

## The Effect of Smoke-free Policies on Workers' Health:

### The Need for Smoke-free Laws

Smoke-free policies reduce exposure to secondhand smoke (SHS) in office and non-office worksites. This has been proven by reduced nicotine concentration levels in the bloodstream of the adults who work in these settings.<sup>i</sup> SHS exposure declined among worker groups between 1988 and 2002 in the U.S., and the decline was greatest among blue collar and service workers, who experienced a 76 percent decline in a SHS indicator as more workplaces adopted smoke-free policies.<sup>ii</sup> Also during that time, the number of local 100 percent smoke-free ordinances in effect increased from 0 to 47 nationwide.<sup>iii</sup> Declines in SHS exposure are expected to continue with more comprehensive laws in effect since that study.

Research on the health effects of SHS found exposure to SHS increases the risk of ischemic heart disease, stroke, type 2 diabetes, and lung cancer.<sup>xxvii</sup>

### Smoke-free Policies Improve Workers' Health

The evidence shows that implementing smoke-free policies has immediate benefits for restaurant and bar workers' health. The Surgeon General reports that comprehensive smoke-free workplace policies reduce exposure to SHS and have the potential to increase quitting among workers who smoke.<sup>iv</sup> Additional studies examining the impact of specific smoke-free laws have similar findings:

- In Wisconsin, three to six months after the implementation of the statewide smoke-free law, nonsmoking bar workers experienced a significant improvement in respiratory health.<sup>v</sup>
- The percentage of hospitality workers exposed to SHS declined from 91 percent to 14 percent in just a single year after New York's smoke-free law went into effect. The amount of time that hospitality workers were exposed to SHS on the job decreased by 98 percent—from 12.1 hours to 0.2 hours.<sup>vi</sup> Reports of one or more sensory symptoms—affecting the eyes, nose, or throat—declined from 88 percent to 38 percent just one year after the smoke-free law took effect.<sup>vii</sup>
- Nonsmoking bar and restaurant employees in Oregon communities without smoke-free laws had higher levels of a tobacco-specific lung carcinogen than similar workers in communities with a smoke-free law in effect. Workers in communities without smoke-free laws also had higher levels of the carcinogen after their work shift than they did previously.<sup>viii</sup>
- A study of Minnesota hospitality workers showed that after implementation of a smoke-free law, concentrations of a SHS indicator in the bloodstream decreased by more than 50 percent in a majority of workers.<sup>ix</sup>

### Smoke-free Policies Reduce Smoking

- A recent systematic review of the research found that smoke-free laws covering workplaces, including restaurants and bars, is associated with reductions in smoking among youth and young adults.<sup>x</sup>
- During the three months following the passage of Nebraska's smoke-free law, 16 percent of callers to the state's Quitline said that they were influenced to call as a result of the smoke-free law.<sup>xi</sup>

- A study found that Kentucky counties with smoke-free laws had higher quitline call rates and lower smoking rates than counties without smoke-free laws. In fact, individuals in communities with smoke-free laws were 18% less likely to smoke.<sup>xii</sup>
- Employees who worked in places that maintained or implemented smokefree policies were nearly twice as likely to stop smoking as employees who worked in places that allowed smoking everywhere.<sup>xiii</sup>
- Research has found that adoption of smoke-free laws and policies can increase successful quitting and tobacco use among people, including workers,<sup>xiv,xv,xvi,xvii,xviii,xix</sup> and can prevent smoking initiation among youth.<sup>xx</sup>
- The Community Preventive Services Task Force attributed a 2.7 percentage point reduction in the prevalence of tobacco use in the U.S. between 2009 and 2011 to smoke-free laws.<sup>xxi</sup>

## Smoke-free Policies Reduce Long-term Risk of Lung Cancer and Cardiovascular Disease Among Workers and Patrons Alike

- A comprehensive review of the effect of smoke-free policies found that smoke-free legislation was associated with reductions in the incidence and prevalence of cardiovascular disease, reductions in cardiovascular disease mortality, reductions in hospitalizations due to cardiovascular disease, reductions in respiratory system disease mortality, reductions in hospitalizations due to respiratory system disease, and reductions in adverse birth outcomes.<sup>xxii</sup>
- A recent study found that Indiana counties with comprehensive smoke-free ordinances had fewer new lung cancer diagnoses per year compared to counties without smoke-free ordinances or without comprehensive smoke-free ordinances.<sup>xxiii</sup>
- A study examining lung cancer incidence and the impact of comprehensive smoke-free policies found that individuals living in Kentucky counties without comprehensive smoke-free ordinances were more likely to be diagnosed with lung cancer than individuals living in Kentucky counties with comprehensive smoke-free ordinances.<sup>xxiv</sup>
- A 20-year longitudinal study (1995-2015) found individuals who lived in areas with 100% smoke-free policies in non-hospitality workplaces, restaurants, bars had a lower systolic blood pressure on average compared to individuals who lived in areas without 100% smoke-free policies in non-hospitality workplaces, restaurants, bars.<sup>xxv</sup>
- Smoke-free laws that cover a broader range of venues, including all workplaces, restaurants, and bars, better reduce the risk of disease and death.<sup>xxvi</sup>
- A 2014 study of hospitality workplaces found that smoke-free policies significantly lowered two cardiovascular risk factors in non-smoking employees.<sup>xxvii</sup>
- Following implementation of Massachusetts's statewide smoke-free law, heart attack deaths declined in cities and towns that previously did not have local smoke-free laws in place. There was no significant change in heart attack deaths in jurisdictions that previously had a local law, suggesting that the decline in heart attack deaths was due to the smoke-free law.<sup>xxviii</sup>
- One year after New York State implemented a comprehensive smoke-free law, heart attack hospital admissions decreased by over 3,800, an 8 percent decline statewide.<sup>xxix</sup>

