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Rural Print Media Portrayal of Secondhand Smoke and Smoke-Free Policy

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Abstract

The purpose of this paper is to describe how the print media portrays secondhand smoke and smoke-free policy in rural communities. Baseline print media clips from an ongoing 5-year study of smoke-free policy development in 40 rural communities were analyzed. We hypothesized that community population size would be positively associated with media favorability toward smoke-free policy. Conversely, pounds of tobacco produced and adult smoking prevalence would be negatively associated with media favorability. There was a positive correlation between population size and percent of articles favorable toward smoke-free policy. We did not find a correlation between adult smoking or tobacco produced and media favorability toward smoke-free policy, but we did find a positive relationship between tobacco produced and percent pro-tobacco articles and a negative relationship between adult smoking prevalence and percent of articles about health/comfort. Implications for targeting pro-health media in rural communities as well as policy-based initiatives for tobacco control are discussed.

Since the 1980's the public health community has made great strides in reducing the overall mortality and morbidity from tobacco-related illness. Tobacco use and secondhand smoke exposure persist as serious and preventable threats to the health and well-being of people from all parts of the United States (Andersen et al., 2006; Patja et al., 2008). Rural,

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underserved areas are disproportionately affected by tobacco use prevalence, secondhand smoke exposure, and weak tobacco control laws (Mahon & Taylor-Powell, 2007; McMillen, Breen, & Cosby, 2004; Rahilly & Farwell, 2007; Skeer, George, Hamilton, Cheng, & Siegel, 2004). Larger rural communities are more likely than smaller ones to have strong tobacco control programs (Bartosch & Pope, 2002; York et al., 2010). Further, the rural, tobacco-growing states have traditionally lagged behind in strong tobacco control policies (Chaloupka, Hahn, & Emery, 2002). It remains crucial that public discussions of the consequences of tobacco use and secondhand smoke remain at the forefront of American public health debate, especially in rural communities that are disproportionately affected by tobacco use and weak tobacco control laws.

Historically, one of the primary vectors for not only promoting but also shaping the nature and shape of these discussions has and continues to be the media. Health-related media, specifically, has been shown to be of great interest to the American public – especially those stories related to tobacco (Brodie, Hamel, Altman, Blendon, & Benson, 2003; Chapman, 2009; Harris, Shelton, Moreland-Russell, & Luke, 2009; Holub et al., 2009; Niederdeppe, Farrelly, & Wenter, 2007). As traditionally understood, the news media are seen as both reflecting and reinforcing dominant societal values, and therefore analysis of dominant health-related media can elucidate both a society's current as well as future stance on relevant health-related issues (Bryant & Oliver, 2009; McLeod, Wakefield, Chapman, Clegg Smith, & Durkin, 2009; Katherine Clegg Smith, Wakefield, & Edsall, 2006).

Given the global trend toward more effective tobacco prevention and control efforts and policies, it is important to monitor and evaluate how issues related to tobacco control are framed in the media and how this framing can influence subsequent policy outcomes (Harris, et al., 2009; Menashe & Siegel, 1998; Katherine Clegg Smith, et al., 2006). State and local level tobacco policy initiatives are among the most effective ways to reduce tobacco use and related morbidity and mortality (American Lung Association, 2007). Indeed, following a 20-year trend in state tobacco control strategies targeting social environments, nine states including Arizona, Arkansas, Colorado, Hawaii, Louisiana, Nevada, New Jersey, Ohio, and Utah voted for legislation during the 2006 election that strengthened clean indoor air policies and increased tobacco excise taxes (Harris, et al., 2009; D. T. Levy, Hyland, Higbee, Remer, & Compton, 2007; David T. Levy, Nikolayev, & Mumford, 2005; David T. Levy, Tworek, Hahn, & Davis, 2008; F. A. Stillman, Cronin, Evans, & Ulasevich, 2001; Frances A. Stillman et al., 2003). By July 2010, 46.9% of the United States population was covered by a state or local smoke-free law that includes all workplaces, restaurants, and bars (Americans' for Nonsmokers Rights, 2010).

These successes are due in no small part to the influence that media has in framing and shaping the direction of public debate. The influence of news media, specifically print media, in advancing social or public policy initiatives is such that it has become a central component of comprehensive tobacco control programs (National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2007). Indeed, research on tobacco policy adoption has demonstrated that print media coverage has a stronger relationship with the uptake of municipal smoking bylaws than either scientific research or political discourse (K. C. Smith et al., 2008; Katherine Clegg Smith, et al., 2006).

