



DEPARTMENT OF VETERANS AFFAIRS

Veterans' Environmental Tobacco Smoke (ETS) Exposure

Mark Vander Weg, PhD Cassie Cunningham, BS

Veterans Rural Health Resource Center—Central Region, Center for Research in the Implementation of Innovative Strategies in Practice (CRIISP), Department of Veterans Affairs, Iowa City, Iowa

Introduction

Environmental tobacco smoke (ETS), also known as secondhand smoke, refers to the mixture of smoke given off by the burning end of tobacco products (sidestream smoke) and the smoke exhaled by smokers (mainstream smoke).¹ Exposure to ETS is associated with an increased risk for lung cancer, coronary heart disease, and a variety of other health problems.¹⁻² Although an increasing number of communities have enacted clean-air policies that restrict smoking in public areas, a large number of individuals are still exposed to tobacco smoke in the home and workplace. Very little is known about exposure to environmental tobacco smoke among veterans, and whether ETS exposure differs for those living in rural versus non-rural areas, although available data do suggest that there may be fewer restrictions on smoking in public in rural areas.³

This research brief, based on a study published recently in *Addictive Behaviors*,⁴ investigated exposure to cigarette smoke at home and the workplace as well as rules regarding cigarette smoking among veterans residing in rural, suburban, and urban locations.

Methods

- Nationally-representative samples of adults

aged 18 and older were surveyed about their health and behavioral risk factors in 2006 and 2008 as part of the Centers for Disease Control and Prevention's annual Behavioral Risk Factor Surveillance System

Key Findings

- Rural veterans were more likely than those living in suburban locations to have had someone smoke in their presence in the past seven days at both home (18.1% vs. 9.5%) and work (18.85 vs. 11.2%).
- Rules allowing smoking at home and in work areas tend to leave rural veterans less protected against the dangers associated with environmental tobacco smoke exposure.
- Large numbers of veterans, and particularly those living in rural areas, are exposed to the potentially harmful effects of environmental tobacco smoke on a regular basis.

This work was funded by the Veterans Administration Office of Rural Health (ORH)

For more information about this study contact Mark Vander Weg at (319) 338-0581, Ext. 7717 or mark-vanderweg@uiowa.edu.

- Veterans were identified based on survey items assessing their history of military service.
- Place of residence in relation to the nearest Metropolitan Statistical Area (MSA) was used to classify veterans as urban, suburban, or rural.
- Exposure to ETS at work and at home was determined based on veterans' self-report.
- Veterans were also asked about the rules for smoking in their home as well as both common areas and work areas in the workplace.
- Differences in ETS exposure and rules regarding cigarette smoking at home and at work according to place of residence were examined using multivariable logistic regression while adjusting for demographic factors. Analyses were conducted using SPSS.

Findings

Exposure to ETS: At home

In 2008, respondents were asked whether they were exposed to cigarette smoke at home in the

past seven days. Results are presented in Figure 1. Approximately 19% of veterans living in rural areas reported that someone had smoked in their presence at home, a rate that was significantly higher than those residing in suburban locations (11.2%).

Exposure to ETS: At work

Environmental tobacco smoke exposure was highest among rural veterans (18.1%), a rate that was nearly double that reported for those dwelling in suburban areas (9.5%), and greater than among veterans living in urban areas (14.9%).

Rules about smoking: At home

Respondents were asked to describe the rules toward smoking in their home and workplace. Results are presented in Table 1. A substantial proportion of veterans reported policies that would result in exposure to cigarette smoking at least occasionally. Approximately one in four veterans living in rural areas reported no restrictions on smoking in the home, a rate that was significantly higher than for those living in both urban (19.1%) and suburban (18%) locations.

