

The Risks of Secondhand Smoke in Casinos

Secondhand smoke (SHS) has the same harmful chemicals that people who smoke inhale. According to the U.S. Surgeon General, there is no safe level of SHS exposure, which contains at least 70 chemicals known to cause cancer and trigger heart attacks, asthma attacks, and respiratory illness.ⁱ Exposure to SHS is an occupational hazard for many casino workers – from dealers to security.ⁱⁱⁱ But when smoking is permitted in casinos, no one – even patrons – is safe from SHS exposure. Job-related exposure to SHS is a significant, but entirely preventable, cause of premature death among U.S. workers.^{iv,v,vi}

Twenty-eight states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands have 100% smoke-free laws covering all workplaces, restaurants, and bars,^{vii} and 21 states, Puerto Rico, and the U.S. Virgin Islands require state-regulated gaming facilities to be 100% smoke-free.^{viii} To date in the U.S., approximately 1,068 gaming facilities, which includes 149 tribal casinos, operate 100% smoke-free.^{ix}

Among people who do not smoke:

- Exposure to secondhand smoke increases lung cancer risk by about 20%.^{vi}
- Secondhand smoke causes nearly 42,000 deaths, including up to 7,300 lung cancer deaths, annually in the U.S.^{vii,viii}

Secondhand Smoke: Risking Workers' Health

Casino workers are at higher risk of exposure to SHS and therefore SHS-related illness than other workers:

- The National Institute of Occupational Safety and Health (NIOSH) and the U.S. Surgeon General found that occupational exposure to SHS increases workers' risk of lung cancer and other diseases.^{x,xi,xii}
- Recent studies have shown that unhealthy levels of indoor air pollution were more than five times higher in casinos that permitted smoking compared to smoke-free casinos.^{xiii} Long-term exposure to fine particle air pollution has been associated with cardiovascular and respiratory diseases, lung cancer, and even death.^{xiv,xv}
- A study found the amount of SHS was approximately 12 times greater inside casinos that allowed smoking than outside.^{xvi}
- One study of three casinos that permit smoking found that the dealers had significantly elevated levels of nicotine and a number of SHS-related toxins – including carcinogens benzene, naphthalene, formaldehyde, and acetaldehyde – from the secondhand smoke exposure during their 8-hour shift.^{xvii}
- Patrons were also found to have significantly elevated levels of a tobacco-specific lung carcinogen after a four-hour visit to a casino that allowed smoking.^{xviii,xix}
- A study examining levels of SHS in 21 Nevada casinos with non-smoking restaurants adjacent to gaming areas where smoking was allowed found that the non-smoking areas still had an average of 60% of the amount of SHS as the areas where smoking was allowed.^{xx}

“The cigarette smoke in the casinos was hurting me so badly that I was struggling to breathe.” – Alecia Sibio, Former Casino Worker^{xvi}

Smoke-free Casino Laws Improve Workers' Health

Comprehensive smoke-free policies reduce the risk of hospitalizations and death from heart, stroke, and lung diseases.^{xxi}

- NIOSH and the U.S. Surgeon General recommend that ALL workers be protected from involuntary exposure to SHS.^{xxii,xxiii}
- Research has shown that smoke-free policies reduce workers' long-term risk of lung cancer and cardiovascular disease.^{xxiv, xxv, xxvi, xxvii, xxviii, xxix}
- A study comparing SHS in 66 U.S. casinos where smoking is allowed with three non-smoking casinos found that the smoke-free casinos had lower levels of SHS.^{xxx} In about half of the smoking casinos, the SHS levels exceeded a level known to increase cardiovascular risk in people who do not smoke after less than 2 hours of exposure, posing acute health risks for patrons and workers. In casinos with a non-smoking section, the ventilation and separation systems were unable to remove the majority of the SHS that a comprehensive smoke-free law removed.^{xxxi}
- A study examined changes in indoor air quality in two casinos before and after implementation of a 2021 smoke-free law in Shreveport, LA. The study found that prior to implementation of the law, air quality inside the casinos exceeded the U.S. Environmental Protection Agency's threshold for safety. However, two and half months after implementation, the indoor air quality improved substantially to a level that was no longer considered unhealthy for workers or patrons.^{xxxii}

Improving the Bottom Line

Smoke-free casino laws are popular and good for business.