Historically, the news media have been used to not only set the agenda of public discussion but also to frame the direction and shape of that discussion. In essence, the news media tell us what is newsworthy and what is not (Holder & Treno, 1997; McLeod, et al., 2009; Niederdeppe, Farrelly, Thomas, Wenter, & Weitzenkamp, 2007). The framing of a news issue can also impact public perception through focus on particular values, facts, and other

matters deemed relevant (or not) by the journalists and editors (K. C. Smith & Wakefield, 2005). For example, a news story that focuses on negative potential economic impacts of a smoke-free ordinance for restaurants and bar owners rather than on the potential positive impacts frames the policy initiative negatively which can influence reader and policymaker perceptions and subsequent voting behaviors.

The products of newspapers (such as news stories, columns, editorials, letters to the editor, and editorial cartoons) can have far reaching effects when framing relevant issues for public consumption. Because the news media are courted by both proponents and opponents of tobacco control, analysis of the newspapers' interpretations and perspectives provides a valid measure of assessing the relative success or failure between competing stakeholders over how the issue of tobacco is defined and understood (K. C. Smith & Wakefield, 2005).

In rural communities, newspapers are often the predominant source of news of interest to residents. Rural areas often do not have broadcast television or radio affiliates, and regional or state level news outlets may not broadcast local stories (Beaudoin & Thorson, 2004). Further, rural residents have some important differences than their urban counterparts which may influence not only their choice of media, but which type of media they prefer when seeking news and information. According to Beaudoin et al (2004), rural residents tend to have more children, more traditional household structures, stronger kinship links, longer-lasting friendships, and they belong to (and attend) more social organizations compared to their urban counterparts. As a result, social capital (resources created through the creation and maintenance of social relationships) is stronger among rural than urban communities. What local newspapers offer that larger affiliates do not are stories about the people and places rural residents know and may be more personally relevant to their daily lives.

The purpose of this paper is to describe how the rural print media portrays secondhand smoke and smoke-free policy. The knowledge gained from this study will aid tobacco control practitioners who use rural media as part of their tobacco control efforts. Local newspapers have considerable influence in either reinforcing or undermining smoke-free efforts at the local level, especially for rural tobacco-growing communities. To this end, baseline print media clips from an ongoing 5-year study of smoke-free policy development in 40 rural Kentucky communities were analyzed. We hypothesized that community population size would be positively associated with media favorability toward smoke-free policy. Conversely, pounds of tobacco produced and adult smoking prevalence would be negatively associated with media favorability toward smoke-free policy.

Method

This is a descriptive analysis of print media articles at baseline of a 5-year (2007-2012) randomized, controlled, community-based trial to test an intervention promoting smoke-free policy development in rural Kentucky. Seven hundred and nine ($N = 709$) print newspaper clippings collected from a total of 40 rural counties (22 treatment and 18 control counties) were coded according to a protocol adapted from the Smith et al. (2002) framework. Among rural Kentucky counties, there are 43 health department service areas; 14 are multi-county district health departments and the remaining are single-county health departments. To minimize organizational contamination, we randomly selected one county per local health department district for inclusion in the larger study. The sampling design is a combination of purposive and random sampling. The purpose of the larger study is to test the effects of a tailored, stage-based technical assistance intervention on community readiness, media favorability, and policy outcomes. The study reported here is a descriptive analysis of print media tobacco-related articles from the 40 rural counties that comprise the three study groups ($N = 709$ articles that appeared in April 2007 through March 2008). The time period

for the analysis reported here reflects the baseline year of the project prior to full implementation of the intensive, stage-based tailored intervention with treatment counties. In addition to the media clips, county-level sociodemographic and tobacco-growing characteristics were obtained from a variety of sources (i.e. U.S. Census Bureau, Department of Agriculture, Kentucky State Data Center, Kentucky State Board of Elections).

The articles were obtained via a state news clipping service. The service forwarded all article clips from 58 newspapers in 40 Kentucky counties using the following keywords: tobacco, smoking, smoking ban, secondhand smoke, smoke-free, and quit smoking/cessation.

