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Political climate and smoke-free laws in rural Kentucky communities

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Abstract

The purpose was to determine factors associated with rural communities' political readiness to enact smoke-free laws. Data from baseline assessment of a longitudinal intervention study to promote smoke-free policy in rural Kentucky communities; key informants ($n=144$) and elected officials ($n=83$) from 29 counties participated in cross-sectional telephone interviews. Controlling for population size and county-level smoking rate, the following factors predicted elected officials' perception of the likelihood of a local smoke-free law passing in the next 12 months: 1) support from the local board of health; 2) support from local leaders; and 3) smoke-free hospitals. Communities with lower adult smoking prevalence were more ready for smoke-free laws. Rural health advocates can increase political readiness for smoke-free laws by educating and engaging Board of Health members and local leaders, promoting the voluntary adoption of smoke-free policies in rural hospitals, and investing in effective population-based approaches to evidence-based tobacco treatment in rural communities.

Keywords

public policy; environmental tobacco smoke; advocacy; elected officials

Introduction

Smoke-free laws protect nonsmokers from the devastating effects of secondhand smoke (SHS) and are known to have positive health effects at the population level (Hahn, 2010). Comprehensive smoke-free legislation reduces non-smokers' exposure to SHS by improving

indoor air quality (Hyland, Travers, Dresler, Higbee, & Cummings, 2008; Lee et al., 2009; Repace, Hyde, & Brugge, 2006). These laws also lead to lower teen smoking rates (Farkas, Gilpin, White, & Pierce, 2000; Siegel, Albers, Cheng, Biener, & Rigotti, 2005) and greater adult smokers' quit attempts and cessation success (Bauer, Hyland, Li, Steger, & Cummings, 2005; Fong et al., 2006; Moskowitz, Lin, & Hudes, 2000). Reductions in myocardial infarction (Institute of Medicine, 2010; Meyers, Neuberger, & He, 2009) and asthma exacerbations (Areias et al., 2009; Rayens et al., 2008) are also observed after enactment of comprehensive smoke-free laws.

Smoke-free laws or regulations have historically been enacted in the U.S. by city or county governments, since local elected officials are accessible and often more receptive to community needs than are state or federal officials (Derthick, 2002; Siegel, 2002; Siegel et al., 1997). Rural communities are less likely than their urban counterparts to enact smoke-free legislation (Mahon & Taylor-Powell, 2007; York et al., 2010). Similarly, less populated areas typically adopt weaker smoke-free regulations (Ferketich et al., 2010; Skeer, George, Hamilton, Cheng, & Siegel, 2004).

The majority of studies examining elected officials' views toward smoke-free laws focus on state legislators. Personal history with tobacco growing (Hahn, Toumey, Rayens, & McCoy, 1999), political ideology (Andersen et al., 2006; de Guia et al., 2003; Flynn et al., 1998; Goldstein et al., 1997; Gottlieb et al., 2003), and attitudes related to health (Cohen et al., 2002; de Guia, et al., 2003; Flynn, et al., 1998; Gottlieb, et al., 2003) are the strongest predictors of state legislators' decision making. State officials who believe that government has a responsibility to protect individuals' health or who champion public health policies are also more supportive of smoke-free laws (Cohen, et al., 2002; de Guia, et al., 2003; Flynn, et al., 1998; Gottlieb, et al., 2003). Further, elected officials who are former or current smokers are less supportive of tobacco control policies than nonsmokers (Andersen, et al., 2006; Ashley, Bull, & Pederson, 1995; Cohen, et al., 2002; de Guia, et al., 2003; York, Hahn, Rayens, & Talbert, 2008).

Understanding the views of elected officials related to smoke-free policy is important (Oetting, Jumper-Thurman, Plested, & Edwards, 2001), especially in rural communities where smoking prevalence rates and SHS exposure are typically higher than in urban areas (Mahon & Taylor-Powell, 2007; McMillen, Breen, & Cosby, 2004; Rahilly & Farwell, 2007). York et al. (2008) reported that while local elected officials in Kentucky understood the health consequences of smoking and SHS exposure, they were hesitant to support smoke-free laws, and elected officials with a history of tobacco smoking or farming were less supportive. The purpose of this study was to determine whether rural community smoke-free characteristics and perceived support for smoke-free policy predicted local elected officials' perception of the likelihood of a smoke-free law being enacted in their counties within the next 12 months.

