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A Content Analysis of Smokeless Tobacco Coverage in U.S. Newspapers and News Wires

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ABSTRACT

Introduction: Research attention on smokeless tobacco (SLT) has focused on SLT use, health risks, harm-reduction potential, and risk perceptions, but few studies have examined mediated communications about SLT. This study aims to contribute to the literature by providing the first description of SLT coverage in the news, an important communication channel given its ability to educate and shape public opinion about tobacco issues.

Methods: A content analysis was conducted on SLT-related news and opinion articles between 2006 and 2010 from top circulating national and state newspapers and select news wires. Articles were coded for the main SLT topic, SLT risk references, and slant of opinion articles.

Results: SLT was discussed in news/feature articles (n = 677) in terms of business (28%), new products, product regulation and harm reduction (19%), prevention/cessation (11.4%), taxation (10.2%), profiles/trends in use (9%), bans (8.1%), and tobacco industry promotional activities (4.9%). Health risk references (i.e., addictiveness, carcinogenicity, and specific health effects including oral cancer) were found in 40% of articles, though frequency differed by article topic. Although the majority of opinion articles (n = 176) conveyed an anti-SLT slant (64%), 25.6% were pro-SLT.

Conclusions: SLT topics of both national and local importance are covered in the news. Public health professionals can participate in SLT coverage by sending in press releases about new study findings, events, or resources and by submitting opinion pieces to share views or respond to previous coverage. Research on SLT news should continue given its potential to shape the public's SLT knowledge and opinions.

INTRODUCTION

Smokeless tobacco (SLT) use is growing in the United States and the last several years have seen a change in the SLT marketplace with the acquisition of two major SLT companies by cigarette companies and the introduction of new SLT product styles under cigarette brand names (e.g., Camel Snus, Camel Dissolvables, Marlboro Snus) (Mejia & Ling, 2010). Research attention has focused on SLT use (e.g., Rodu & Cole, 2009; Timberlake & Huh, 2009), health risks (e.g., Boffetta, Hecht, Gray, Gupta, & Straif, 2008; Boffetta & Straif, 2009), harm-reduction potential (e.g., Foulds, Ramstrom, Burke, & Fagerstrom, 2003; Hatsukami, Lemmonds, & Tomar, 2004; Levy et al., 2004), and risk perceptions (e.g., O'Connor, Hyland, Giovino, Fong, & Cummings, 2005; O'Connor et al.,

2007; Tomar & Hatsukami, 2007). However, few studies have examined mediated communications about SLT (Phillips, Wang, & Guenzel, 2005; Waterbor et al., 2004) and none have examined coverage of SLT in the news. Such research is significant given that the news media has played an important role in informing the public about tobacco's dangers since the 1950s (Pierce & Gilpin, 2001).

The news media also plays a broader role than transferring information to the public—by deeming certain topics newsworthy it defines which issues are "important" (McCombs & Shaw, 1972; Preiss, Gayle, Burrell, Allen, & Bryant, 2007). News coverage can also influence opinions and attitudes by shaping *how* we think about issues given their framing (National Cancer Institute [NCI], 2008). As such, analysis of tobacco news coverage is important for understanding which

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Smokeless tobacco news coverage

issues are perceived as important, how the problem of tobacco is being defined for the public and policy makers, and the types of solutions suggested (Lima & Siegel, 1999).

Analysis of tobacco news can also reflect and help us understand existing attitudes and public sentiment toward tobacco issues (Smith et al., 2008). Letters to the editor and op-ed articles provide a public forum where members of the public and tobacco control professionals can debate and express their views about timely tobacco issues (Clegg Smith, Wakefield, & Edsall, 2006). Letters and op-ed articles may also suggest areas in which additional education, advocacy or intervention are needed to gain public support for tobacco control measures (Clegg Smith et al., 2006).

Given the potential of news stories to influence tobaccorelated knowledge, attitudes, behaviors, and policies, previous content analysis studies have been conducted of tobacco news stories (NCI, 2008). These have mostly included studies describing the prevalence and types of tobacco topics covered in general (Clegg Smith et al., 2006; Long, Slater, & Lysengen, 2006; Nelson et al., 2007) or the framing within articles about certain particular tobacco policy topics (Lima & Siegel, 1999; Menashe & Siegel, 1998), such as smoking bans (Champion & Chapman, 2005; Magzamen, Charlesworth, & Glantz, 2001; Wackowski, Lewis, & Hyrwna, 2011). However, one recent review concluded that news media has been relatively understudied in tobacco control and that more is needed (NCI, 2008). In addition, only one study has previously analyzed content on a specific type of tobacco, cigars (Wenger, Malone, & Bero, 2001). An analysis of SLT-specific news information could document if and how these stories cover traditional tobacco news topics such as business, bans, and taxes, and also whether they refer to issues that might be more unique to SLT, such as the variation in health risks among different types of SLT (Hatsukami, Ebbert, Feuer, Stepanov, & Hecht, 2007), or SLT's debated role as a potentially less risky "harm reduction" alternative to smoking (Hatsukami, Lemmonds & Tomar, 2004). This study aims to contribute to the small body of SLT communication literature and also to the tobacco news literature by providing the first general overview of SLT coverage in U.S. newspapers and news wires.

