Clean indoor air laws encourage bans on smoking at home

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Second hand smoke exposure among nonsmokers has declined over time as clean indoor air laws have been adopted. However, there has been concern that such laws might encourage smokers to smoke more in their homes or other private venues. Children living in a home with an adult smoker are up to twice as likely to take up smoking themselves. Now, a study in the December issue of the *American Journal of Preventive Medicine* concludes that strong clean indoor air laws are associated with large increases in voluntary smokefree policies in the home, as well.

"Although the aim of clean indoor air laws is to reduce second hand smoke exposure in public venues, our results show that these laws have the important additional benefit of stimulating smokefree homes, with a larger association in homes occupied by smokers, protecting kids and other family members from second hand smoke," says lead investigator Stanton A. Glantz, PhD, Professor of Medicine in the Department of Medicine at the University of California, San Francisco.

Dr. Glantz and his colleagues analyzed data from the Tobacco Use Supplement to Current Population Survey (TUS-CPS), a nationally representative household survey of tobacco use. They looked at the likelihood of a person living in a home with a 100% smokefree ban, and how that related to individual characteristics, household composition, and whether the residential region is covered by clean indoor air laws. "Living in a county fully covered by a 100% clean indoor air law in workplaces or restaurants and bars is associated with an increased likelihood of having a voluntary 100% smokefree-home rule, for both

smoking and nonsmoking households," says Dr. Glantz. "The presence of children in the home makes a smokefree rule more likely."

Since the home remains a major source of second hand smoke exposure for children, this work shows that an additional justification for enacting smokefree legislation is the secondary effect of encouraging voluntary smokefree rules at home, particularly in homes occupied by smokers," concludes Dr. Glantz.

In a related study also published in the December issue of the American Journal of Preventative Medicine, researchers from the Moores UCSD Cancer Center at the University of California, San Diego found that while public health campaigns have reduced the exposure of U.S. children to second hand smoke at home, only half of U.S. households with both children and smokers had complete home smoking bans.

Utilizing data from the TUS-CPS, the researchers found that public health campaigns may not have been equally effective across demographic groups. "Among U.S. households with both children and adult smokers, the prevalence of complete home smoking bans more than tripled form 1992/1993 to 2006/2007," says lead author Karen Messer, PhD, Professor and Director of Biostatistics at UCSD Moores Cancer Center. "While this is encouraging progress, gains were smallest among African-American households, and among households with older versus younger children. There were fewer smokefree households below the poverty line, in households with less education, and in states with high smoking prevalence. Effective interventions to promote smokefree homes among smoking families are needed, and this study can help identify populations that would benefit from such interventions."

In a commentary accompanying the articles, Melbourne F. Hovell, PhD, MPH, Director of the Center for Behavioral Epidemiology and Community Health, and colleagues from San Diego State University, call

for the use of mobile and other emerging technologies for real-time measurements and interventions to better understand the underlying mechanisms of observed associations, such as how public clean indoor air laws influence home smoking bans.

"Both of these studies show that influences from the macro-environments (i.e. public policies on smoking, state-level smoking prevalence) had 'spillover effects' on the microenvironment, such as home smoking bans," explains Dr. Hovell. "Mobile phone-based systems that use GPS and accelerometer capability, along with particle monitors, will soon be capable of measuring real-time physical activity and smoke in microenvironments and transmitting this information to exposed individuals, providers and policymakers. Doing so may lead more rapidly to health promoting technologies and for preventive medicine interventions in micro- and macro-environments."

More information: The articles are "Association Between Smokefree Laws and Voluntary Smokefree-Home Rules," by Kai-Wen Chang, PhD, Stanton A. Glantz, PhD, and James M. Lightwood, PhD (doi: 10.1016/j.amepre.2011.08.014) and "Home Smoking Bans Among U.S. Households with Children and Smokers: Opportunities for Intervention," by Alice L. Mills, MD, MPH, Martha M. White, MS, John P. Pierce, PhD, and Karen Messer, PhD (doi: 10.1016/j.amepre.2011.08.016). The commentary is "Smokefree Community Policies Promote Home Smoking Bans: Unknown Mechanisms and Opportunities for Preventive Medicine," by Melbourne F. Hovell, PhD, MPH, Christina N. Lessov-Schlaggar, PhD, and Ding Ding, MPH (doi: 10.1016/j.amepre.2011.09.015) The articles appear in the American Journal of Preventive Medicine, Volume 41, Issue 6 (December 2011)

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