METHODS

Design and Sample

The data were collected in June-August 2007 during the baseline phase of a 5-year randomized, controlled community trial to promote smoke-free policy in rural Kentucky. Participants were key informants and elected officials from 29 rural counties. Approval was obtained from the University of Kentucky Medical Institutional Review Board. The 99 rural counties outside the Metropolitan Statistical Areas in Kentucky were eligible. At the time of the study, there were 56 total health department service areas in Kentucky; 15 contained multiple counties ranging from 2 to 10 counties. The remaining 41 health departments were single county health departments. One county from each multi-county health department

district was randomly chosen for inclusion in the study; the remaining 27 counties in these districts were omitted to avoid contamination between study groups. From the remaining pool of 72 rural counties, 40 were randomly chosen. These selected counties were randomly assigned to treatment or one of the two control groups; the second control group ($n=10$) was not assessed at baseline and is not included in this analysis. One county was omitted since no elected officials participated at baseline.

Key informants from the 29 counties ($n = 144$) were community members knowledgeable about: the policy issue, related existing programs or efforts, and community leadership to promote change (Plested, Jumper-Thurman, Edwards, & Oetting, 1998), and they were tobacco control coordinators, public health directors, health educators, nurses, or citizen advocates. They were recruited by first contacting the tobacco control specialist at the local health department and then using snowball sampling to identify additional participants. Local health departments in Kentucky are governed by members of the local Board of Health who are appointed to serve 2-year terms. Based on KRS 212.230, Boards of Health can adopt administrative regulations to protect the public health.

Elected officials ($n=83$) included the county judge executives (i.e., leaders of county government) and mayors of each city within the study counties. The average interview length was 48.1 minutes for key informants and 15.2 minutes for elected officials. The number of key informants per county ranged from 3-7, while the number of elected officials per county ranged from 1-7.

Measures

Items for the study reported here were selected from the larger key informant and elected official interviews to assess community readiness for smoke-free policy (Hahn, Rayens, & York, in press). Of the 13 items chosen from the original key informant survey, nine measured perceived community readiness for smoke-free policy; existing smoke-free policies in community venues such as hospitals, malls and shopping centers, government buildings; and percent of smoke-free restaurants, bars and workplaces. The remaining four items chosen from the original survey rated key informants' perceptions of support for smoke-free policy among local leaders (see Table 1). Perceived support for smoke-free policy was assessed related to local leaders including mayors, county judge executives, county and city attorneys, city managers, chambers of commerce and public health directors; and the percent of city council or commission members, county commissioners or magistrates, and local board of health members who support a smoke-free law.

The main outcome variable was one item from the original elected officials' survey: "How likely is it that a smoke-free law that prohibits smoking in all indoor workplaces including restaurants and bars would pass within the next 12 months in the county or city?" Response options ranged from 1 ("Not likely at all") to 3 ("Very likely").

For each of the 14 total survey items, including 13 from key informants and 1 from elected officials, responses from participants within a county were averaged to obtain an item total score for that county. Each item was coded so that a higher score indicated more support for smoke-free policy and the items were rescaled so that the maximum score for each was 1, to allow for comparisons across items. The key informant item, "What is the position of local leaders on enacting a smoke-free law?" was a combination of responses from those items related to city mayors, county judge executives, county and city attorneys, city managers, chambers of commerce, and public health directors. The overall score was based on the average response across all categories of local leaders.

The five 'yes/no' questions that assessed whether there was an indoor smoke-free policy in five venues (city government buildings, county government buildings, malls/shopping centers, hospitals, and restaurants) were averaged such that the county-level mean was the percent of "yes" responses from the key informants in that county relative to the total number who responded. For these five items, a score of 0.5 indicated that on average, about half of the respondents said a particular venue type had a voluntary or mandated smoke-free policy. Responses to these five yes/no items originally coded as "NA" because there were no venues of that description in the county were recoded as "no" responses in this scoring algorithm. The decision to count "NA" as "no" was made not only to allow inclusion of all 29 counties in the regressions models, but also because these variables are indicators of exposure to the smoke-free norm in buildings open to the public. Residents of counties with few smoke-free public buildings may be less exposed to these policies, reflecting lower community readiness for smoke-free policy.

Items that required the respondent to estimate a percent (e.g., percent of smoke-free restaurants) were averaged across key informants from a given county and then divided by 100 so that the range was from 0 to 1. For the three items assessing the number of members of various groups who were supportive of smoke-free policy (i.e., city council or commission members, county commissioners or magistrates, and local board of health members), the estimated percent of those supportive was determined by adding the number estimated to be "For" the policy plus half of those who were "Uncommitted" and dividing by the total number of members in the group. The premise for this was the *a priori* assumption that "Uncommitted" members would be as likely to be "For" as "Against" policy, absent any other information about their views. This decision is consistent with the political science literature on the multiple internal and external influences on voting behaviors (Agency for Toxic Substances and Disease Registry & Service, 1990; American Nonsmokers' Rights Foundation, 2011; Centers for Disease Control and Prevention, 2006; Kingdon, 2003).