METHODS

Consistent with previous research, this content analysis was based primarily on SLT articles published in newspapers (NCI, 2008). The newspaper sample was limited to top circulating daily newspapers, including the top three national daily U.S. newspapers (i.e., The Wall Street Journal, USA Today, and The New York Times) and the top 2-3 circulating daily newspapers in each state (the top third paper was included for states in which it had a high circulation of 100,000 or more or in which the top second and third papers had close circulation numbers of at least 50,000). The top fourth paper was also included for two states (New York and California) to obtain geographic diversity within those two states. U.S. national newspapers are distributed throughout the country focusing on national and international news and issues of broad general interest (e.g., health, science), while state papers typically include greater focus on statewide and/or local community issues of interest (e.g., state or local government and politics, events, justice, crime, and human interest stories). Rankings of paper circulation figures were obtained from the Audit Bureau of Circulations and Mondo Times, a media guide profiling various media channels including U.S. newspapers. Two papers based in the hometowns of the two major cigarette companies that have moved into the SLT market (i.e., RJ Reynolds, Philip Morris) were also included in the sample—that is, The Winston-Salem Journal and The Richmond Times, respectively. SLT news stories were also obtained from select news wire services, specifically the Associated Press (AP) (a national news wire service) and two health-focused wire services: Reuters Health eLine (a Reuters news service product based in the United States) and UPI Consumer Health Daily (a national health wire service from United Press International). Overall, 129 different news sources (i.e., 126 newspapers and 3 news wires) were reviewed for unique SLT-related articles. Articles were limited to those occurring between 2006 and 2010, a period coinciding with cigarette companies' movement into the SLT market, the launch of new SLT products, and passage of the Family Smoking Prevention and Tobacco Control Act.

Articles were largely obtained through two electronic news databases: Access World News and Factiva. Relevant articles from 18 papers not available through these databases were obtained through paid searches of their individual Web site archives. Only stories representing original content (i.e., staff written or contributing articles, opinion articles) from each newspaper were included in the sample. Articles from the select wire services were identified directly from the AP, UPI Consumer Health Daily, and Reuters Health eLine archives and were only coded in the sample one time. If these same wire stories were found in the results of individual newspapers, they were not again included in the sample of articles from those papers. As such, this study sample should be considered to be representative of unique stories from national and state newspapers rather than of all SLT stories found in them (which would include copies of all wire stories actually printed).

Guidelines were developed to limit articles to those primarily about a SLT-related issue or that focused on a SLT issue in at least part of the article. To be included, articles identified using keywords (tobacco and smokeless, snuff, snus, chew, dip, spit, and/or dissolvable) needed to be at least four sentences long; contain at least one paragraph related to tobacco; and either include a SLT reference (e.g., snus) in the headline or in at least three different sentences to avoid articles simply mentioning SLT in passing. Exceptions were made for letters to the editor because of their inherently shorter length, for example, letters only needed a SLT reference in two sentences.

A coding guide was developed based on review of previous tobacco news studies and iterative review of SLT articles in the sample. Each article was coded for standard variables such as date, source, and type (e.g., news/feature, opinion), and the presence of a SLT-related term in the headline. Additionally, each article was coded for the *main topic* or issue of the SLT content within the article (e.g., product regulation), as well as certain subtopic details (e.g., reference to the Food & Drug Administration [FDA]). All articles were coded for references to SLT health risks and opinion articles were also coded for the slant of the SLT-related content. To assess reliability, 10% of articles from each year (2006–2010) were randomly selected for double coding by a research assistant—results were good,

with an average Kappa value of 0.89 (range of 0.65–1.0) (Banerjee, Capozzoli, McSweeney, & Sinha, 1999). Chisquare tests were used to determine if relationships between certain categorical variables were statistically significant. All results were prepared using SPSS 18.0.

RESULTS

A total of 877 unique articles related to SLT were identified. The majority of articles (58.4%) were obtained from state newspapers, followed by the two tobacco hometown newspapers (17.4%), the AP (10.7%), national papers (9.1%), and the two health wires (3.8%). Over three quarters of all articles (77.2%) were news/feature articles, 20% were opinion articles (i.e., editorials, op-ed articles, or letters to the editor), and 2.8% were advice or health column articles. The next sections are limited to news/feature articles only (n = 677), with opinion articles discussed separately.