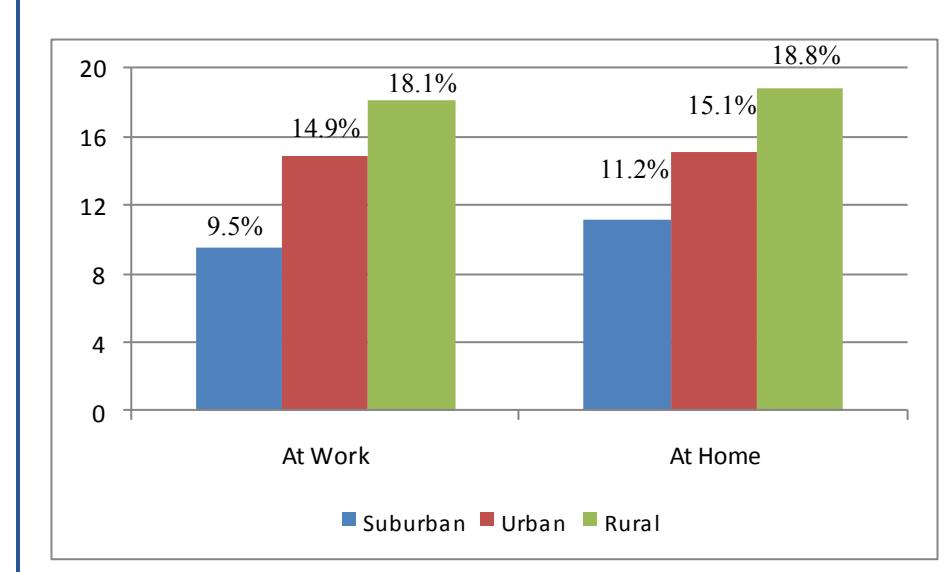
Table 1. Rules Regarding Cigarette Smoking at Home and Work by Rurality - 2006

	<u>Rural</u>	<u>Suburban</u>	<u>Urban</u>
Rules for smoking at home			
Not allowed anywhere	67.9	74.1	71.7
Sometimes allowed	7.3	8	9.2
Always allowed	24.9 ^{a,b}	18	19.1
Rules for smoking in common work areas			
Not allowed anywhere	72.2	80.4	76.7
Sometimes allowed	17.6	12.5	17.5
Always allowed	10.3	7.1	5.7
Rules for smoking in work areas			
Not allowed anywhere	76.8	86.6	84.7
Sometimes allowed	13.2	7.5	11.1
Always allowed	9.9 ^b	5.9	4.2

^aRules regarding cigarette smoking differ significantly between rural and suburban veterans ($p < .05$).

^bRules regarding cigarette smoking differ significantly between rural and urban veterans ($p < .05$).

Figure 2. Exposure to Smoking at Home and Work by Rurality



Rules about smoking: At work

Participants also reported policies regarding smoking in both common areas and work areas in the workplace. Although rural dwelling veterans tended to report the least restrictive policies in common areas, differences across groups were not statistically significant.

With regard to work areas, veterans living in rural locations (9.9%) were significantly more likely than those from urban areas (4.2%) to report that smoking was always allowed.

Conclusions

Environmental tobacco smoke exposure poses significant health risks to both smokers and nonsmokers alike. Results from the present study indicate that veterans residing in rural areas are less protected from the adverse effects of secondhand smoke than those living in suburban or urban areas. These results are consistent with prior findings among non-veterans in which those living in rural counties reported fewer restrictions on smoking in homes, the workplace, and public areas.³ Despite these findings indicating that there are fewer policies to limit exposure to

tobacco smoke for those in rural areas, evidence suggests that rural residents are actually more likely to support smoke-free laws.⁵ Collectively, these findings highlight the need for increased efforts to enact policy changes that will reduce disparities in protection against environmental tobacco smoke among those living in rural areas.

Impact

- Rural veterans are disproportionately exposed to the health risks associated with environmental tobacco smoke.
- Veterans, and particularly those residing in rural areas, should be educated regarding the potential harm associated with exposure to others' tobacco smoke and about steps that can be taken to reduce risk to themselves and others.
- Greater efforts should be made to ensure that policies targeting reduced exposure to environmental tobacco smoke are adequately enforced in rural as well as urban and suburban areas.

References

1. US DHHS. The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General. Atlanta, GA: US DHHS, CDC, Coordinating Center for Health Promotion, NCCDP and Health Promotion, Office on Smoking and Health, 2006.
2. California EPA. Proposed Identification of Environmental Tobacco Smoke as a Toxic Air Contaminant. Part B: Health Effects. Sacramento, CA: California EPA, Office of Environmental Health Hazard Assessment, 2005.
3. McMillen R, Breen J, Cosby AG. (2004). Rural-urban differences in the social climate surrounding tobacco smoke: a report from the 2002 Social Climate Survey of Tobacco Control. *J Rural Health*, 20, 7-16.
4. Vander Weg, M. W., Cunningham, C. L., Howren, M. B., & Cai, X. (2011). Tobacco use and exposure in rural areas: findings from the Behavioral Risk Factor Surveillance System. *Addictive Behaviors*, 36, 231-236.
5. Rayens et al. (2008). Public support for smoke-free laws in rural communities. *Am J Prev Med*, 34, 519-522.



Approved by ORH **INSERT DATE** and available on-line at <http://www.ruralhealth.va.gov/>