The demographic variables of sex, age and race were collected from both groups. County estimates of adult smoking prevalence and population size were obtained from the 2005-2007 BRFSS (Centers for Disease Control and Prevention, 2007) and the 2007 U.S. Census, respectively.

Data analysis

Descriptive analyses, including means and standard deviations or frequency distributions, were used to summarize the data. Associations between each of the key informant items and the elected official item were determined using Pearson's product moment correlation. Predictors of elected officials' perceptions of the likelihood of a smoke-free law were determined using multiple linear regression. To control the overall Type I error, regression models were considered only for key informant items that were significantly correlated with the outcome variable in the bivariate analysis. Regression models were summarized using the adjusted R-square, a more conservative test statistic than the usual R-square when the sample size is limited. Given the requirement for at least 10 cases per predictor in a regression model to ensure the stability of parameter estimates (Babak, 2004), the regression analysis was limited to at most three predictors per model. Data analysis was conducted using SAS for Windows, version 9.2; an alpha level of .05 was used throughout.

Results

Most key informants were female (86%) with an average age of 47.2 years ($SD=10.9$, range=24-80). The majority of elected officials were male (83%), and their average age was 56.1 years ($SD=11.6$, range=28-83). Consistent with the state population, nearly all

participants in both groups were White (100% of key informants and 93% of elected officials). The average population size for the 29 study counties was 25,919 ($SD=15,578$, range=2,202-64,765) and the mean adult smoking rate was 29.3% ($SD=5.8\%$, range=15.7-46.7%).

The average score among elected officials on the outcome variable of perceived likelihood of a smoke-free law being passed in the next 12 months was 0.47 ($SD=0.12$), ranging from 0.33-0.67. The average level of perceived readiness for smoke-free policy, as rated by key informants, was 0.54 (Table 1). The higher the perceived readiness for smoke-free policy as reported by key informants, the more likely elected officials were to say that a smoke-free law would be enacted within the next 12 months ($r=.36$, $p=.05$).

The public places most likely to have indoor smoke-free policies in at least some locations were hospitals and restaurants (mean=0.75 and mean=0.74, respectively; Table 1). Key informants from five counties reported there were no hospitals in their community with voluntary (or mandated) smoke-free policies; of the respondents from these counties, 38% indicated there were no indoor smoke-free policies in the hospital(s) and the remaining 62% of responses were coded as “no” because there was no hospital located in the community. The public place least likely to have an indoor smoke-free policy was city government buildings (mean=0.08). Of the ‘no’ responses to city government buildings question, 40% allowed smoking and the remaining 60% were coded as ‘no’ because there were no city government building(s) located in the community. Of the five public places, the indicator for one or more smoke-free hospital(s) in the county was the only one associated with elected officials’ rating of the likelihood of a smoke-free policy ($r=0.48$, $p=.008$).

Of the three items measuring the percent of smoke-free locations, workplaces were most prevalent (32%), followed by restaurants (26%) and bars (12%). Elected officials were more likely to report a smoke-free law passing in the next 12 months if the community had a higher percent of smoke-free workplaces and restaurants ($r=0.36$, $p=.05$ and $r=0.39$, $p=.04$, respectively).

Perceived support for smoke-free policy among local leaders was relatively strong, with an average score of 0.57. The higher the perceived support for smoke-free policy among local leaders the more likely elected officials were to report that a smoke-free law would pass in the next 12 months ($r=.50$, $p=.005$). The greatest support for smoke-free laws was among local boards of health (mean=78%), followed by city councils or commissions (mean=55%). The lowest level of support was among county commissioners or magistrates (mean=46%). Supportive local boards of health was significantly correlated with elected officials’ perception of the likelihood of a smoke-free law ($r=.56$, $p=.004$).

Table 2 displays the six multiple regression models that tested for predictors of elected officials’ perceptions of the likelihood of smoke-free law enactment within the next 12 months, with county population size and adult smoking rate as covariates. The variance inflation factors for all predictors in each model were less than 2, suggesting that multicollinearity was not present in these models. Communities with one or more smoke-free hospitals were more likely to have elected officials who reported likelihood of a smoke-free law ($F=3.9$, $p=.02$). This predictor, along with the covariates of population size and smoking rate, explained 24% of the variability in likelihood of a smoke-free law.

Communities with supportive local leaders and a low adult smoking rate were also more likely to have elected officials who were optimistic about a smoke-free law passing in the next 12 months ($F=5.2$, $p=.006$). The predictor and covariates explained 31% of the variability in the likelihood of a smoke-free law. Finally, communities with supportive local board of health members and a low smoking rate were more likely to have elected officials

who were optimistic about enactment of a local smoke-free law ($F=6.8$, $p=.002$). The predictor and covariates included in this model explained 42% of the variability in the perceived likelihood of a smoke-free law. Population size was not related to likelihood of smoke-free law enactment in any of the models.