- Studies on the impact of smoke-free gaming laws in Delaware, Illinois and Kentucky showed that the laws had no effect on total gaming revenue.^{xxxiii,xxxiv,xxxv}
- A Massachusetts study found that 100% smoke-free ordinances did not negatively affect profits from bingo and other gambling sponsored by charitable organizations.^{xxxvi}
- A recent survey of people who visit gaming facilities found that nearly 8 in 10 adults (79%) prefer to play in a smoke-free casino, finding players are becoming less tolerant of playing in a gaming facility that allow smoking. Preference for 100% smoke-free was one of the two top reasons players choose their casino.^{xxxvii}
- When smoking is allowed in the workplace, business owners' costs are increased. Employers pay increased health, life, and fire insurance premiums, make higher workers' compensation payments, incur higher worker absenteeism, and experience lower worker productivity.^{xxxviii,xxxix, xl, xli,xlii,xliii,xliv,xlv}

ACS CAN's Position on Smoke-Free Casinos

A 100% smoke-free law that includes casinos is the only way to keep all casino workers and patrons safe from the health effects of SHS. Comprehensive smoke-free casino laws that include restaurants, bars, and gaming facilities, reduce exposure to SHS and improve the health of casino workers and patrons. The American Cancer Society Cancer Action Network (ACS CAN) urges policymakers to enact laws that make all workplaces, restaurants, bars and gaming facilities 100% smoke-free.

- ❖ ACS CAN supports 100% smoke-free laws that prohibit smoking in all workplaces, restaurants, bars and gaming facilities. These policies are key to protecting people who do not smoke – including workers – from the deadly effects of secondhand smoke.

- ❖ ACS CAN does not support smoke-free laws that allow exemptions, creating separate indoor smoking areas or ventilating buildings as alternatives to requiring a 100% smoke-free environment. The evidence is overwhelming that these measures cannot eliminate exposure to secondhand smoke. ACS CAN supports including all forms of smoking, including e-cigarettes, cigars, shisha and cannabis, in 100% smoke-free laws.
- ❖ ACS CAN’s work to create 100% smoke-free environments is part of a comprehensive approach to reduce tobacco use and exposure to secondhand smoke in the United States. ACS CAN urges policymakers to pass laws that make all gaming facilities 100% smoke-free.

ⁱ U.S. Centers for Disease Control and Prevention, Health Problems Caused by Secondhand Smoke, Last Reviewed: November 1, 2022, accessed April 19, 2024 at <https://www.cdc.gov/tobacco/secondhand-smoke/health.html>.

ⁱⁱ Schwartz AG, Cote ML. Epidemiology of Lung Cancer. *Adv Exp Med Biol*. 2016;893:21-41. doi: 10.1007/978-3-319-24223-1_2. PMID: 26667337.

ⁱⁱⁱ Achutan C, West C, Mueller C, et al (2011). Environmental Tobacco Smoke Exposure Among Casino Dealers. *Journal of Occupational and Environmental Medicine* 53(4): 346-251.

^{iv} National Cancer Institute (NCI) (1999). *Health Effects of Exposure to Environmental Tobacco Smoke: The Report of the California Environmental Protection Agency. Smoking and Tobacco Control Monograph 10*. Bethesda, MD: NCI. NCI (1999).

^v U.S. Department of Health and Human Services (HHS) (2014). *The Health Consequences of Smoking—50 Years of Progress: A report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Center for Diseases Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014. Printed with corrections, January 2014..

^{vi} Shopland DR, Anderson CM, Burns DM, and Gerlach KK (2004). Disparities in smoke-free workplaces among food service workers. *Journal of Occupational and Environmental Medicine (JOEM)* 46(4): 347-356.