## ACS CAN's Position on Smoke-free Laws

Exposure to SHS is an occupational hazard for many U.S. workers, including casino, restaurant, bar, and hotel employees, and a preventable cause of disease and premature death. ACS CAN advocates for the right of all people to breathe smoke-free air. No one should have to choose between their livelihood and their health.

ACS CAN urges state and local officials to pass and protect comprehensive smoke-free laws in all workplaces, including restaurants, bars and gaming facilities, to protect the health of all employees and patrons. These laws should include all forms of smoking, including but not limited to cigarettes, electronic cigarettes, cigars, hookah, pipes and cannabis. Policymakers are encouraged to reject legislation that weakens smoke-free laws or removes authority from local governments to pass local smoke-free laws.

<sup>i</sup> HHS, 2014.

<sup>ii</sup> Arheart, KL, Lee DJ, Dietz NA, et al. Declining Trends in Serum Cotinine Levels in U.S. Worker Groups: The Power of Policy. *JOEM* 2008; 50(1):57-53.

<sup>iii</sup> ANR. Local 100% Smokefree Laws in All Workplaces, Restaurants, and Bars: Effective by Year. January 1, 2024. Available online at [http://www.no-smoke.org/pdf/current\\_smokefree\\_ordinances\\_by\\_year.pdf](http://www.no-smoke.org/pdf/current_smokefree_ordinances_by_year.pdf). Accessed May 14, 2024.

<sup>iv</sup> HHS, 2014.

<sup>v</sup> Palmersheim K A, Pfister KP, and Glysch RL. *The Impact of Wisconsin's Statewide Smoke-free Law on Bartender Health and Attitudes*. University of Wisconsin: Milwaukee, Center for Urban Initiatives and Research. 2010. Available at <http://www.governor.wa.gov/news/news-view.asp?pressRelease=345&newsType=1>. Accessed June 6, 2011.

<sup>vi</sup> Farrelly MC, Nonnemaker JM, Chou R, et al. Changes in Hospitality Workers' Exposure to Secondhand Smoke Following the Implementation of New York's Smoke-Free Law. *Tobacco Control* 2005; 14: 236-241.

<sup>vii</sup> Farrelly et al, 2005.

<sup>viii</sup> Stark MJ, Rohde K, Maher JE, et al. The Impact of Clean Indoor Air Exemptions and Preemption Policies on the Prevalence of a Tobacco-Specific Lung Carcinogen Among Nonsmoking Bar and Restaurant Workers. *American Journal of Public Health* 2007; 97: 1457-1463.

<sup>ix</sup> Jensen JA, Schillo BA, Moilanen MM, et al. Tobacco Smoke Exposure in Non-smoking Hospitality Workers Before and After a State Smoking Ban. *Cancer Epidemiol Biomarkers Prev* 2010; 19(4): 1016-1021.

<sup>x</sup> Garritsen, H. H., da Costa Senior, Y. Y., Rozema, A. D., Kunst, A. E., & Kuipers, M. A. (2022). Association between smoke-free legislation in hospitality venues and smoking behavior of young people: a systematic review. *Nicotine and Tobacco Research*, 24(6), 807-812.

<sup>xi</sup> Nebraska Department of Health and Human Services. Six Months of Smoke-Free Air: The Nebraska Clean Indoor Air Act. 2010. Available at [http://smokefree.ne.gov/SixMonthReport\\_SFALaw.pdf](http://smokefree.ne.gov/SixMonthReport_SFALaw.pdf). Accessed June 6, 2011.

<sup>xii</sup> Fernander AF, Rayens MK, Adkins S, and Hahn EJ. Local Smoke-free Public Policies, Quitline Call Rate, and Smoking Status in Kentucky. *Am J Health Promot* 2014; 29(2): 123-6.

<sup>xiii</sup> Bauer JE, Hyland A, Li Q, Steger C, Cummings KM. A longitudinal assessment of the impact of smoke-free worksite policies on tobacco use. *Am J Public Health*. 2005 Jun;95(6):1024-9. doi: 10.2105/AJPH.2004.048678. PMID: 15914828; PMCID: PMC1449303.

