

Indianapolis Air Monitoring Study

[Data gathered March 2009]

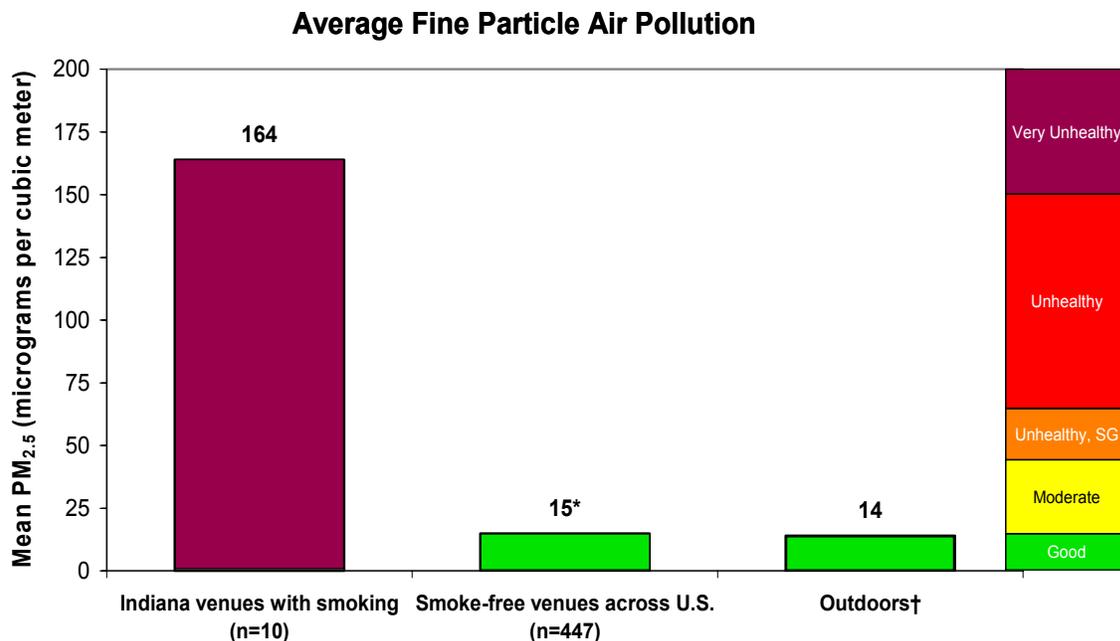
Secondhand smoke (SHS) is a known human carcinogenⁱ, and is responsible for an estimated 50,000 deaths and other illnesses each yearⁱⁱ. Secondhand smoke exposure remains a major public health concern, although it is entirely preventable^{iii,iv}. In 2006, the U.S. Surgeon General concluded that “there is no risk-free level of exposure to secondhand smoke” and that “eliminating smoking in indoor spaces fully protects nonsmokers from exposure to secondhand smoke. Separating smokers from nonsmokers, cleaning the air, and ventilating buildings cannot exposures of nonsmokers to secondhand smoke”.^v

Policies requiring smoke free environments are the most effective method for reducing secondhand smoke exposure in public places^{vi}. Currently, 360 communities have enacted smoke free workplace laws that cover all workplaces—including workplaces such as bars and restaurants—and this represents approximately 41% of the U.S. population^{vii}.

In order to protect the public’s health, the U.S. Environmental Protection Agency (EPA) has set limits of 15 µg/m³ as the average annual level of PM_{2.5} exposure and 35 µg/m³ 24-hour exposure. PM_{2.5} is the concentration of particulate matter in the air smaller than 2.5 microns in diameter. Particles of this size are released in significant amounts from burning cigarettes and are easily inhaled deep into the lungs.

The study assessed indoor air quality in 10 hospitality venues in Indianapolis in March 2009.

The average level of fine particle indoor air pollution in Indianapolis workplaces that allow smoking was 11 times higher than smoke-free venues in the U.S. and PM_{2.5} levels considered healthy by the US EPA.