^{vii} American Nonsmokers’ Rights Foundation. Overview List – Number of Smokefree and Other Tobacco-Related Laws. As of January 1, 2024. Available Overview List – Number of Smokefree and Other Tobacco-Related Laws, accessed March 5, 2024, from <https://no-smoke.org/wp-content/uploads/pdf/100Map.pdf>.

^{viii} American Nonsmokers’ Rights Foundation. Statewide Laws Requiring 100% Smokefree Gambling Venues. As of January 1, 2024. accessed March 5, 2024, from <https://no-smoke.org/wp-content/uploads/pdf/100smokefreecasinos.pdf>.

^{ix} U.S. Smokefree Casinos and Gaming Priorities, updated March 12, 2024, accessed March 12, 2024 at <https://www.gamingdirectory.com/smokefree/properties/>

^x Trout D, Decker J, Mueller C, Bernert JT, and Pirkle J (1998). Exposure of Casino Employees to Environmental Tobacco Smoke. *JOEM* 40(3): 270-276.

^{xi} HHS (2014).

^{xii} Achutan C, West C, Mueller C., Boudreau Y, and Mead K (2009). *Environmental and Biological Assessment of Environmental Tobacco Smoke Exposure Among Casino Dealers*. National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. Available online at <http://www.cdc.gov/niosh/hhe/reports/pdfs/2005-0201-3080.pdf>

^{xiii} Tynan, M. A., Cohen, M. A., & Harris, J. R. (2023). What happens in Vegas, stays in your lungs: an assessment of fine particulate matter in casinos that prohibit and allow smoking in Las Vegas, Nevada, USA. *Tobacco Control*.

^{xiv} Guo J, Chai G, Song X, Hui X, Li Z, Feng X, Yang K. Long-term exposure to particulate matter on cardiovascular and respiratory diseases in low- and middle-income countries: A systematic review and meta-analysis. *Front Public Health*. 2023 Mar 28;11:1134341. doi: 10.3389/fpubh.2023.1134341. PMID: 37056647; PMCID: PMC10089304.

^{xv} Lim JU, Yoon HK. Narrative review: association between lung cancer development and ambient particulate matter in never-smokers. *J Thorac Dis*. 2022 Feb;14(2):553-563. doi: 10.21037/jtd-21-655. PMID: 35280473; PMCID: PMC8902116.

^{xvi} Babb S, et al. (2014). Secondhand smoke and smoking restrictions in casinos: a review of the evidence. *Tob Control*. Available online at <http://tobaccocontrol.bmj.com/content/early/2014/03/07/tobaccocontrol-2013-051368.full>.

^{xvii} Babb S, et al. (2014). Secondhand smoke and smoking restrictions in casinos: a review of the evidence. *Tob Control*. Available online at <http://tobaccocontrol.bmj.com/content/early/2014/03/07/tobaccocontrol-2013-051368.full>.

^{xviii} Benowitz, N. L., Bernert, J. T., Foulds, J., Hecht, S. S., Jacob III, P., Jarvis, M. J., ... & Piper, M. E. (2020). Biochemical verification of tobacco use and abstinence: 2019 update. *Nicotine and Tobacco Research*, 22(7), 1086-1097.

^{xix} Americans for Nonsmokers’ Rights. Smokefree Casinos. <https://nonsmokersrights.org/smokefree-casinos>.