<sup>xiv</sup> U.S. Department of Health and Human Services. 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, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014.

<sup>xv</sup> Hopkins DP, Razi S, Leeks KD, Priya Kalra G, Chattopadhyay SK, Soler RE; Task Force on Community Preventive Services. Smokefree policies to reduce tobacco use. A systematic review. *Am J Prev Med*. 2010 Feb;38(2 Suppl):S275-89. doi: 10.1016/j.amepre.2009.10.029. PMID: 20117612.

<sup>xvi</sup> International Agency for Research on Cancer (IARC). IARC Handbooks of Cancer Prevention, Tobacco Control, Volume 13: Evaluating the Effectiveness of Smoke-Free Policies[PDF-2.67 MB]. Lyon, France: WHO, 2009

<sup>xvii</sup> Callinan JE, Clarke A, Doherty K, Kelleher C. Legislative smoking bans for reducing secondhand smoke exposure, smoking prevalence and tobacco consumption. *Cochrane Database Syst Rev*. 2010 Apr 14;(4):CD005992. doi: 10.1002/14651858.CD005992.pub2. Update in: *Cochrane Database Syst Rev*. 2016;2:CD005992. PMID: 20393945.

<sup>xviii</sup> Bauer JE, Hyland A, Li Q, Steger C, Cummings KM. A longitudinal assessment of the impact of smoke-free worksite policies on tobacco use. *Am J Public Health*. 2005 Jun;95(6):1024-9. doi: 10.2105/AJPH.2004.048678. PMID: 15914828; PMCID: PMC1449303.

<sup>xix</sup> Fichtenberg CM, Glantz SA. Effect of smoke-free workplaces on smoking behaviour: systematic review. *BMJ*. 2002 Jul 27;325(7357):188. doi: 10.1136/bmj.325.7357.188. PMID: 12142305; PMCID: PMC117445.

- <sup>xx</sup> Siegel M, Albers AB, Cheng DM, Hamilton WL, Biener L. Local restaurant smoking regulations and the adolescent smoking initiation process: results of a multilevel contextual analysis among Massachusetts youth. *Arch Pediatr Adolesc Med*. 2008 May;162(5):477-83. doi: 10.1001/archpedi.162.5.477. PMID: 18458195; PMCID: PMC2948204.
- <sup>xxi</sup> Community Preventative Services Task Force. Reducing Tobacco Use and Secondhand Smoke Exposure: Smoke-Free Policies. November 2012. Available online at <http://www.thecommunityguide.org/tobacco/smokefreepolicies.html>.
- <sup>xxii</sup> Akter, S., Islam, M. R., Rahman, M. M., Rouyard, T., Nsashiyi, R. S., Hossain, F., & Nakamura, R. (2023). Evaluation of population-level tobacco control interventions and health outcomes: a systematic review and meta-analysis. *JAMA Network Open*, 6(7), e2322341-e2322341.
- <sup>xxiii</sup> Nguyen, R. H., Vater, L. B., Timsina, L. R., Durm, G. A., Rupp, K., Wright, K., ... & Ceppa, D. P. (2021). Impact of smoke-free ordinance strength on smoking prevalence and lung cancer incidence. *Plos one*, 16(4), e0250285.
- <sup>xxiv</sup> Hahn, E. J., Rayens, M. K., Wiggins, A. T., Gan, W., Brown, H. M., & Mullett, T. W. (2018). Lung cancer incidence and the strength of municipal smoke-free ordinances. *Cancer*, 124(2), 374-380.
- <sup>xxv</sup> Mayne, S. L., Jacobs Jr, D. R., Schreiner, P. J., Widome, R., Gordon-Larsen, P., & Kershaw, K. N. (2018). Associations of smoke-free policies in restaurants, bars, and workplaces with blood pressure changes in the CARDIA study. *Journal of the American Heart Association*, 7(23), e009829.
- <sup>xxvi</sup> Ibid.
- <sup>xxvii</sup> Rajkumar, S.; Schmidt-Trucksass, A.; Wellenius, G.A.; Bauer, G.F.; Huynh, C.K.; Moeller, A.; Roosli, M., "[The effect of workplace smoking bans on heart rate variability and pulse wave velocity of non-smoking hospitality workers](#)," *International Journal of Public Health* 59(4): 577-585, August 2014.
- <sup>xxviii</sup> Dove MD, Dockery M, Mittleman J. The Impact of Massachusetts' Smoke-Free Workplace Laws on Acute Myocardial Infarction Deaths. *Am J Pub Heal* 2010; 100(11).
- <sup>xxix</sup> Juster HR, Loomis BR, Hinman TM, et al. Declines in Hospital Admissions for Acute Myocardial Infarction in New York State After Implementation of a Comprehensive Smoking Ban. *Am J Pub Heal* 2007;97(11):2035-39