Research finds hazards from secondhand smoke in bars and restaurants

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Robert McCaffree, M.D., is co-director of the Oklahoma Tobacco Research Center at the University of Oklahoma Health Sciences Center. Credit: OU Medicine

New research by the Oklahoma Tobacco Research Center (OTRC) shows that concentrations of secondhand tobacco smoke inhaled in smoking rooms of restaurants and bars are exceptionally high and hazardous to health.

According to the study, which appears in the center's new report "Tobacco Smoke Pollution in Oklahoma Workplaces," the average

particulate level measured in restaurant smoking rooms was beyond the hazardous extreme based on levels established by the U.S. Environmental Protection Agency. The level found in bars was even worse.

"These levels are exceptionally high and not healthy for the employees and patrons exposed to particles found in secondhand smoke," said Heather Basara, M.D., an industrial hygienist and lead investigator on the research.

Tobacco smoke levels were evaluated based on measurements of very fine suspended particulates in the air, particles smaller than 2.5 microns, which come primarily from tobacco smoke.

Levels averaged 380 $\mu g/m^3$ (micrograms per cubic meter of air) in the restaurant smoking rooms tested, and 655 $\mu g/m^3$ in the bars. Restaurants with no smoking averaged just 26 $\mu g/m^3$.

The EPA scale ranks outdoor levels of particulate pollution as "unhealthy" at 66-150, "very unhealthy"' at 151-250, and "hazardous" at higher concentrations such as the levels found in the Oklahoma restaurant smoking rooms and bars tested for this report.

Robert McCaffree, M.D., Co-Director of OTRC, said, "Secondhand smoke exposure is a serious health hazard, accounting for approximately 700 deaths a year in Oklahoma, mostly from heart disease - including heart attacks - and lung cancer. Even brief exposure is harmful. Because this exposure is readily preventable, business owners and public policy makers would be well-advised to act as soon as possible to assure smokefree environments for all public places and all indoor workplaces."

Particulates were monitored using a TSI Sidepak AM510 Personal Aerosol Monitor. Sixty-second average readings for at least 30 minutes

were recorded in 67 indoor locations in central Oklahoma; following nationally recognized protocols established by the Roswell Park Cancer Institute in Buffalo, New York. Time weighted averages were calculated for each of the locations. The full report is accessible at the OTRC Web site at www.ouhsc.edu/otrc/research/.

Provided by University of Oklahoma