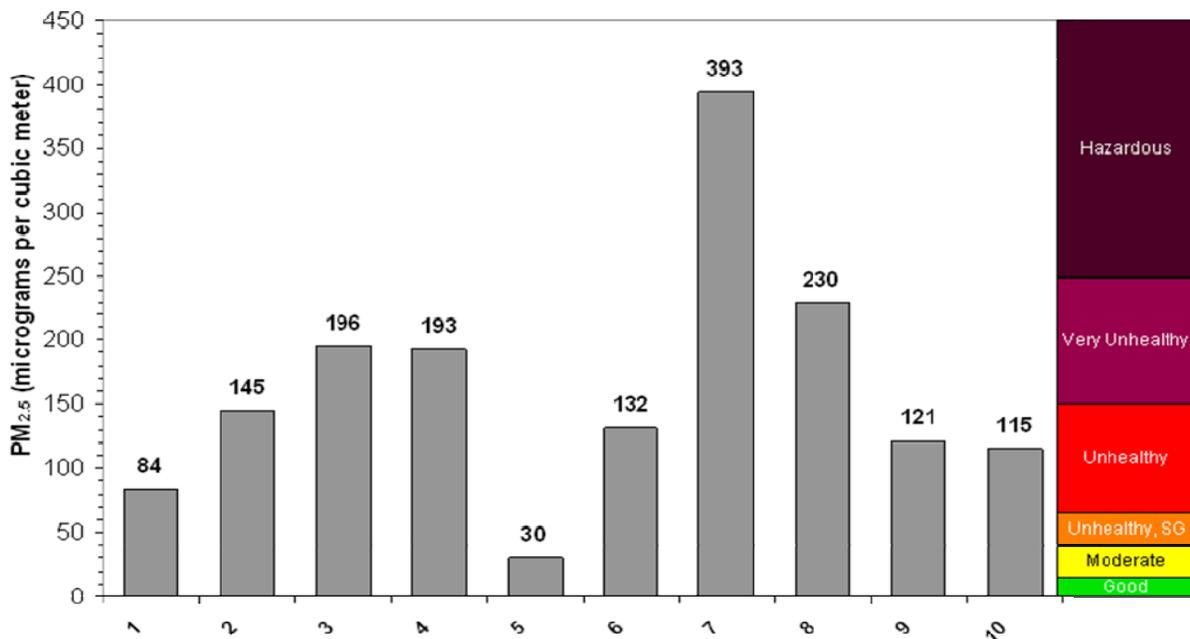
* p<0.001 for comparison of smoke-free to smoking-permitted (Independent samples t test of log-transformed values)

† Annual average PM_{2.5} level from USEPA outdoor monitoring sites in Marion County (2008).

Study Highlights

- The level of fine particle air pollution is very unhealthy in Indiana bars permitting smoking ($PM_{2.5} = 164 \mu\text{g}/\text{m}^3$). This level of air pollution is 11 times higher than smoke-free venues in the U.S., and 12 times higher than outdoor pollution levels in Marion County.
- Employees in the Indianapolis venues permitting indoor smoking are exposed to levels of air pollution 3 times higher than safe annual levels established by the U.S. Environmental Protection Agency due solely to their occupational exposure to tobacco smoke pollution.
- Workers and patrons in the smoking-permitted workplaces in this study are still exposed to hazardous air contaminants and are at risk for a wide range of adverse health effects including lung cancer, cardiovascular disease and death, and effects on the unborn fetus such as pre-term delivery, low birth weight and spontaneous abortion. Smoke free air policies are proven to effectively protect the health of workers and patrons from the adverse effects of exposure to tobacco smoke pollution.

Average PM2.5 Levels by Indianapolis venue



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- i. National Toxicology Program. 9th Report on Carcinogens 2000. Research Triangle Park, NC: U.S. Department of Health and Human Services, National Institute of Environmental Health Sciences; 2000.
 - ii. CDC. Annual smoking-attributable mortality, years of potential life lost, and economic costs – United States, 1995-1999; MMWR 2002;51(14):300-320.
 - iii. Second national report on human exposure to environmental chemicals. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Environmental Health, 2003.
 - iv. U.S. Department of Health and Human Services. Reducing tobacco use: a report of the Surgeon General. Washington, D.C.: US Government Printing Office, 2000.
 - v. U.S. Department of Health and Human Services. The health consequences of involuntary exposure to tobacco smoke: a report of the Surgeon General. Washington, D.C.: US Government Printing Office, 2006.
 - vi. Hopkins DP, Briss PA, Ricard CJ, Husten CG, Carande-Kulis VG, Fielding JE, et al. Reviews of evidence regarding interventions to reduce tobacco use and exposure to environmental tobacco smoke. *Am J Prev Med* 2001;20(2 Suppl):16-66.
 - vii. Americans for Nonsmokers' Rights, October 2, 2009.