SLT-Related Terms and Headlines

Table 1 presents the frequency with which different terms were used to refer to SLT within news/feature articles (n = 677). The formal term/phrase "smokeless tobacco" was used most frequently in national paper articles (100%) and least in state paper articles (64.4%). In contrast, use of the least formal terms, that is, "dip/dipping" and "spit tobacco," were both most frequently

found in state papers. Articles also referred to SLT as "chewing tobacco," "chew" or "chaw" (46%), and as "snuff" or "moist snuff" (39.6%). References to snus and dissolvable tobacco appeared least frequently in state paper articles. A SLT-related term (e.g., "chew"), company (e.g., Conwood), or brand name (e.g., Skoal) was present in the headline of almost half of all articles (48.3%) (data not in table).

Types of SLT Topics

Eight main categories of SLT-related news were identified, the most frequent of which described and defined SLT as a business (28%) (see Table 1). The "SLT business news" category included topics such as cigarette companies' purchase of SLT companies (54.5% of all business articles), SLT company or brand profits (50.3%), new SLT products (47.1%), company name, location and staff changes (18.8%), and corporate legal issues (7.3%) (see Table 2). Additionally, SLT business articles referred to the increasing number of smoking bans (24.1%) and to cigarette sales as declining (55%) while referring to SLT sales as *growing* (49.2%).

News articles also frequently discussed issues surrounding new SLT products, product regulation (e.g., FDA related), and SLT as a smoking alternative or harm-reduction product, issues that tended to co-occur and were coded as one thematic category (19%) called "new products/product regulation/harm reduction" (see Table 1). Articles in this category differed from business news articles that referred to new products because they also included general interest, public health, and policy

Table 1. Percentage of News/Feature Articles Referring to Different Smokeless Tobacco (SLT) Terms and Covering Various SLT-Related Main Topics, by News Source^a

	By all news source types					
	National papers (%) $(n = 61)$	Associated Press $(\%)$ $(n = 94)$	Tobacco hometown (%) (n = 152)	State papers (%) (<i>n</i> = 337)	Health wires $(\%)$ $(n = 33)$	Total—all news/ feature articles (%) (n = 677)
Type of SLT terms/phrases						
SLT	100%	86.2%	87.5%	64.4%	84.8%	520 (76.8%)
Chew, chaw, chewing tobacco	31.1%	60.6%	13.8%	60.5%	36.4%	313 (46.2%)
Snuff	37.7%	55.3%	50.5%	30.0%	48.5%	268 (39.6%)
Dip, dipping	13.1%	8.5%	5.9%	17.5%	3.0%	85 (12.6%)
Spit tobacco	3.3%	3.2%	4.6%	14.8%	0.0%	62 (9.2%)
Snus	45.9%	41.5%	39.5%	11.0%	24.2%	174 (25.7%)
Dissolvable tobacco	21.3%	12.8%	23.7%	10.4%	9.1%	99 (14.6%)
Type of SLT main topics						
Business news	47.5%	59.6%	57.9%	5.3%	0	191 (28.2%)
New products/product regulation/harm reduction	37.7%	9.6%	32.2%	13.4%	12.1%	130 (19.2%)
Prevention and/or cessation	1.6%	5.3%	0.7%	19.9%	9.1%	77 (11.4%)
SLT taxes	0	2.1%	3.3%	18.4%	0	69 (10.2%)
Profiles/trends in SLT use	1.6%	5.3%	2.6%	12.8%	24.2%	61 (9.0%)
SLT bans	0	11.7%	2.0%	12.2%	0	55 (8.1%)
Tobacco industry promotional activities	4.9%	1.1%	0	8.3%	3.0%	33 (4.9%)
Health risks	3.3%	1.1%	0.7%	3.9%	48.5%	33 (4.9%)
Other topics	3.3%	4.3%	0.7%	5.9%	3.0%	28 (4.1%)

Note. aRead as column percentages.

Table 2. Percentage of News/Feature Articles Referring to Various Subtopic Details, by Main Smokeless Tobacco (SLT) Topics of Articles

Business news articles $(n = 191)$	
Cigarette sales or smoking prevalence as declining	55.0%
Purchase of SLT companies by cigarette companies	54.5%
Market updates about SLT brand/company profits	50.3%
SLT consumption or sales as growing	49.2%
Development, testing, or launch of new products	47.1%
Rise in number of smoking bans	24.1%
SLT company name, location, and staff changes	18.8%
Corporate legal issues	7.3%
New products/regulation/harm reduction $(n = 130)$	
SLT company	85.4%
SLT brand	75.4%
SLT is/may be less harmful than smoking	57.7%
FDA in context of SLT discussion	56.9%
SLT prevention and/or cessation articles $(n = 77)$	
Particular SLT-related events or programs	32.5%
Personal stories of SLT cessation attempts	26.0%
SLT cessation methods or resources	16.9%
SLT tax articles $(n = 69)$	
Changing SLT taxation method	52.2%
Profiles/trends in SLT use articles $(n = 61)$	
Prevalence of SLT use—youth	31.1%
Prevalence as growing or above average	27.9%
SLT prevalence among baseball players	16.4%
Prevalence of SLT use—adults, general population	13.1%
Tobacco industry promotional activities articles $(n = 33)$	
Rodeos	42.4%
Free samples or coupons	27.3%
FDA-related changes to SLT advertising	15.2%

perspectives (e.g., quotes from public health professionals, scientists, citizens, legislators, etc.). Notably, about 58% of these articles referred to SLT products as being/possibly being less risky or harmful than smoking (see Table 2). This topic category was most frequently found both in national (37.7%) and tobacco hometown papers (32.2%) (see Table 1).