The articles received from the clipping service were reviewed to ensure fit with the inclusion criteria. To be coded, an article must have been at least one inch in length and must have had at least one full paragraph related to tobacco. Any article not meeting these criteria was not coded. Each article was then coded based on the county in which the newspaper was located and the name of the paper. The following variables were then coded for each article using a protocol adapted from (Clegg Smith et al., 2002): *voice* (news article, newspaper-generated editorial, opinion editorial, letter to the editor, or advertisement), *focus* (national, state, or local), *prominence* (front page, page with bold header, or other page), *tobacco prevention emphasis/slant* (pro-health, neutral, or pro-tobacco), *author* (one of 23 categories such as Health Department tobacco control specialist, tobacco prevention coalition member, or American Cancer Society), and *relevance* (tobacco focus or non-tobacco focus). Lastly, the article was coded for one of 14 overall themes (e.g., Government or Voluntary Regulations on Secondhand Smoke; Health Effects of Smoking; or Secondhand Smoke Issues), and more specific topics divided into 11 broad categories (e.g., Prevalence in consumption changes, Addiction and cessation, SHS effects and laws), each of which was subdivided into 3 to 18 possible codes. Data were entered into Atlas TI (a qualitative data analysis program) to allow for analysis of themes and topics.

To obtain intercoder reliability, a second person coded every fifth clip independently. The second coder met with the primary coder periodically to review and compare coding. Discrepancies were reviewed and discussed; a consensus was reached on how to handle specific coding issues. The primary coder's data were not changed as a result of the discussions. Rather, the discussions were intended to ensure that coding agreement would continue to improve over time. Agreement among coders was assessed using Cohen's Kappa. According to Rosner (1995, p. 426), a Kappa rating above .75 denotes excellent reproducibility; while a Kappa between .40 and .75 denotes good reproducibility; with Kappa ratings below .40 denoting only marginal reproducibility. Kappas for the coded variables are as follows: *Voice* (K=.60); *Focus* (K=.72); *Prominence* (K=.76); *Slant* (K=.74); *Theme* (.75).

The characteristics of tobacco prevention emphasis/slant and the top five overall themes were the emphasis for the correlation analysis relating media measures to county demographics. For each of these media measures, the percent of articles with a particular emphasis/slant or theme in a given county was determined by dividing the observed number of clips in that category by the total number of articles in the county. The emphasis/slant categories are mutually exclusive so the sum of the percentages is 100, while articles may reflect more than one theme, so that the total of the percentages for the top five themes is not necessarily 100. Descriptive statistics, including means and standard deviations or frequency distributions, were used to summarize the county-level demographic characteristics of the 40 counties included in the study and the 99 rural counties in Kentucky. Correlations between county-level demographics and emphasis/slant or theme variables were determined using Pearson's product moment correlation.

Results

The 40 rural counties included in the study were representative of all rural counties in Kentucky (see Table 1). The average population size was approximately 24,500 and most residents of these counties are White (96%). The average tobacco production is over a million pounds and the mean smoking rate is 29%. Median household income is approximately \$31,000 per year.

Nearly two thirds of articles (65%) were news, defined as “presenting an unbiased collection of facts.” Letters to the Editor were the next most common types of coded print media (15%). Articles focused on local issues (62%) were predominant in this sample of print media, followed by state-focused articles (33%).

Nearly one in five articles (19%) appeared on the front page. In this tobacco-growing state, only 18% had a pro-tobacco slant, including farming issues, tobacco consumption issues, and those articles opposing smoke-free efforts for any reason. These articles may have been generated from the opposition, including business owners or front groups. Forty-three percent were pro-health, defined as “discussed negative health aspects of tobacco” or “specifically supported smoke-free policies” (see Figure 1). One-third of print media clips (34%) represented the theme of government or voluntary secondhand smoke regulations, including food service establishments, public places, worksites, homes, cars, and/or smoking around children.