- ^{xx} Repace JL, Jiang RT, Acevedo-Bolton V, et al. (2011). Fine particle air pollution and secondhand smoke exposures and risks inside 66 US casinos. *Environmental Res*; 111(4): 473-84.
- ^{xxi} Tan CE and Glantz SA. (2012) Association between smoke-free legislation and hospitalizations for cardiac, cerebrovascular, and respiratory diseases: a meta-analysis. *Circulation*; 126: 2177-2183.
- ^{xxii} Achutan C, West C, Mueller C., Boudreau Y, and Mead K (2009).
- ^{xxiii} HHS (2014).
- ^{xxiv} NCI (1999).
- ^{xxv} Sargent RP, Shepard RM, Glantz, S.A. (2004). Reduced Incidence of Admissions for Myocardial Infarction Associated with Public Smoking Ban: Before and After Study. *British Medical Journal* 328: 977-980.
- ^{xxvi} Bartecchi C, Alsever RN, Nevin-Woods C, Thomas WM, Estacio RO, Bucher-Bartelson B, and Krantz MJ (2005). *A Reduction in the Incidence of Acute Myocardial Infarction Associated with a Citywide Smoking Ordinance*. Paper presented at the 2005 American Heart Association Scientific Sessions.
- ^{xxvii} Stefanadis C, Vlachopoulos C, Tsiamis E, Diamantopoulos L, Toutouzas K, Giatrakos N, et al. (1998). Unfavorable Effects of Passive Smoking on Aortic Function in Men. *Annals of Internal Medicine* 128 (6): 426-434.
- ^{xxviii} Davis, R.M. (1998). Exposure to Environmental Tobacco Smoke: Identifying and Protecting Those at Risk. *JAMA* 280(22): 1947-1949.
- ^{xxix} HHS (2014).
- ^{xxx} Repace et al (2011).
- ^{xxxi} Ibid.
- ^{xxxii} McMillen R. Shreveport, Louisiana Indoor Air Quality Monitoring Study. Smoke-free Louisiana. November 2021.
- ^{xxxiii} Mandel, L.L., Alamar, B.C., and Glantz, S.A. (2005). Smoke-Free Law Did Not Affect Revenue from Gaming in Delaware. *Tobacco Control* **14**: 10-12
- ^{xxxiv} Taurus JA, Chaloupka FJ, Moor G, et al. Effect of the Smoke-Free Illinois Act on casino admissions and revenue, *Tobacco Control* 2018; 27:e130-e135.
- ^{xxxv} Pyles MK and Hahn EJ (2009). Smokefree Legislation and Charitable Gaming in Kentucky. *Tobacco Control*; **18**: 60-62.
- ^{xxxvi} Glantz SA and Wilson-Loots R (2003). No Association of Smoke-Free Ordinances with Profits from Bingo and Charitable Games in Massachusetts. *Tobacco Control* 12: 411-413.
- ^{xxxvii} The National Indian Gaming Association, 2021 Gaming Survey Facts, accessed March 13, 2024 at <https://smokefreecasinos.org/wp-content/uploads/pdf/2021-NIGA-Gaming-Survey-Facts.pdf>.
- ^{xxxviii} Kristein MM (1983). How Much Can Business Expect to Profit from Smoking Cessation? *Preventive Medicine*. 12: 358-381.
- ^{xxxix} Marion Merrell Dow, Inc. (1991). The Economic Impact of Smoking: In the Workplace; On Cardiovascular Health; On Wound Health and Recovery from Surgery; On Infants and Children; On Pulmonary Health; On Dental and Oral Health. Medical Information Services, Inc.
- ^{xl} HHS, CDC, Office of Smoking and Health (OSH), Wellness Councils of America, American Cancer Society (1996). *Making Your Workplace Smokefree: A Decision Maker's Guide*. Available online at <https://stacks.cdc.gov/view/cdc/11659>.
- ^{xli} Musich S, Napier D, and Edington DW (2001). The Association of Health Risks With Workers' Compensation Costs. *Journal of Occupational and Environmental Medicine* 43(6): 534-541.
- ^{xlii} Halpern MT, Shikiar R, Rentz AM, and Khan ZM (2001). Impact of Smoking Status on Workplace Absenteeism and Productivity. *Tobacco Control* 10:233-238.
- ^{xliiii} Ryan J, Zerwling C, and Orav ED (1992). Occupational Risks Associated with Cigarette Smoking: A Prospective Study. *American Journal of Public Health* 82(1): 29-32.
- ^{xliv} Ryan J, Zerwling C, and Jones M (1996). Cigarette Smoking at Hire as a Predictor of Employment Outcome. *JOEM* 38(9): 928-933.
- ^{xlv} Penner M and Penner S (1990). Excess Insured Health Care Costs from Tobacco-Using Employees in a Large Group Plan. *JOEM* 32(6): 521-523.