Articles focusing on other SLT issues were generally present more frequently among state papers. SLT prevention/cessationrelated articles included references to local events or programs (32.5%), SLT cessation methods or resources (16.9%), and personal stories of SLT cessation (26%) (see Table 2). News articles also discussed SLT in terms of taxation, with about half (52.2%) of these referring to *changing* SLT's taxation method, that is, moving toward taxing by weight versus percentage of price or vice versa. Nine percent of articles focused on profiles/ trends in SLT use (including among particular populations or individuals) with about 28% of these describing SLT prevalence as having grown or as being above average. News articles also discussed SLT-related bans (8.1%) (e.g., in public places such as parks, schools) and issues related to SLT promotional activities (5%), such as SLT company sponsorship of racing or rodeo events as well as opposition to such activities.

Regardless of the main topic, articles were also coded for various user or lifestyle associations made with SLT. About 10% included some association with baseball, such as SLT prevalence among baseball players, player use as poor role modeling for youth, and banning SLT in baseball. In addition, 8.6% of articles included some non-health-related negative

SLT perception (e.g., characterizations of SLT spitting as "disgusting") (data not in table).

SLT Health Risks

Although health risks were not frequently a *main* article topic (see Table 1), reference to some SLT health risk was *present* in 36.9% of articles. Specifically, articles referred to SLT as addictive (25.6%), carcinogenic or toxic (8.9%), and as being associated with particular health effects (25.4%) (e.g., cancer) (Table 3). The presence of any SLT health risk references was significantly associated with the main SLT topic of the article ($X^2 = 189.6$, df = 7, p < .001)—for example, risk references were most frequent in articles about new products/product regulation/harm reduction (69.2%) and least frequent in articles about taxes (8.7%) and business (5.8%) (Table 3).

Among articles referring to SLT-associated health effects (n = 172), oral cancer was by far the most frequently mentioned effect (59.9%) (Table 3). Articles also referred to other oral effects (leukoplakia, gum and teeth issues), numerous other cancer types (pancreatic, throat or neck, esophageal, larynx, bladder, liver, stomach, kidney, colon, lung), cardiovascular-related issues, and other potential health effects (e.g., reproductive health problems). About 24% of these articles also referred to a personal story of someone with health effects attributed to SLT.

SLT health effect information was also included in 46.3% and 44.6% of all nonbusiness (i.e., more general news) articles that discussed snus (n = 95) or dissolvable SLT (n = 83), respectively. However, only about half of these referred to health effects specifically associated with either product. The most frequent effects associated with snus were pancreatic cancer (41.7%), oral cancer (25%), or cancer in general (33.3%), and cardiovascular-related effects/disease (29.2%) (see Table 3). Some articles qualified these effects by indicating that risk was very low or that research on such effects had been mixed. Health effects associated with dissolvable tobacco included child poisoning from accidental ingestion (76.5%), cancer (23.5%), and other effects (17.6%). Only about 18% of nonbusiness articles discussing snus or dissolvable tobacco included some indication that different types of SLT vary in their levels of toxicity or risks.

Opinion Articles

Other than business news, opinion articles discussed the same SLT topics found in news/feature articles, although in somewhat different proportions. The issues of new products/product regulation/harm reduction (34.6%), SLT taxes (16.5%), and SLT bans (16.5%) were discussed most frequently in opinion articles (see Table 4). Opinion articles (50%) were also significantly more likely than news articles (36.9%) to include reference to any type of SLT health risk ($X^2 = 9.98$, df = 1, p < .01) and the majority of all opinion articles (63.6%) contained an anti-SLT/protobacco control slant. In contrast, about a quarter reflected a pro-SLT/antitobacco control slant, a slant more frequently expressed in opinion articles related to new products/product regulation/harm reduction (42.6%) and SLT bans (37.9%). These included, for example, messages from writers supporting the promotion or communication of SLT as being a safer alternative to smoking and messages opposing policy efforts to ban SLT in public places/situations such as parks or

Table 3. Percentage of News/Feature Articles Referring to Various Types of Smokeless Tobacco (SLT) Health Risks and Health Effects