Discussion

Three factors predicted local elected officials' perception of the likelihood of a smoke-free law being enacted in their rural county within the next 12 months: (1) support from the local board of health; (2) support from local leaders; and (3) smoke-free hospitals. Elected officials from communities with lower adult smoking rates were more optimistic about smoke-free laws passing. Interestingly, elected officials from small and large rural communities were as likely to be optimistic that smoke-free laws would be enacted in the next 12 months, inconsistent with previous studies identifying population size is a predictor of smoke-free policy adoption, strength of policy, and strength of tobacco control (Nykiforuk, Campbell, Cameron, Brown, & Eyles, 2007; Skeer, et al., 2004; York, et al., 2010). Given that all of the counties in this study were relatively small and rural, there may not have been enough variability in population size to detect an association. A combination of other factors, including overall stage of community readiness (Oetting et al., 1995) and contextual factors such as tobacco as a "cultural icon" in Kentucky (Chaloupka, Hahn, & Emery, 2002), may be as important as population size in predicting the likelihood of a smoke-free law passing in a rural community.

A combination of perceived support from the local board of health and low county smoking rates were the best predictors of whether elected officials thought smoke-free laws would pass in the next 12 months. Consistent with these findings, Ramiro et al. (2001) found that local health boards influence elected officials' views and decisions on health-related issues. While support for smoke-free policy from local boards of health may be expected (Dearlove & Glantz, 2002), this is not always the case in rural communities. Local boards of health are comprised not only of health professionals but also influential key leaders who may view the smoke-free issue as political. Boards of Health may need updated scientific information about the health effects of SHS and the health and economic benefits of smoke-free laws. They also may need training on how best to respond to the opposition, as well as information on advocacy and lobbying (Dearlove & Glantz, 2002). The critical role of the local board of health in shaping a positive political climate cannot be underestimated when promoting smoke-free laws in rural communities.

Perceived support from local leaders in combination with low county adult smoking rates were also significant predictors of whether elected officials thought smoke-free laws would pass in the next 12 months. This finding is consistent with other studies that report communities with low smoking prevalence are more likely to have stronger tobacco control laws (Heloma & Jaakkola, 2003; Stillman et al., 2003).

An additional predictor of elected officials' perceived likelihood of smoke-free law enactment was the existence of smoke-free hospitals. Communities with smoke-free hospitals were more likely to have elected officials who were optimistic about smoke-free legislation passing in the next 12 months. Despite the trend in smoke- or tobacco-free hospitals inside and on all grounds (Williams et al., 2009), some small rural hospitals are still not smoke-free, as reported in this study. Advocates in rural communities can form partnerships with hospitals to assist them in implementing smoke-free policies. Given that smoke-free policies increase the demand for tobacco treatment (Hopkins et al., 2010), rural hospitals can adopt evidence-based procedures and strategies to provide tobacco treatment to staff, patients, and families (Fiore et al., 2008). Our findings suggest that rural communities

may increase their likelihood of a smoke-free law if they adopt voluntary smoke-free hospital policies and provide population-based cessation strategies to reduce the adult smoking rate.

The largest percentage of voluntary smoke-free policies was reported in hospitals, followed by restaurants and bars. The majority of city government buildings in rural communities did not have indoor smoke-free policies. The fact that some elected officials work in city government buildings with few smoke-free policies may influence the perceived level of importance that SHS plays in the lives and health of their rural constituents. Voluntary policy change is often viewed as a positive step toward smoke-free legislation, as suggested by the community readiness model (Oetting, et al., 2001) and our study findings.

Key informants' perception of readiness for a smoke-free campaign did not predict elected officials' optimism about smoke-free laws, when controlling for county population size and adult smoking rate. These findings illustrate the importance of evaluating the political climate carefully in assessing community readiness for smoke-free policy given that public policy change is ultimately not possible without government support. Community advocates may be ready to promote a smoke-free campaign, but prevailing attitudes and political events in rural communities may not yet support smoke-free legislation.

One potential study limitation is that participants may have unintentionally responded to the survey from a personal viewpoint rather than providing a more representative view of the community. An additional limitation is the relatively small county sample size. While number of counties was chosen *a priori* so that the regression *F* test would have at least 80% power to detect an R^2 as small as 0.3, a larger sample of counties would have improved statistical power and allowed for the inclusion of additional county-level covariates such as amount of tobacco produced. Another limitation is that political climate in this study was defined based solely on the views of mayors, county judge-executives, and key informants. Interviewing only the top city/county officials in rural communities may not have adequately reflected the views of all local elected officials. Further, the role of the tobacco industry, retailers, hospitality, and political interests in mobilizing against smoke-free legislation, thus affecting political climate, was beyond the scope of this cross-sectional study. The evaluation of political climate over time using a more broad definition needs further study. Lastly, given that Kentucky does not have preemption, meaning that local governments have the option of enacting smoke-free legislation (O'Connor et al., 2008), these findings are generalizable only to rural communities in states without preemption of smoke-free legislation.

