Smoking bans reduce the risk of heart attacks associated with secondhand smoke

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Smoking bans are effective at reducing the risk of heart attacks and heart disease associated with exposure to secondhand smoke, says a new report from the Institute of Medicine. The report also confirms there is sufficient evidence that breathing secondhand smoke boosts nonsmokers' risk for heart problems, adding that indirect evidence indicating that even relatively brief exposures could lead to a heart attack is compelling.

"It's clear that smoking bans work," said Lynn Goldman, professor of environmental health sciences, Johns Hopkins Bloomberg School of Public Health, Baltimore, and chair of the committee of experts that wrote the report. "Bans reduce the risks of heart attack in nonsmokers as well as smokers. Further research could explain in greater detail how great the effect is for each of these groups and how secondhand smoke produces its toxic effects. However, there is no question that smoking bans have a positive health effect."

About 43 percent of nonsmoking children and 37 percent of nonsmoking adults are exposed to secondhand smoke in the United States, according to public health data. Despite significant reductions in the percentages of Americans breathing environmental tobacco smoke over the past several years, roughly 126 million nonsmokers were still being exposed in 2000.

A 2006 report from the U.S. Surgeon General's office, THE HEALTH CONSEQUENCES OF INVOLUNTARY EXPOSURE TO TOBACCO SMOKE, concluded that exposure to secondhand smoke causes heart

disease and indicated that smoke-free policies are the most economical and effective way to reduce exposure. However, the effectiveness of smoking bans in reducing heart problems has continued to be a source of debate.

The IOM committee conducted a comprehensive review of published and unpublished data and testimony on the relationship between secondhand smoke and short-term and long-term heart problems. Eleven key studies that evaluated the effects of smoking bans on heart attack rates informed the committee's conclusions about the positive effects of smoke-free policies. The studies calculated that reductions in the incidence of heart attacks range from 6 percent to 47 percent. Given the variations in how the studies were conducted and what they measured, the committee could not determine more precisely how great the effect is. Only two of the studies distinguished between reductions in heart attacks suffered by smokers versus nonsmokers. However, the repeated finding of decreased heart attack rates overall after bans were implemented conclusively demonstrates that smoke-free policies help protect people from the cardiovascular effects of tobacco smoke, the committee said.

The report also provides a detailed discussion of the evidence from animal research and epidemiological studies showing a cause-and-effect relationship between secondhand smoke exposure and heart problems. The committee was not able to determine the exact magnitude of the increased risk presented by breathing environmental tobacco smoke, but noted that studies consistently indicate it increases the risks by 25 percent to 30 percent. Although there is no direct evidence that a relatively brief exposure to secondhand smoke could precipitate a heart attack, the committee found the indirect evidence compelling. Data on particulate matter in smoke from other pollution sources suggest that a relatively brief exposure to such substances can initiate a heart attack, and particulate matter is a major component of secondhand smoke.

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