	Reference to SLT health effects	Reference to SLT as addictive	Reference to SLT as carcinogenic	Reference to any SLT health risks
By type of SLT topic ^a				
Health risks $(n = 33)$	60.6%	45.5%	39.4%	100%
New products/regulation/harm reduction ($n = 130$)	42.3%	57.7%	26.2%	69.2%
Prevention and/or cessation $(n = 77)$	50.6%	31.2%	2.6%	58.4%
Profiles/trends in SLT use $(n = 61)$	42.6%	36.1%	1.6%	50.8%
Tobacco industry promotional activities $(n = 33)$	24.2%	27.3%	15.2%	30.3%
SLT bans $(n = 55)$	16.4%	16.4%	0	29.1%
Other topics $(n = 28)$	21.4%	17.9%	3.6%	28.6%
SLT taxes $(n = 69)$	4.3%	5.8%	0	8.7%
Business news $(n = 191)$	2.6%	5.2%	2.1%	5.8%
Total $(n = 677)$	25.4%	25.6%	8.9%	36.9%
Various SLT health effects among news a	articles with:			
References to any SLT health effects ($n =$	= 172)	References to snus-s	pecific health effects (n =	24)
Cancer related		Pancreatic cancer	•	41.7%
Oral cancer	59.9%	Oral cancer		25.0%
Cancer—general	22.1%	Cancer—general		33.3%
Pancreatic cancer	15.7%	Cardiovascular effects		29.2%
Throat or neck cancer	10.4%	References to dissolvable-specific effects ($n = 17$)		17)
Esophageal cancer	5.8%	Accidental poisoning of children		76.5%
Other cancer type	9.3%	Form of cancer or cancer—general		23.5%
Facial disfigurement	16.8%	Other effect (e.g., gum disease)		17.6%
Leukoplakia (oral lesions)	15.1%			
Other health effects				
Cardiovascular or stroke related	17.4%			
Gum related	14.0%			
Teeth related	7.6%			
Other health effects	15.7%			
Personal story of health effects	24.4%			

Note. aRead as row percentages.

baseball games. Pro-SLT articles were also significantly more likely to be found in national (52.9%) versus state (22.8%) papers ($X^2 = 5.8$, df = 1, p = .016), and in articles submitted to papers (letters, op-ed pieces) rather than staff-generated articles (editorials, columns).

DISCUSSION

This study provides the first description of SLT-related coverage in major newspapers and select news wires throughout the country. Articles reported on a variety of SLT topics perceived as being "newsworthy" enough to gain coverage, issues that may in turn work to define ways in which SLT may be viewed and thought about, for example, as a health risk, as a smoking alternative, as a business, as growing in use, as a product in need of various forms of regulation, and as a traditional product or new type of tobacco product.

Our content analysis found that news articles frequently portrayed SLT as a harmful or potentially harmful product, with almost half of general SLT news articles referring to known or possible risks. Articles frequently referred to the risk most commonly associated with SLT in scientific literature (i.e., oral cancer), and often brought this risk to life by sharing "human interest" stories of individuals who had suffered from it, including well-known baseball figures and private citizens turned antitobacco advocates.

Repeated references to SLT health risks may be important not only for public education but also for building public support toward policy efforts to regulate SLT. Previous studies have found that news articles relating to tobacco policy issues have tended to lack tobacco risk information, thus leaving out the fundamental rationale for such policies (Lima & Siegel, 1999; Long et al., 2006). While this study similarly found that references to SLT health risks were largely missing in articles related to some policy issues such as SLT taxes and bans, they were found in the majority focusing on new SLT products, product regulation, and/or harm-reduction issues. This is significant as such information may shape how the public and policy makers think and "weigh in" on future policies regarding these issues, issues that remain at debate within the tobacco control community.

Table 4. Slant of Opinion Articles, by Article Type, Topic, and Sourcea

	Anti-SLT/ protobacco control	Pro-SLT/ antitobacco control	Neutral/ mixed slant
Type of opinion article			
Editorial/opinion column ($n = 70$)	70.0%	12.9%	17.1%
Letters to the editor $(n = 89)$	59.6%	33.7%	6.7%
Op-ed article $(n = 17)$	58.8%	35.3%	5.9%
Any opinion article $(n = 176)$	63.6%	25.6%	10.8%
SLT topic of opinion articles $(n = 176)$			
Health risks $(n = 4)$	100%	0	0
Prevention and/or cessation $(n = 14)$	92.9%	0	7.1%
Tobacco promotional activities $(n = 11)$	90.9%	9.1%	0
Profiles/trends in SLT use $(n = 24)$	75.0%	12.5%	12.5%
SLT taxes $(n = 29)$	69.0%	13.8%	17.2%
SLT bans $(n = 29)$	48.3%	37.9%	13.8%
New products/regulation/harm reduction $(n = 61)$	50.8%	42.6%	6.6%
Other topics $(n = 4)$	50.0%	0	50.0%
Association with baseball $(n = 30)$	73.3%	16.7%	10.0%
News source of opinion articles $(n = 176)$			
State papers $(n = 158)$	67.7%	22.8%	10.1%
National papers $(n = 17)$	35.3%	52.9%	11.8%
Tobacco hometown papers $(n = 1)$	0	0	100%

Note. SLT = smokeless tobacco.