The most prevalent topic related to the theme of government or voluntary secondhand smoke regulations was indoor smoke-free policies in public or private indoor spaces and/or workplaces. Of the 161 clips pertaining to indoor smoke-free policies, 30% were pro-health, 25% were pro-tobacco, and the remaining 45% had a neutral slant. The next prevalent topic was the negative effects of smoke-free policies including smoker and business rights (78 clips). The largest percentage of these clips was pro-tobacco (49%), but 23% had a pro-health slant and 28% were neutral. Next, there were 65 clips addressing health issues and non-smokers’ rights. Nearly two-thirds of these clips were pro-health (66%), while 12% were pro-tobacco and 22% were neutral in slant. The 4th and 5th most prevalent topics were voluntary smoking restrictions and discussions of the comprehensiveness or strength of smoke-free policies and exemptions (see Figure 2). Voluntary smoke-free policies are those that are adopted by a non-governmental entity and include, but are not limited to, smoke-free hospitals, smoke-free restaurants, and smoke-free schools. Two-thirds of the clips pertaining to voluntary smoking restrictions were pro-health (67%), while 5% were pro-tobacco and 28% were neutral in slant. Of the clips related to comprehensiveness or strength of smoke-free policies and exemptions, 14% were pro-health, 9% were pro-tobacco, and 77% were neutral in slant.

The percentage of articles that contained the topic of indoor smoke-free laws was positively associated with population size (see Table 2); larger counties were more likely to include articles with this emphasis in their newspapers. While none of the county demographics were associated with a pro-health slant, the pro-tobacco slant was associated with both ethnicity and pounds of tobacco grown. Specifically, counties with larger percentages of White residents and those that grew more tobacco were more likely to feature pro-tobacco articles; conversely those with more Black residents were less likely to feature pro-tobacco media clips. The topic of health & comfort issues was less likely to appear in counties with a higher smoking rate. Other correlations between media variables and demographic characteristics were not significant.

Discussion

The baseline media favorability results of this ongoing 5-year study of rural smoke-free policy development reveal several interesting findings. To review, we hypothesized that greater community population size, lower adult smoking prevalence and fewer pounds of tobacco produced would be associated with media favorability toward smoke-free policy in rural communities. We found a positive correlation between population size and percent of articles favorable toward smoke-free policy, consistent with other studies of strength of tobacco control and population size (Bartosch & Pope, 2002; York, et al., 2010). Similarly, we found that print media portrayal in communities with higher tobacco production was slanted in favor of tobacco, consistent with the literature (Chaloupka, et al., 2002). Although adult smoking rate in these rural communities was not associated with media favorability per se, the print media in communities with high smoking rates was less likely to focus on health/comfort as it relates to secondhand smoke. This finding has implications for rural health advocates in that articles focused on the health effects of secondhand smoke are especially needed in communities with high smoking prevalence. Editors at small rural newspapers may be receptive to printing articles written by health groups, and may agree to a regular column on health issues.

We found that the majority of print media articles were pro-health or neutral. This finding is consistent with our previous study showing public support for smoke-free policy in rural communities (Rayens, Hahn, Langley, & Zhang, 2008). Rural newspaper media in tobacco-growing states may be more supportive than expected related to tobacco control. Even in tobacco-growing states, rural communities are exposed to print media that may support (or at least not oppose) smoke-free legislation or regulation (Chapman et al., 1999; Dearlove, Bialous, & Glantz, 2002; Drope, Bialous, & Glantz, 2004). Given that 18% of the media clips were coded as “pro-tobacco,” however, health advocates in rural communities have an inherent challenge to overcome in promoting smoke-free policies. Since nearly three in 10 articles focused on government or voluntary policy change related to secondhand smoke, the pro-tobacco media ‘spin’ needs to be effectively countered before, during, and after smoke-free campaigns in rural communities. Further, health advocates in rural areas need to be prepared with effective rebuttals to the rights argument, given that 31% of the articles related to smoke-free policy focused on individual or business rights.

The implications for these results are that rural, tobacco-growing communities may be exposed to both a pro-health portrayal of tobacco control measures at the local level, and also a “pro-tobacco” and individual/business rights view related to government regulation of secondhand smoke depending on the size of the community. The media can be either a help or hindrance in educating the public on the benefits of smoke-free policies. Public health practitioners who wish to make strides in smoke-free policy development would benefit greatly from not only monitoring rural media agenda setting and framing of stories but proactively engaging in media advocacy at the local level to promote policy efforts. Small rural communities need the resources to build capacity and engage in evidence-based media advocacy to promote smoke-free policy (York, et al., 2010).