Conclusions

Enactment of smoke-free legislation requires a thorough understanding of the political climate (Nykiyoruk, Eyles, & Campbell, 2008), particularly in rural communities that are disproportionately affected by high smoking rates and weak or non-existent smoke-free laws (Mahon & Taylor-Powell, 2007; York, et al., 2010). Support from the local board of health and local leaders, low county-level adult smoking rates, and smoke-free hospitals predicted likelihood of smoke-free laws in rural communities. Health advocates in rural communities can promote community readiness for smoke-free policy by educating board of health members and local leaders on the seriousness of the problem and the benefits of smoke-free legislation. Working with small rural hospitals to adopt smoke-free policies and provide population-based cessation strategies may also improve the political climate for smoke-free legislation in rural communities.

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References

- Agency for Toxic Substances and Disease Registry, & Service, U. S. P. H.. Toxilogical Profile for Radon. 1990.
- American Nonsmokers' Rights Foundation. [August, 11, 2011] U.S. Colleges and Universities with Smokefree Air Policies. 2011.
- Andersen PA, Buller DB, Voeks JH, Borland R, Helme D, Bettinghaus EP, Young WF. Predictors of support for environmental tobacco smoke bans in state government. *Am J Prev Med.* 2006; 30(4): 292–299. doi: 10.1016/j.amepre.2005.12.002. [PubMed: 16530615]
- Areias A, Duarte J, Figueiredo J, Lucas R, Matos I, Pires J, Castanheira JL. Asthma and the new anti-smoking legislation. What has changed? *Rev Port Pneumol.* 2009; 15(1):27–42. [PubMed: 19145385]
- Ashley MJ, Bull SB, Pederson LL. Support among smokers and nonsmokers for restrictions on smoking. *Am J Prev Med.* 1995; 11(5):283–287. [PubMed: 8573356]
- Babyak MA. What you see may not be what you get: a brief, nontechnical introduction to overfitting in regression-type models. *Psychosom Med.* 2004; 66(3):411–421. [PubMed: 15184705]
- Bauer JE, Hyland A, Li Q, Steger C, Cummings KM. A Longitudinal Assessment of the Impact of Smoke-Free Worksite Policies on Tobacco Use. *Am J Public Health.* 2005; 95(6):1024–1029. [PubMed: 15914828]
- Centers for Disease Control and Prevention. Carbon Monoxide Poisoning. 2006.
- Centers for Disease Control and Prevention. 2007March 16, 2009from <http://apps.nccd.cdc.gov/brfss/display.asp?cat=TU&yr=2007&qkey=4396&state=KY> Behavioral Risk Factor Surveillance System (BRFSS), 2007: Prevalence and Trends Data, Kentucky - Tobacco Use
- Chaloupka F, Hahn E, Emery S. Policy levers for the control of tobacco consumption. *Kentucky Law Journal.* 2002; 90(4):1009–1042.
- Cohen JE, de Guia NA, Ashley MJ, Ferrence R, Northrup DA, Studlar DT. Predictors of Canadian legislators' support for tobacco control policies. *Soc Sci Med.* 2002; 55(6):1069–1076. [PubMed: 12220090]
- de Guia NA, Cohen JE, Ashley MJ, Ferrence R, Rehm J, Studlar DT, Northrup D. Dimensions underlying legislator support for tobacco control policies. *Tob Control.* 2003; 12(2):133–139. [PubMed: 12773721]
- Dearlove JV, Glantz SA. Boards of Health as venues for clean indoor air policy making. *Am J Public Health.* 2002; 92(2):257–265. [PubMed: 11818302]
- Derthick, MA. Up in smoke: From legislation to litigation in tobacco politics. CQ Press; Washington, DC: 2002.
- Farkas AJ, Gilpin EA, White MM, Pierce JP. Association between household and workplace smoking restrictions and adolescent smoking. *JAMA.* 2000; 284(6):717–722. [PubMed: 10927780]
- Ferketich AK, Liber A, Pennell M, Nealy D, Hammer J, Berman M. Clean Indoor Air Ordinance Coverage in the Appalachian Region of the United States. *Am J Public Health.* 2010 doi: 10.2105/ajph.2009.179242.
- Fiore, M.; Jaén, C.; Baker, T.; Bailey, W.; Benowitz, N.; Curry, S.; Wewers, M. Treating tobacco use and dependence: 2008 update. U.S. Department of Health and Human Services, Public Health Service; Rockville, MD: 2008.
- Flynn BS, Goldstein AO, Solomon LJ, Bauman KE, Gottlieb NH, Cohen JE, Dana GS. Predictors of state legislators' intentions to vote for cigarette tax increases. *Prev Med.* 1998; 27(2):157–165. doi: 10.1006/pmed.1998.0308. [PubMed: 9578987]

