

Smoking ban policy generated a significant and sustained fall of myocardial infarction rates

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Evidence from a broad type of studies shows that secondhand smoke (SHS) exposure can generate rapid adverse effects on the physiology of cardiovascular system that increase the risk for a cardiac event. A great deal of data pointed that the risk of heart disease and acute myocardial infarction (AMI) increased rapidly with small doses of tobacco smoke – those received from SHS – and then continued to increase more slowly with larger doses. Evidence also suggests that the acute effects of SHS exposure might be rapidly reversible.

Nine studies have reported, as the authors said, that laws making indoor workplaces and public places smoke-free were associated with quick and important reductions in hospitalizations for AMI; having in mind that whether this effect was sustained over time was unknown, this report is the first one to present that this drop continues for several years.

The Pueblo Heart Study examined the impact of a local smoke-free ordinance in the city

of Pueblo, Colorado, that took effect in 2003. AMI hospitalization rates among residents of the city of Pueblo, the area of Pueblo County outside the city of Pueblo limits, and El Paso County were compared across three periods: 0-18 months before the smoke-free law took effect, 0-18 months after this date, and 19-36 months after this date, for a total of 54 months. Rates were compared between periods using a chi-square test.

All data differed significantly across all three periods within the city of Pueblo ($p < 0.001$). Rates of AMI hospitalizations decreased 27% in the first period of 18 months and an additional 19% in the next 18 months. No significant changes were observed in two comparison areas.

The CDC concluded that these findings suggest that smoke-free policies can result in reductions in AMI hospitalizations that are sustained over a 3-year period and that these policies are important in preventing morbidity and mortality associated with heart disease. ▣

Comment on the paper:

RN Alsever, WM Thomas, C Nevin-Woods, et al for Chronic Disease Prevention and Health Promotion, CDC – Reduced Hospitalizations for Acute Myocardial Infarction After Implementation of a Smoke-Free Ordinance. City of Pueblo, Colorado, 2002-2006; *Morbidity and Mortality Weekly Report (MMWR)*, January 2, 2009 / 57(51);1373-1377, published by the Centers for Disease Control and Prevention