



Research Brief: Carcinogen and Nicotine Exposure in Hospitality Workers Before and After the Freedom to Breathe Act

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The Transdisciplinary Tobacco Use Research Center, a program of the University of Minnesota Cancer Center, has conducted a study to assess the extent of the exposure to carcinogens (or cancer causing agents) and nicotine experienced by hospitality workers before and after Minnesota's Freedom to Breathe went into effect on October 1, 2007. The study measured workers exposure to cotinine (a measure of nicotine exposure) and NNAL, a measure of exposure to a potent lung cancer-causing toxin, before and after the law took effect.

Methodology

This study involved 24 nonsmoking bar, restaurant and bowling alley employees who typically were not exposed to secondhand smoke except in their workplaces. Subjects were asked to collect urine samples and complete exposure questionnaires prior to the smoke-free law after working a shift equal to or greater than six hours. The second urine sample and questionnaires were collected four to six weeks after the smoke-free law went into effect and after working a shift equal to or greater than six hours. These urine samples were assessed for total NNAL and total cotinine.

Major findings include an 83 percent decrease in cotinine levels and an 85 percent decrease in NNAL levels inside study participant's bodies.

Conclusions

The results of this study show that *the Freedom to Breathe Act has had a significant impact in reducing exposure and uptake of carcinogens and nicotine in hospitality workers*. Although the extent of exposure to these toxic agents is dramatically less than in cigarette smokers, protecting our workers (and patrons) from known cancer causing agents, which has been demonstrated to be present in the urine of these workers prior to the smoking ban, should continue to be a high priority.

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To view the full report, visit www.tturc.umn.edu or www.clearwaymn.org.

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