

Secondhand smoke laws may reduce childhood ear infections

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Harvard School of Public Health (HSPH) researchers and colleagues from Research Institute for a Tobacco Free Society have found that a reduction in secondhand smoking in American homes was associated with fewer cases of otitis media, the scientific name for middle ear infection. The study appears on January 26, 2011, as an online first article on the website of the journal *Tobacco Control*.

"Our study is the first to demonstrate the public health benefits to children of the increase in smoke-free homes across the nation. It also is the first study to quantify over the past 13 years a reversal in what had been a long-term increasing trend in middle ear infections among children," said lead author Hillel Alpert, research scientist in HSPH's Department of Society, Human Development, and Health. "If parents avoid [smoking](#) at home, they can protect their children from the disease that is the most common cause of visits to physicians and hospitals for medical care," he said.

[Secondhand smoke](#) (smoke from a burning cigarette combined with smoke exhaled by a smoker) has been shown to increase the level of unhealthy particles in the air, including nicotine and other toxins. In 2006 the U.S. [Surgeon General](#) stated that enough evidence existed to suggest a link between parents' smoking and children's ear infections.

Otitis media is the leading reason for visits to medical practices and hospitals among U.S. children, with an annual estimated economic burden of \$3 billion to \$5 billion. Children's visits for otitis media

increased steadily from 9.9 million in 1975 to 24.5 million visits in 1990. However, the researchers found the average annual number of outpatient visits for otitis media in children aged 6 years and younger dropped 5%, and hospital discharges fell by 10% per year from 1993 to 2006. (The researchers note that other factors may have contributed to the decline, including a [pneumonia vaccine](#) that was introduced in 2000.)

To determine the number of smoke-free households, the researchers used data from the National Cancer Institute's Tobacco Use Supplement to the Current Population Survey. They found voluntary no-smoking rules in households nearly doubled from 45% in 1993 to 86% in 2006, most likely due to increased awareness of secondhand smoke hazards and a reduction in the number of people smoking in homes.

"Smoke-free rules in homes are extremely important to protect [children](#), given the many adverse effects that secondhand tobacco smoke exposure has on child health," Alpert said.

More information: The study was funded by the Flight Attendant Medical Research Institute. "Smoke-free Households with Children and Decreasing Rates of Paediatric Clinical Encounters for Otitis Media in the United States," Hillel R. Alpert, Ilan Behm, Gregory N. Connolly, Zubair Kabir. *Tobacco Control* (2010). [doi:10.1136/tc.2010.038711](https://doi.org/10.1136/tc.2010.038711) Online January 26, 2011.

Provided by Harvard School of Public Health

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