Media advocacy has become a critical component for both tobacco control advocates and opponents (Holder & Treno, 1997; Jernigan & Wright, 1996; L. Wallack & Dorfman, 1996). Media advocacy involves interested parties taking deliberate, strategic actions to focus media attention toward issues deemed relevant by those interested parties, as well as drawing attention to news events that support the positions advocated by those individuals (L. M. Wallack, 1993). Despite declining readership, newspapers play a critical role in setting and framing the public agenda in the media environment. Editors, columnists, and news reporters all have customary “beats” or foci for their stories and are known to be

integral when influencing the framing of an issue. Newspapers are also more likely to include local coverage of issues as well as be more localized (as an entity) and may therefore be more approachable than broadcast media (K. C. Smith & Wakefield, 2005). Further, some rural communities do not have a broadcast media source that covers their county and/or is available to residents. However, most if not all of these individuals consume broadcast media if only at a regional, state, or national level. An examination of tobacco control coverage by broadcast media in rural communities is beyond the scope of the current study. Research is needed to examine the combined effects of the regional, state, and national broadcast media and local media sources of tobacco control information.

While more local in focus, newspapers continue to be a primary source of information for broadcast and electronic media, with many stories first appearing in print and then being picked up by local or regional broadcast outlets for further distribution. For the more rural populations, local or regional newspapers may be the primary (or only) source of information available for locally-focused stories, necessitating a reliance on these local media venues for information (Connell & Crawford, 1988; Stromberg, 2004). While news information is most likely readily available at the (larger) regional, state, national, and international levels, it is often the small-town newspapers which carry the burden of featuring local interest stories. Rural populations often attend to these local sources for information most relevant to them, potentially about people they know. Therefore, for rural tobacco-growing populations, monitoring the local media's portrayal of secondhand smoke and smoke-free policy is important because pro-tobacco and individual rights' values still prevail.

Indeed, our findings show a positive association between articles written with a pro-tobacco slant and rural communities with higher levels of tobacco production. As reported by Crankshaw and colleagues, approximately 500 counties in six states including North Carolina, Kentucky, Tennessee, South Carolina, Virginia, and Georgia account for 94% of the total U.S. tobacco production, with nearly two-thirds of all these tobacco farms located in Kentucky and North Carolina (Altman, et al., 1999; Crankshaw, et al., 2009). Some individuals living in rural tobacco-growing communities may view smoke-free policies as an attack on their way of life. Policymakers and public health professionals may face an uphill battle when attempting to gain support for smoke-free policies. However, public support for smoke-free laws may be greater in rural than urban communities (Rayens, et al., 2008), consistent with the fact that the majority of the coded articles related to tobacco control in this study had a pro-health or neutral slant.

A primary limitation of this study is the inability to make comparisons between urban and rural media favorability toward tobacco control, given that only print media clips from rural newspapers were analyzed. Future research would benefit from comparing urban to rural community media coverage of tobacco control issues. Such research could aid practitioners in their efforts to further refine and tailor media advocacy strategies in rural and urban communities.

In summary, our findings indicate that the rural print media as well as tobacco-growing communities in general may be more receptive to pro-health media messages than expected. While small rural newspapers may not have adequate staff to cover local events, health advocates can be encouraged to write tobacco control articles and submit them to local newspapers. Health advocates face challenges in countering the "pro-tobacco" message and individual rights' argument, especially in small, rural communities. Based on our findings, we recommend that policymakers and legislators increase funding to small, rural communities to build capacity and support evidence-based media and policy advocacy work (National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking

and Health, 2007). Additionally, small rural media could benefit from the introduction of focused, tobacco control media resources in addition to policy-related efforts to promote reduction in tobacco use. This focus seems paramount to meeting public health goals of reducing secondhand smoke exposure and tobacco use particularly since the “pro-tobacco” and individual rights’ view is prevalent in small, rural communities. Changing this focus through media advocacy may lead to long-term positive health outcomes for rural communities.