- Fong GT, Hyland A, Borland R, Hammond D, Hastings G, McNeill A, Driezen P. Reductions in tobacco smoke pollution and increases in support for smoke-free public places following the implementation of comprehensive smoke-free workplace legislation in the Republic of Ireland: Findings from the ITC Ireland/UK survey. *Tob Control*. 2006; 15(Suppl 3):iii51–iii58. [PubMed: 16754947]
- Goldstein AO, Cohen JE, Flynn BS, Gottlieb NH, Solomon LJ, Dana GS, Munger MC. State legislators' attitudes and voting intentions toward tobacco control legislation. *Am J Public Health*. 1997; 87(7):1197–1200. [PubMed: 9240112]
- Gottlieb NH, Goldstein AO, Flynn BS, Cohen EJ, Bauman KE, Solomon LJ, McMorris LE. State legislators' beliefs about legislation that restricts youth access to tobacco products. *Health Educ Behav*. 2003; 30(2):209–224. [PubMed: 12693524]
- Hahn EJ. Smokefree legislation: a review of health and economic outcomes research. *Am J Prev Med*. 2010; 39(6 Suppl 1):S66–76. doi: 10.1016/j.amepre.2010.08.013. [PubMed: 21074680]
- Hahn EJ, Rayens MK, York N. Readiness for smoke-free policy and overall strength of tobacco control in rural tobacco-growing communities. *Health Promotion Practice*. in press.
- Hahn EJ, Toumey CP, Rayens MK, McCoy CA. Kentucky legislators' views on tobacco policy. *Am J Prev Med*. 1999; 16(2):81–88. [PubMed: 10343882]
- Heloma A, Jaakkola MS. Four-year follow-up of smoke exposure, attitudes and smoking behaviour following enactment of Finland's national smoke-free work-place law. *Addiction*. 2003; 98(8): 1111–1117. doi: 429 [pii]. [PubMed: 12873245]
- Hopkins DP, Razi S, Leeks KD, Priya Kalra G, Chattopadhyay SK, Soler RE. Smokefree policies to reduce tobacco use a systematic review. *Am J Prev Med*. 2010; 38(2 Suppl):S275–289. doi: 10.1016/j.amepre.2009.10.029. [PubMed: 20117612]
- Hyland A, Travers MJ, Dresler C, Higbee C, Cummings KM. A 32-country comparison of tobacco smoke derived particle levels in indoor public places. *Tob Control*. 2008; 17(3):159–165. doi: 10.1136/tc.2007.020479. [PubMed: 18303089]
- Institute of Medicine. Secondhand smoke exposure and cardiovascular effects: Making sense of the evidence. The National Academies Press; Washington, DC: 2010.
- Kingdon, J. *Agendas, Alternatives, and Public Policies*. Third ed.. Addison-Wesley Educational Publishers Inc.; New York: 2003.
- Lee K, Hahn E, Robertson H, Lee S, Vogel S, Travers M. Strength of smoke-free laws and indoor air quality. *Nic Tob Res*. 2009; 11(4):381–386.
- Mahon S, Taylor-Powell E. Case study of capacity building for smoke-free indoor air in two rural Wisconsin communities. *Prev Chronic Dis*. 2007; 4(4):A104. doi: A104 [pii]. [PubMed: 17875248]
- McMillen R, Breen J, Cosby A. Rural-urban differences in the social climate surrounding environmental tobacco smoke: a report from the 2002 social climate survey of tobacco control. *J Rural Health*. 2004; 20(1):7–16. [PubMed: 14964923]
- Meyers DG, Neuberger JS, He J. Cardiovascular effect of bans on smoking in public places: a systematic review and meta-analysis. *J Am Coll Cardiol*. 2009; 54(14):1249–1255. doi: 10.1016/j.jacc.2009.07.022. [PubMed: 19778665]
- Moskowitz JM, Lin Z, Hudes ES. The impact of workplace smoking ordinances in California on smoking cessation. *Am J Public Health*. 2000; 90(5):757–761. [PubMed: 10800425]
- Nykiforuk C, Campbell S, Cameron R, Brown S, Eyles J. Relationships between community characteristics and municipal smoke-free bylaw status and strength. *Health Policy*. 2007; 80(2): 358–368. doi: 10.1016/j.healthpol.2006.02.017. [PubMed: 16678931]
- Nykiforuk CI, Eyles J, Campbell HS. Smoke-free spaces over time: a policy diffusion study of bylaw development in Alberta and Ontario, Canada. *Health Soc Care Community*. 2008; 16(1):64–74. doi: 10.1111/j.1365-2524.2007.00727.x. [PubMed: 18181816]
- O'Connor J, MacNeil A, Chiqui J, Tynan M, Bates H, Eidson S. Preemption of Local Smoke-Free Air Ordinances: The Implications of Judicial Opinions for Meeting National Health Objectives. *J Law Med Ethics*. 2008; 36(2):403–412. [PubMed: 18547209]
- Oetting E, Donnermeyer J, Plested B, Edwards R, Kelly K, Beauvais F. Assessing community readiness for prevention. *Int J Addictions*. 1995; 30(6):659–683.