This study also found that new SLT products (e.g., snus, dissolvable tobacco) generated considerable news coverage over the period examined, timely press given their launch in the last several years. Differences were observed between business news articles, which discussed these more "simply" in terms of their growth and profit potential, and more general news stories, which discussed broader perspectives including those related to health and policy. It was also observed that while general news articles describing these new products discussed health risks as well as SLT's potential role in tobacco harm reduction, health risks between snus, dissolvable SLT, and other SLT types or SLT in general were not always differentiated. This is important and potentially problematic since different forms of SLT (e.g., moist snuff, oral snuff, chew, snus, dissolvable) are known to vary in toxicant levels (Hatsukami, Ebbert, Feuer, Stepanov, & Hecht, 2007), and because public health arguments for using SLT as a means of harm reduction have largely focused on using lower nitrosamine forms of SLT such as snus and dissolvable tobacco (Levy et al., 2004; Zeller & Hatsukami, 2009). Without product differentiation, readers might consider snus use to pose the same risk for oral cancer as other SLT types or vice versa (i.e., perceive traditional moist snuff brands to be as useful for harm reduction as snus). It should be noted, however, that to date there are no data on the clinical outcomes of snus products sold in the United States, nor are there data on the effects of snus promotion on tobacco use in the population.

The amount of press coverage related to dissolvable SLT was also notable considering new brands (e.g., Camel Dissolvables) have not yet been nationally launched and the category's low market share to date (less than 1%) (Delnevo, Wackowski, Manderski, Hrywna, & Ling, under review). Such coverage was likely related to their novelty and controversial nature. Indeed, news articles captured quotes from public health professionals and legislators expressing concern

over their marketing, their resemblance to breath mints and candy, and potential appeal to youth. The framing of dissolvable products as potentially appealing to youth was important as it became the basis for an amendment made to the Family Smoking Prevention and Tobacco Control Act before it was signed into law, putting review of dissolvable tobacco on the Center for Tobacco Product's tobacco regulation agenda ("Hardly Candy", 2009).

While much of SLT news coverage focused on new products, articles also covered a more traditional SLT-related issue—its use in baseball. Articles frequently portrayed SLT's presence in baseball as something negative, for example, referring to players' negative role modeling on youth and their struggles with addiction. These articles were timely given their lead up to Major League Baseball's (MLB) contract discussions in late 2011 and the importance of press coverage for shaping public support toward policy issues (McCombs & Shaw, 1972; Preiss et al., 2007). Indeed, following additional press coverage through 2011 and advocacy by public health organizations, a new MLB contract was reached limiting SLT's use and visibility during games and public appearances (Campaign for Tobacco Free Kids, n.d.). News articles also discussed other policy issues of local importance to states and communities, fulfilling a traditional news value for stories of "proximity" (Curtin & Rhodenbaugh, 2001; The Oregonian, n.d.). For example, articles reflected community conflict over various issues such as banning SLT company sponsorships of local rodeo events, and proposed changes to SLT taxation.

Consistent with previous research (Clegg Smith et al., 2006), this study also found that the majority of opinion articles expressed slants supportive of various tobacco control measures, such as regulating tobacco sponsorships and banning SLT use in baseball. However, a substantial proportion (25%) included protobacco slants. While these included

^aRead as row percentages.

articles related to economics and personal liberty issues such as SLT taxes and bans, a finding also consistent with previous research (Clegg Smith et al., 2006), pro-SLT opinion articles most frequently related to the topic of new products, product regulation, and harm reduction, suggesting that arguments used in support of SLT within the tobacco control community are also used in this public forum.

Finally, this study also observed some differences in SLT coverage by news source, though these differences were not all particularly surprising. National and tobacco hometown papers were the news sources most likely to include original articles focusing on the topics of SLT business, new products, product regulation, and harm reduction, while state papers were most likely to include articles related to topics of more local significance such as SLT taxes, bans, and prevention/cessation. A somewhat more unexpected result of interest was the finding that opinion articles with pro-SLT slants were more frequent in national papers than in state papers. It was also interesting to note that state paper articles were most likely to use the less formal terms "dip/dipping" and "spit tobacco" when referring to SLT.

Several limitations of this study should be noted. Articles were drawn from top circulating national and state newspapers rather than from a random sample and thus results may not be generalizable to other newspapers within states. Furthermore, only those stories meeting the criteria for inclusion (e.g., multiple SLT references) were analyzed rather than all articles with any SLT reference. The use of electronic news databases to obtain articles limited the ability to measure certain prominence-related variables, such as headline size and images.

CONCLUSIONS AND RECOMMENDATIONS

Study of tobacco news coverage is important given its potential ability to educate readers about tobacco issues. Indeed, the presence of regular SLT health information in the news may provide a free and ongoing means of reaching broad audiences, while implementation of specific educational campaigns can be expensive, short lived, and sporadic (NCI, 2008). Continued surveillance of SLT news coverage is also warranted given its ability to both reflect and shape people's perceived importance of and attitudes toward various SLT policy issues. As described in this study, readers may be exposed to policy discussions of both local and national significance. Furthermore, public health professionals can actively participate in tobacco news coverage by sending press releases or informational pieces to reporters about new study findings, local events, or resources and/or by submitting opinion pieces to editors to voice their views about particular tobacco topics or to respond to previous tobacco-related coverage.