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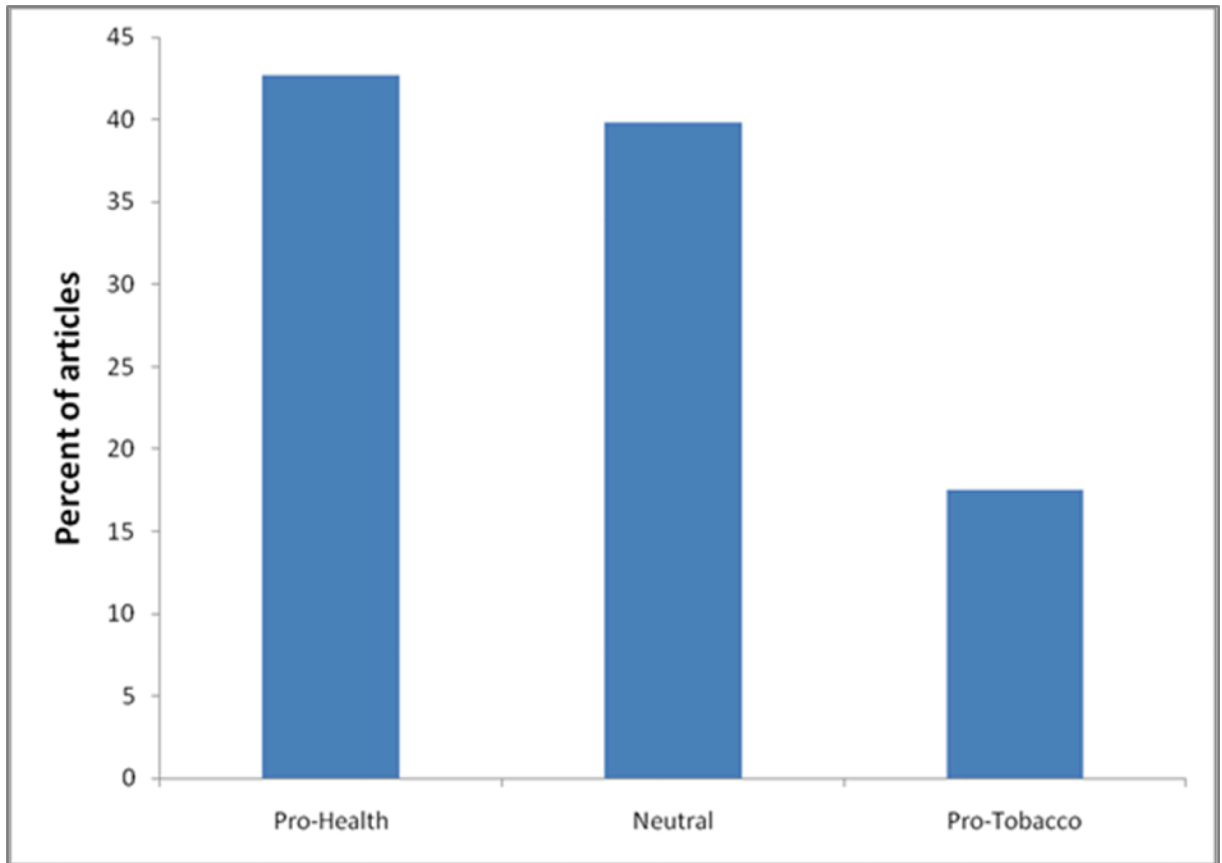