- Oetting E, Jumper-Thurman P, Plested B, Edwards R. Community readiness and health services. *Subst Use Misuse*. 2001; 36:825–843. [PubMed: 11697613]
- Plested B, Jumper-Thurman P, Edwards R, Oetting E. Community readiness: a tool for effective community-based prevention. *Prev Researcher*. 1998; 5(2):5–7.
- Rahilly C, Farwell W. Prevalence of smoking in the United States: A focus on age, sex, ethnicity, and geographic patterns. *Cardiovasc Risk Reports*. 2007; 1(5):379–383.
- Ramiro LS, Castillo FA, Tan-Torres T, Torres CE, Tayag JG, Talampas RG, Hawken L. Community participation in local health boards in a decentralized setting: cases from the Philippines. *Health Policy Plan*. 2001; 16(Suppl 2):61–69. [PubMed: 11772991]
- Rayens MK, Burkhart PV, Zhang M, Lee S, Moser DK, Mannino D, Hahn EJ. Reduction in asthma-related emergency department visits after implementation of a smoke-free law. *J Allergy Clin Immunol*. 2008; 122(3):537–541.e533. [PubMed: 18692884]
- Repace JL, Hyde JN, Brugge D. Air pollution in Boston bars before and after a smoking ban. *BMC Public Health*. 2006; 6(266) doi: <http://www.biomedcentral.com/1471-2458/6/266>.
- Siegel M. The effectiveness of state-level tobacco control interventions: a review of program implementation and behavioral outcomes. *Annu Rev Public Health*. 2002; 23:45–71. doi: 10.1146/annurev.publhealth.23.092601.095916. [PubMed: 11910054]
- Siegel M, Albers AB, Cheng DM, Biener L, Rigotti NA. Effect of local restaurant smoking regulations on progression to established smoking among youths. *Tob Control*. 2005; 14(5):300–306. [PubMed: 16183980]
- Siegel M, Carol J, Jordan J, Hobart R, Schoenmarklin S, DuMelle F, Fisher P. Preemption in tobacco control. Review of an emerging public health problem. *JAMA*. 1997; 278(10):858–863. [PubMed: 9293996]
- Skeer M, George S, Hamilton W, Cheng D, Siegel M. Town-level characteristics and smoking policy adoption in Massachusetts: are local restaurant smoking regulations fostering disparities in health protection? *Am J Public Health*. 2004; 94(2):286–292. [PubMed: 14759944]
- Stillman F, Hartman A, Graubard B, Gilpin E, Murray D, Gibson J. Evaluation of the American Stop Smoking Intervention Study (ASSIST): a report of outcomes. *J Nat Cancer Institute*. 2003; 95(22):1681–1691.
- Williams SC, Hafner JM, Morton DJ, Holm AL, Milberger SM, Koss RG, Loeb JM. The adoption of smoke-free hospital campuses in the United States. *Tob Control*. 2009; 18(6):451–458. doi: 10.1136/tc.2009.030494. [PubMed: 19700437]
- York NL, Hahn EJ, Rayens MK, Talbert J. Community readiness for local smoke-free policy change. *Am J Health Promotion*. 2008; 23:112–120.
- York NL, Hahn EJ, Rayens MK, Talbert J. Local elected officials' views on smoke-free policy in Kentucky. *Kentucky J Communication*. 2008; 27(2):125–146.
- York NL, Rayens MK, Zhang M, Jones LG, Casey BR, Hahn EJ. Strength of tobacco control in rural communities. *J Rural Health*. 2010; 26(2):120–128. doi: 10.1111/j.1748-0361.2010.00273.x. [PubMed: 20446998]

Table 1

Means, standard deviations, and correlations between key informant survey items and elected officials' perceived likelihood that a smoke-free law would be passed in the next 12 months ($N = 29$ counties, with county-level variables based on 144 key informants and 83 elected officials).