In addition to continued monitoring, future research could examine the content of certain SLT news topics in greater detail. For example, additional research might explore arguments used to propose SLT tax structure changes. Indeed, researchers have noted that while some changes would appear to make cheap SLT less accessible to youth by increasing their price, they also make attractive premium products less expensive (Delnevo, Lewis, & Foulds, 2007). Further exploration might also look at discussion about price in SLT business news articles and references to trends regarding discounted SLT brands

versus premium products. More detailed analyses regarding health messages about SLT, including risk comparisons made with smoking, is also warranted given their relevance to current tobacco control debates and policy considerations and their potential complexity.

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DECLARATION OF INTERESTS

None declared.

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REFERENCES

- Banerjee, M., Capozzoli, M., McSweeney, L., & Sinha, D. (1999). Beyond kappa: A review of interrater agreement measures. *The Canadian Journal of Statistics*, 27, 3–23. doi:10.2307/3315487
- Boffetta, P., Hecht, S., Gray, N., Gupta, P., & Straif, K. (2008). Smokeless tobacco and cancer. *The Lancet Oncology*, 9, 667–675. doi:10.1016/S1470-2045(08)70173-6
- Boffetta, P., & Straif, K. (2009). Use of smokeless tobacco and risk of myocardial infarction and stroke: Systematic review with meta-analysis. *BMJ*, *339*, b3060. doi:10.1136/bmj. b3060
- Campaign for Tobacco Free Kids. (n.d.). Knock tobacco out of the park. Retrieved July 19, 2012, from www.tobaccofreebaseball.org
- Champion, D., & Chapman, S. (2005). Framing pub smoking bans: An analysis of Australian print news media coverage, March 1996-March 2003. *Journal of Epidemiology and Community Health*, 59, 679–684. doi:10.1136/jech.2005.035915
- Clegg Smith, K., Wakefield, M., & Edsall, E. (2006). The good news about smoking: How do U.S. newspapers cover tobacco issues? *Journal of Public Health Policy*, 27, 166– 181. doi:10.1057/palgrave.jphp.3200079
- Curtin, P., & Rhodenbaugh, E. (2001). Building the news media agenda on the environment: A comparison of public relations and journalistic sources. *Public Relations Review*, 27, 179–195. doi:10.1016/S0363-8111(01)00079-0
- Delnevo, C., Lewis, M. J., & Foulds, J. (2007). Taxing moist snuff by weight ain't worth spit. *Tobacco Control*, 16, 69. doi:10.1136/tc.2006.018127
- Delnevo, C. D., Wackowski, O. A., Manderski, M. T., Hrywna, M., & Ling, P. M. (2013). Examining market trends in smokeless tobacco use: 2005–2010. *Tobacco Control*. Advance online publication. doi:10.1136/tobacco control-2012-050739
- Foulds, J., Ramstrom, L., Burke, M., & Fagerstrom, K. (2003). Effect of smokeless tobacco (snus) on smoking and public health in Sweden. *Tobacco Control*, *12*, 349–359. doi:10.1136/tc.12.4.349

