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The “Sugar Pack” Health Marketing Campaign in Los Angeles County, 2011-2012

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As part of a comprehensive approach to combating the obesity epidemic, the Los Angeles County Department of Public Health launched the “Sugar Pack” health marketing campaign in fall 2011. Carried out in three stages, the campaign sought to educate and motivate the public to reduce excess calorie intake from sugar-sweetened beverage consumption. The primary Sugar Pack creative concepts provided consumers with information about the number of sugar packs contained in sugary drinks. Data from formative market research as well as lessons from previous campaigns in other U.S. jurisdictions informed the development of the materials. These materials were disseminated through a multipronged platform that included paid outdoor media on transit and billboards and messaging using social media (i.e., Twitter, Facebook, YouTube, and sendable e-cards). Initial findings from a postcampaign assessment indicate that the Sugar Pack campaign reached broadly into targeted communities, resulting in more than 515 million impressions. Lessons learned from the campaign suggest that employing health marketing to engage the public can lead to increased knowledge, favorable recognition of health messages, and self-reported intention to reduce sugar-sweetened beverage consumption, potentially complementing other obesity prevention strategies in the field.

Keywords: *sugar-sweetened beverages; health marketing; mass media; obesity*

INTRODUCTION

Presently, more than 78 million U.S. adults age 20 years and older and 12.5 million children and adolescents age 2 to 19 years are obese (Ogden, Carroll, Kit, & Flegal, 2012). An important contributor to this ongoing obesity epidemic is the intake of excess calories from high consumption of sugar-sweetened beverages (SSBs; Bleich, Wang, Wang, & Gortmaker, 2009; Vartanian,

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Schwartz, & Brownell, 2007). SSBs are defined as drinks that have added sugars but often contain little or no nutrient value. They include (but are not limited to) sodas, sports drinks, energy drinks, and juice drinks that are not 100% juice (U.S. Department of Agriculture & U.S. Department of Health and Human Services, 2010). During the past 20 years, SSB consumption has increased dramatically in parallel with obesity rates in the United States (Duffey & Popkin, 2007; Nielsen & Popkin, 2004). From 1977 to 2001, for example, total energy intake from sugary drinks increased from 2.8% to 7.0% in the general U.S. population (Nielsen & Popkin, 2004). In the county of Los Angeles, survey findings from the Los Angeles County (LAC) Health Survey indicate that more than one third of adults and children consume one or more SSB per day (Los Angeles County Department of Public Health [DPH], 2011).

As Americans consume more calories from SSBs than any other type of food or beverage (Block, 2004), growing attention and efforts have focused on reducing the consumption of sugary drinks as a promising approach to attenuating the risk of obesity in the community (Levy, Friend, Wang, 2011; Sichieri, Trotte, Souza, Veiga, 2009). Although recent public health responses to the obesity epidemic have included prevention strategies that seek to modify system and environmental levers (e.g., vending machine policies, limitations on beverage sizes, changes to food procurement practices), public education and other approaches of delivering health information remain critical vehicles for changing social norms related to these health behaviors (Block, 2004; Bunnell et al., 2012; Story, Kaphingst, Robinson-O'Brien, & Glanz, 2008). Studies have shown that exposure to health messaging, when strategically applied, can drive consumers to action and prepare them for change in their environments (Noar, 2006; Story et al., 2008). Health marketing is an emerging field that holds great promise in this regard (Bernhardt, 2006). According to the Centers for Disease Control and Prevention (2011), health marketing is defined as "creating, communicating, and delivering health information and interventions using consumer-centered and science-based strategies to protect and promote the health of diverse populations." These strategies can draw from multiple disciplines, including social marketing, mass and speech communication, health education, and instructional design that seeks to create multimedia "consumer products" (Bernhardt, 2006).

Recognizing that health communication can effectively influence public opinion, the New York City Department of Health and Mental Hygiene created and

initiated the "Pouring on the Pounds" campaign in 2009. This campaign used mass media advertisements as a way to educate and motivate the public to reduce excess calorie intake from SSB consumption (Scaperotti & De Leon, 2009). Other U.S. jurisdictions have since followed suit, including Philadelphia, Boston, and San Francisco. In October 2011, the DPH launched its own "Sugar Pack" health marketing campaign targeting vulnerable groups in LAC.

In this article, we describe the creation, implementation, and postcampaign assessment of the LAC Sugar Pack campaign. We contribute to the paucity of literature on the context and process of using health marketing to engage the public about excess SSB consumption.

► METHOD

Context and Overview of the Sugar Pack Health Marketing Campaign

Over the course of a 2-year period, beginning in March 2010, DPH directed resources to address poor nutrition and physical inactivity in underserved communities that have high rates of obesity. This effort was supported in part by federal initiatives such as the national Communities Putting Prevention to Work program (Bunnell et al., 2012). Aimed at changing social norms and lessening consumer demand for SSBs, the Sugar Pack health marketing campaign was launched as part of a broader, branded initiative, Choose Health LA (CHLA). This initiative is directed at the prevention and control of chronic diseases in the county and promotes physical activity, healthy eating, and safe neighborhoods. The Sugar Pack campaign, which ran from October 2011 through December 2012, consisted primarily of paid media placements on billboards, buses, and railways and a short video on transit television. The campaign was augmented by a website (choosehealthla.com) and social media resources (Twitter, Facebook, YouTube) supported by the branded CHLA initiative.