Figure 1.
Tobacco Prevention Slant

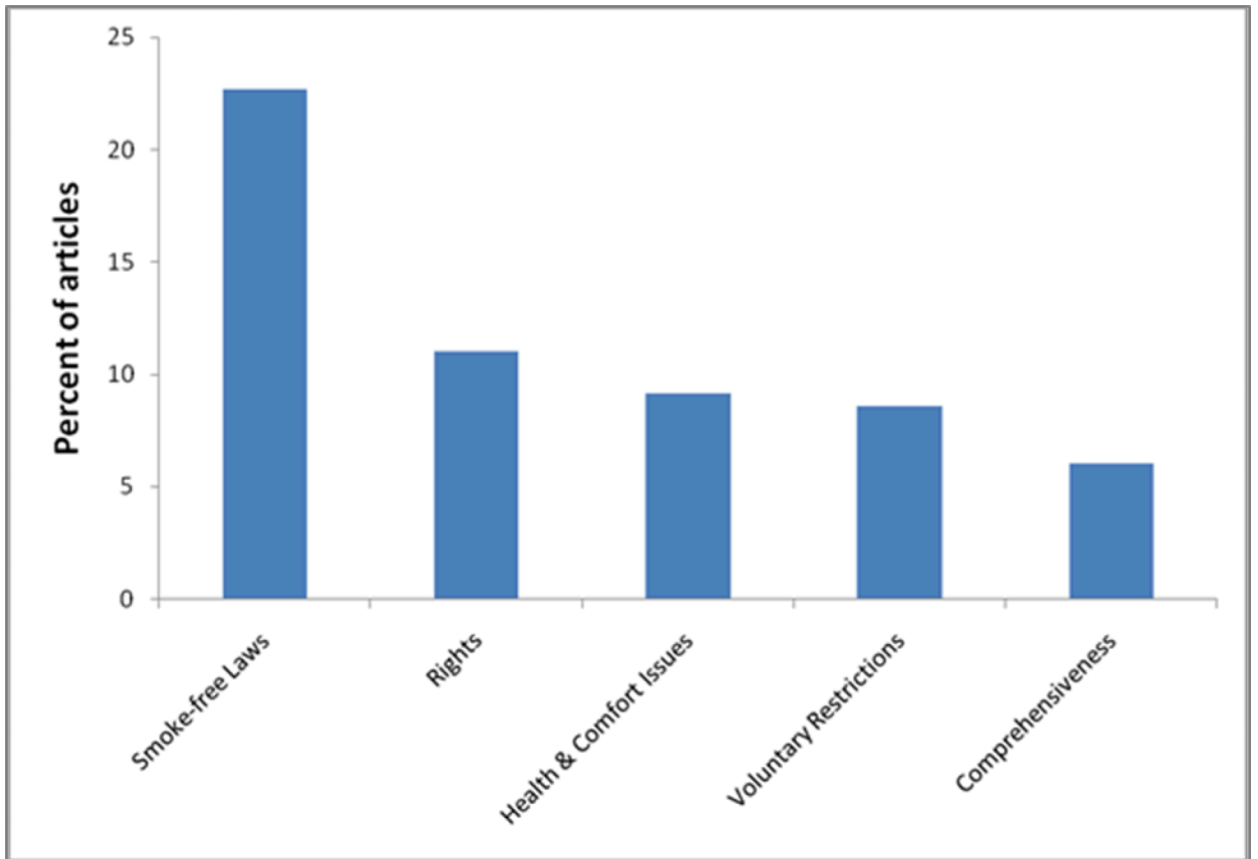


Figure 2.
Top Five Topics Related To Secondhand Smoke

Table 1

Demographic characteristics of the 40 study counties compared to all rural Kentucky counties

Demographic characteristic	Study Counties (<i>n</i> = 40)	Rural Kentucky Counties (<i>N</i> = 99)
Population size	<i>M</i> =24,436; <i>SD</i> =15,476	<i>M</i> =21,771; <i>SD</i> =17,309
Ethnicity		
White (Percent)	96.3%	95.3%
Black (Percent)	2.5%	3.4%
Other race (Percent)	1.3%	1.4%
Smoking Prevalence (Percent)	29.2%	29.4%
Tobacco Grown (Pounds)	<i>M</i> =1,149,390; <i>SD</i> =1,300,856	<i>M</i> =1,354,315; <i>SD</i> =1,501,115
Median Household Income	<i>M</i> = \$31,294; <i>SD</i> = \$6,512	<i>M</i> = \$31,335; <i>SD</i> = \$6,875

Note. Population and ethnicity data from U.S. Census 2006; Smoking prevalence estimates from Behavioral Risk Surveillance System, 2004-06; Tobacco produced from U.S. Department of Agriculture, 2006; Median income from U.S. Census 2004.

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Table 2
Correlations between demographic factors and media characteristics (N=40 countries)

	Pro-Health	Pro-Tobacco	Indoor Smoke-free Laws	Rights	Health & Comfort Issues	Voluntary Restrictions	Comprehensiveness
Population size	.055	-.087	.63 **	.022	.071	.19	.14
Ethnicity							
White (Percent)	-.056	.33 *	.25	-.12	.037	.13	-.084
Black (Percent)	.060	-.33 *	-.25	.13	-.060	-.14	.10
Other race (Percent)	.012	-.21	-.12	.040	.13	.034	-.072
Tobacco Grown (Pounds)	-.25	.59 **	-.30	.10	-.055	-.15	-.074
Smoking Prevalence (Percent)	.17	-.15	-.22	.052	-.38 *	.0011	-.17
Median Household Income	-.25	.31	.049	.081	-.10	.094	.030

* p < .05

** p < .001