- Hardly Candy. (2009). CSP daily news. Retrieved from www. cspnet.com/news/tobacco/articles/hardly-candy
- Hatsukami, D. K., Ebbert, J. O., Feuer, R. M., Stepanov, I., & Hecht, S. S. (2007). Changing smokeless tobacco products new tobacco-delivery systems. *American Journal of Preventive Medicine*, 33(6 Suppl.), S368–S378. doi:10.1016/j. amepre.2007.09.005
- Hatsukami, D. K., Lemmonds, C., & Tomar, S. L. (2004). Smokeless tobacco use: Harm reduction or induction approach? *Preventive Medicine*, 38, 309–317. doi:10.1016/j.ypmed.2003.10.006
- Levy, D. T., Mumford, E. A., Cummings, K. M., Gilpin, E. A., Giovino, G., Hyland, A., . . . Warner, K. E. (2004). The relative risks of a low-nitrosamine smokeless tobacco product compared with smoking cigarettes: Estimates of a panel of experts. *Cancer Epidemiology, Biomarkers and Prevention*, 13, 2035–2042. doi:13/12/2035
- Lima, J. C., & Siegel, M. (1999). The tobacco settlement: An analysis of newspaper coverage of a national policy debate, 1997–98. *Tobacco Control*, 8, 247–253. doi:10.1136/tc.8.3.247
- Long, M., Slater, M. D., & Lysengen, L. (2006). US news media coverage of tobacco control issues. *Tobacco Control*, 15, 367–372. doi:10.1136/tc.2005.014456
- Magzamen, S., Charlesworth, A., & Glantz, S. A. (2001). Print media coverage of California's smokefree bar law. *Tobacco Control*, 10, 154–160. doi:10.1136/tc.10.2.154
- McCombs, M., & Shaw, D. (1972). The agenda-setting function of mass media. *Public Opinion Quarterly*, 35, 176–187. doi:10.1086/267990
- Mejia, A. B., & Ling, P. M. (2010). Tobacco industry consumer research on smokeless tobacco users and product development. *American Journal of Public Health*, 100, 78–87. doi:10.2105/AJPH.2008.152603
- Menashe, C. L., & Siegel, M. (1998). The power of a frame: An analysis of newspaper coverage of tobacco issues--United States, 1985–1996. *Journal of Health Communication*, 3, 307–325. doi:10.1080/108107398127139
- National Cancer Institute. (2008). The role of the media in promoting and reducing tobacco use. Tobacco Control Monograph No. 19 (NIH Pub. No. 07-6242). Retrieved from www.cancercontrol.cancer.gov/tcrb/monographs/19/index.html
- Nelson, D. E., Evans, W. D., Pederson, L. L., Babb, S., London, J., & McKenna, J. (2007). A national surveillance system for tracking tobacco news stories. *American Journal of Preventive Medicine*, 32, 79–85. doi:10.1016/j. amepre.2006.09.001
- O'Connor, R. J., Hyland, A., Giovino, G. A., Fong, G. T., & Cummings, K. M. (2005). Smoker awareness of and beliefs about supposedly less-harmful tobacco products. *American Journal of Preventive Medicine*, 29, 85–90. doi:10.1016/j.amepre.2005.04.013
- O'Connor, R. J., McNeill, A., Borland, R., Hammond, D., King, B., Boudreau, C., & Cummings, K. M. (2007). Smokers'

- beliefs about the relative safety of other tobacco products: Findings from the ITC collaboration. *Nicotine & Tobacco Research*, 9, 1033–1042. doi:10.1080/14622200701591583
- Phillips, C. V., Wang, C., & Guenzel, B. (2005). You might as well smoke; the misleading and harmful public message about smokeless tobacco. *BMC Public Health*, 5, 31. doi:10.1186/1471-2458-5-31
- Pierce, J. P., & Gilpin, E. A. (2001). News media coverage of smoking and health is associated with changes in population rates of smoking cessation but not initiation. *Tobacco Control*, 10, 145–153. doi:10.1136/tc.10.2.145
- Preiss, R., Gayle, B., Burrell, N., Allen, M., & Bryant, J. (Eds.). (2007). *Mass media effects research*. New York, NY: Lawrence Erlbaum Associates.
- Rodu, B., & Cole, P. (2009). Smokeless tobacco use among men in the United States, 2000 and 2005. Journal of Oral Pathology & Medicine, 38, 545–550. doi:10.1111/j.1600-0714.2009.00780.x
- Smith, K. C., Siebel, C., Pham, L., Cho, J., Singer, R. F., Chaloupka, F. J., . . . Wakefield, M. (2008). News on tobacco and public attitudes toward smokefree air policies in the United States. *Health Policy*, 86, 42–52. doi:10.1016/j. healthpol.2007.09.015
- The Oregonian. (n.d.). What makes news. Retrieved July 19, 2012, from http://biz.oregonian.com/newsroom/?sec=47&tert=1
- Timberlake, D. S., & Huh, J. (2009). Demographic profiles of smokeless tobacco users in the U.S. *American Journal of Preventive Medicine*, *37*, 29–34. doi:10.1016/j. amepre.2009.03.010
- Tomar, S. L., & Hatsukami, D. K. (2007). Perceived risk of harm from cigarettes or smokeless tobacco among U.S. high school seniors. *Nicotine & Tobacco Research*, 9, 1191–1196. doi:10.1080/14622200701648417
- Wackowski, O. A., Lewis, M. J., & Hyrwna, M. (2011). Banning smoking in New Jersey casinos - a content analysis of the debate in print media. Substance Use & Misuse, 46, 882–888. doi:10.3109/10826084.2011.570620
- Waterbor, J. W., Adams, R. M., Robinson, J. M., Crabtree, F. G., Accortt, N. A., & Gilliland, J. (2004). Disparities between public health educational materials and the scientific evidence that smokeless tobacco use causes cancer. *Journal of Cancer Education*, 19, 17–28. doi:10.1207/ s15430154jce1901 08
- Wenger, L., Malone, R., & Bero, L. (2001). The cigar revival and the popular press: A content analysis, 1987-1997. *American Journal of Public Health*, 91, 288–291. Retrieved from http://ajph. aphapublications.org/action/doSearch?prg140729=340a809e-2516-4d5b-a330-fa7bf2807c98
- Zeller, M., & Hatsukami, D. (2009). The strategic dialogue on tobacco harm reduction: A vision and blueprint for action in the US. *Tobacco Control*, 18, 324–332. doi:10.1136/ tc.2008.027318