

Smoke-free air policies seem to protect the heart

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A new study on the impact of Michigan's statewide smoking ban adds to mounting evidence that policies prohibiting tobacco smoking in workplaces and other public spaces may substantially improve public health by reducing heart disease and death, according to research to be presented at the American College of Cardiology's 63rd Annual Scientific Session.

Studies on previous [indoor smoking](#) bans have consistently shown a major decrease in hospital admissions for [heart](#) attacks after smoke-free laws went into effect. Secondhand smoke exposure is associated with an estimated 50,000 deaths among U.S. nonsmoking adults each year. Public health officials have warned that breathing even small amounts of secondhand smoke can cause heart damage to healthy nonsmoking adults and may trigger heart attacks in those who are already at risk. In response, many states have passed smoke-free air laws that prohibit smoking in all indoor areas of a venue, fully protecting nonsmokers from involuntary exposure to secondhand smoke. In 2010, Michigan became the 38th state to enact a smoke-free indoor air law, which bans smoking in all worksites, including bars and restaurants.

To examine the clinical impact of Michigan's smoke-free indoor air law, researchers reviewed the Nationwide Inpatient Sample for hospitalizations from [heart attack](#), [congestive heart failure](#) and stroke one year before and after the ban implementation. They found a statistically significant reduction in cardiovascular disease and death with related hospitalizations decreasing by 2.03 percent from 65,329 to

64,002 (51.77 per 1,000 total hospitalizations to 49.54 per 1,000 total).

In-hospital deaths also decreased from 3.91 per 100 events to 3.53 per 100 events, with in-hospital mortality decreasing by 0.38 percent. There was a significant reduction in hospitalizations from congestive heart failure exacerbations and in-hospital mortality for heart attack. In addition, researchers found non-significant reductions in heart attacks, stroke and in-hospital mortality from congestive heart failure exacerbation and stroke.

"There is no nationwide federal policy banning indoor smoking, even though such a policy might improve [public health](#) and potentially reduce health care costs," said Sourabh Aggarwal, M.D., resident physician, Department of Internal Medicine at Western Michigan University School of Medicine, and lead investigator of the study. "Health care can't just take place at the individual level. It must be multipronged, and that includes public health policies being implemented at the highest levels."

Multiple U.S.-based studies have documented the impact of smoke-free air laws on decreasing heart attack rates. A 2011 study that examined the impact of Arizona's smoke-free air law on hospital admissions for heart attacks, chest pain, stroke and asthma found the law resulted in a statistically significant decrease in all four conditions. According to Aggarwal, the Michigan study is the first to examine in-hospital mortality related to a statewide smoking ban. The next phase of research will investigate whether or not public policies prohibiting indoor [smoking](#) are associated with lower [health care costs](#).

A key limitation of this study is that researchers were unable to account or control for other factors that may have played a role in lower event rates, hospitalizations and in-hospital deaths.

Provided by American College of Cardiology

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