Key Informant Items	Mean (SD)	Correlation (p-value)
How do you rate your community's readiness to initiate a smoke-free community campaign? (ordinal response; 1=Not ready at all to 3=Very ready)	0.54 (0.11)	0.36 (.05) *
Within your community, have city government buildings voluntarily implemented indoor smoke-free policies? (0=No, 1=Yes/Already mandated by law or regulation)	0.08 (0.06)	0.26 (.2)
Within your community, have county government buildings voluntarily implemented indoor smoke-free policies? (0=No, 1=Yes/Already mandated by law or regulation)	0.49 (0.27)	0.28 (.2)
Within your community, have malls or shopping centers voluntarily implemented indoor smoke-free policies? (0=No, 1=Yes/Already mandated by law or regulation)	0.35 (0.29)	0.33 (.08)
Within your community, have hospitals voluntarily implemented indoor smoke-free policies? (0=No, 1=Yes/Already mandated by law or regulation)	0.75 (0.35)	0.48 (.008) *
Within your community, have restaurants voluntarily implemented indoor smoke-free policies? (0=No, 1=Yes/Already mandated by law or regulation)	0.74 (0.31)	0.04 (.8)
About what percent of restaurants are totally smoke-free voluntarily, meaning smoking is not allowed anywhere inside the building? (Average percent)	0.26 (0.21)	0.39 (.04) *
About what percent of bars are totally smoke-free voluntarily, meaning smoking is not allowed anywhere inside the building? (Average percent)	0.12 (0.27)	0.15 (.5)
About what percent of workplaces are totally smoke-free voluntarily, meaning smoking is not allowed anywhere inside the building? (Average percent)	0.32 (0.18)	0.36 (.05) *
What is the position of local leaders on enacting a smoke-free law? (ordinal response; 2=For, 1=Uncommitted, 0=Against)	0.57 (0.18)	0.50 (.005) *
How many city council or commission members are for, against, or uncommitted toward a smoke-free law or regulation in your community? (Estimated percent in support of law/regulation)	0.55 (0.17)	0.04 (.9)
How many county commissioners/magistrates are for, against, or uncommitted toward a smoke-free law or regulation in your community? (Estimated percent in support of law/regulation)	0.46 (0.22)	0.23 (.3)
How many local board of health members are for, against, or uncommitted toward a smoke-free law or regulation in your community? (Estimated percent in support of law/regulation)	0.78 (0.22)	0.56 (.004) *

* Significant correlation

Table 2

Multiple regression models to assess predictors of elected officials' perception of likelihood the community will enact a smoke-free law in the next 12 months ($N = 29$ counties).

Predictor	Parameter estimate	t-value (p-value)	Standardized β
How do you rate your community's readiness to initiate a smoke-free community campaign?	0.32	1.42 (.2)	0.28
County Population	-0.0000003	0.16 (.9)	-0.03
County Adult Smoking Rate	-0.007	1.84 (.08)	-0.35
$F_{3, 25} = 2.59, p = .08$; Adjusted $R^2 = 0.15$			
Within your community, have hospitals voluntarily implemented indoor smoke-free policies?	0.15	2.29 (.03)	0.43
County Population	-0.0000007	0.47 (.6)	-0.09
County Adult Smoking Rate	-0.007	1.76 (.09)	-0.31
$F_{3, 25} = 3.90, p = .02$; Adjusted $R^2 = 0.24$			
About what percent of restaurants are totally smoke-free voluntarily, meaning smoking is not allowed anywhere inside the building?	0.17	1.58 (.1)	0.30
County Population	-0.0000001	0.09 (.9)	-0.02
County Adult Smoking Rate	-0.007	1.79 (.09)	-0.34
$F_{3, 25} = 2.78, p = .06$; Adjusted $R^2 = 0.16$			
About what percent of workplaces are totally smoke-free voluntarily, meaning smoking is not allowed anywhere inside the building?	0.17	1.18 (.3)	0.26
County Population	-0.0000003	-0.17 (.9)	-0.04
County Adult Smoking Rate	-0.007	-1.67 (.1)	-0.33
$F_{3, 25} = 2.33, p = .10$; Adjusted $R^2 = 0.13$			
What is the position of local leaders on enacting a smoke-free law?	0.37	2.93 (.007)	0.53
County Population	-0.0000002	1.01 (.3)	-0.19
County Adult Smoking Rate	-0.008	2.29 (.03)	-0.38
$F_{3, 25} = 5.24, p = .006$; Adjusted $R^2 = 0.31$			
How many local board of health members are for, against, or uncommitted toward a smoke-free law or regulation in your community?	0.33	3.43 (.003)	0.59
County Population	-0.0000001	0.95 (.4)	-0.18
County Adult Smoking Rate	-0.009	2.74 (.01)	-0.47
$F_{3, 25} = 6.84, p = .002$; Adjusted $R^2 = 0.42$			