fact Sheet No. 12, What's In A Cigarette?* August 2001. Available online at: http://newash.org.uk/files/documents/ASH_117/ASH_117.html. Accessed 11.10.2007
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- Hoffman D, Hoffman I (2003). The Changing Cigarette: Chemical Studies and Bioassays. http://dcccps.nci.nih.gov/tcrb/monographs/13/m13_5.pdf. Chapter 5 of NCI Monograph 13 October 28, 2003,. Clarification: Table 5.4 of the Monograph (that lists the 69 carcinogens) is missing a carcinogen, namely MeAaC (2-amino-3-methyl-9-H-pyrido[2,3-b]indole, which should be inserted under “under “Miscellaneous Organic Compounds””.
- ii For a complete list of the carcinogens in tobacco smoke, see National Cancer Institute (2001). Risks associated with Smoking Cigarettes with Low Machine-Measured Yields of Tar and Nicotine. Smoking and Tobacco Control Monograph No. 13, Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute, NIH Pub. No. 02-5074, October 2001. Available online at: http://dcccps.nci.nih.gov/tcrb/monographs/13/m13_5.pdf. See, also Health Harms from Secondhand Smoke. A Factsheet from the Campaign for Tobacco-Free Kids. Available online at: <http://tobaccofreekids.org/research/factsheets/pdf/0103.pdf>. Accessed on 11.10.2007
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