Campaign Development

Existing SSB materials and prior media campaigns were identified and thoroughly reviewed for content and documented reach (Jordan, Piotrowski, Bleakley, & Mallya, 2012).

Formative market research information from the New York City Department of Health and Mental Hygiene's Pouring on the Pounds campaign was used to support and guide the development of the present campaign (Scaperotti & De Leon, 2009). Other campaigns, including California Department of Public

Health's "Rethink Your Drink," were also reviewed (California Department of Public Health, 2013). The Sugar Pack creative concepts (and related visuals) were adapted from these campaigns and tailored to a general adult audience with the intent that a secondary audience of children could be reached by engaging parents (Allen & Sachs, 2007; Charles & Kerr, 1988). Strategic placement of paid media was planned to more effectively reach targeted, high-needs communities.

Focus Groups

To better understand the specific needs of parents, a series of focus groups were conducted. Six focus groups were held in three LAC cities identified as having high rates of obesity using prevalence estimates from the LAC Health Survey (DPH, 2011). Of these, five focus groups were conducted in English, with the sixth conducted in Spanish. Each group session ($n = 8-10$ adult participants per session) took approximately 2 hours to complete and was led by a moderator from a contracted market research firm. To compensate for their time, a monetary incentive of \$100 each was provided. The moderator asked a set of open-ended questions that were developed and guided by the Integrative Model of Behavioral Prediction (Yzer, 2011) and probed participants about food selection, attitudes, and self-efficacy toward reducing SSB consumption.

Results of focus groups indicated that parents generally could identify the negative effects of excess sugar consumption (e.g., tooth decay, weight gain, diabetes, and hyperactivity) but were hesitant to believe that their children were at risk for these harmful effects. Many of the group participants indicated that drinking soda was a habit they shared with their children and had introduced to them at a young age. Some parents were more permissive of sports drinks, sharing the belief that these drinks are important for hydration and are healthier than sodas. Although they did not feel their children were consuming excessive amounts of sugary drinks, most parents indicated they have a limit to the number of drinks they would allow; the stated thresholds, however, varied dramatically and were ill-defined.

A series of proposed campaign visuals were presented to focus group participants. Those visuals adapted from New York City's Pouring on the Pounds campaign seemed to be the most appealing. The message "You wouldn't eat 22 packs of sugar, why are you drinking them?" was found to be exceptionally powerful and relevant to them and to their families. Participants noted that they intended to change their behaviors and the beverage habits of their children after seeing these visuals. Materials or messages that

did not test well included hard-hitting advertising that showed images of morbidly obese children. The consensus was that this type of health marketing was too harsh and would serve as a turnoff to the intended audience. Other visuals that compared the quantity of sugar in soda to that in dessert items such as cookies seemed to distract participants from the main message, with several participants reporting that these visuals made them hungry.

Following the focus groups, final creative concepts for the Sugar Pack health marketing campaign were adjusted for intended audiences in LAC. Campaign materials and related resources including the visuals were produced in both English and Spanish. The primary creative concepts focused on delivering a simplified message about the high number of sugar packs in sodas, sports drinks, and energy drinks. Supplemental health education materials were designed to provide readers/visitors of the CHLA website with suggestions on how to reduce SSB consumption by switching to healthier alternatives such as water, sparkling water, unsweetened tea, low-fat or fat-free milk, unsweetened coffee, and 100% fruit juice diluted with water or sparkling water.

Campaign Implementation

The Sugar Pack health marketing campaign was launched at a press event in October 2011. Concurrent to the event, a series of sendable e-cards were shared through CHLA's web-based channels (i.e., Twitter, Facebook, and website). To support the opportunity for earned media, representatives from the English, Spanish, and Asian language media and members of several partnering organizations were invited to the press event. Materials intended to engage families in a dialogue about SSB consumption were distributed to several school districts in the region, including the nation's second-largest, the Los Angeles Unified School District.

In early 2012, grant resources enabled DPH to further expand the campaign through paid media placements, including a short video on transit television. The campaign creative visuals selected for broader distribution using this communication channel focused on sodas and had a caption of "You wouldn't eat 22 packs of sugar, why are you drinking them?" referring to a 20-ounce soda (Figure 1A). Paid placements targeted the highest need areas of the county—in particular, low-income areas and areas with high rates of obesity. The Metro mass transit system was ideal for disseminating the campaign message because many of its users represent the intended audiences. For example, Metro ridership is largely low-income, with 55.1% of bus and 39.5% of rail users having a yearly household income

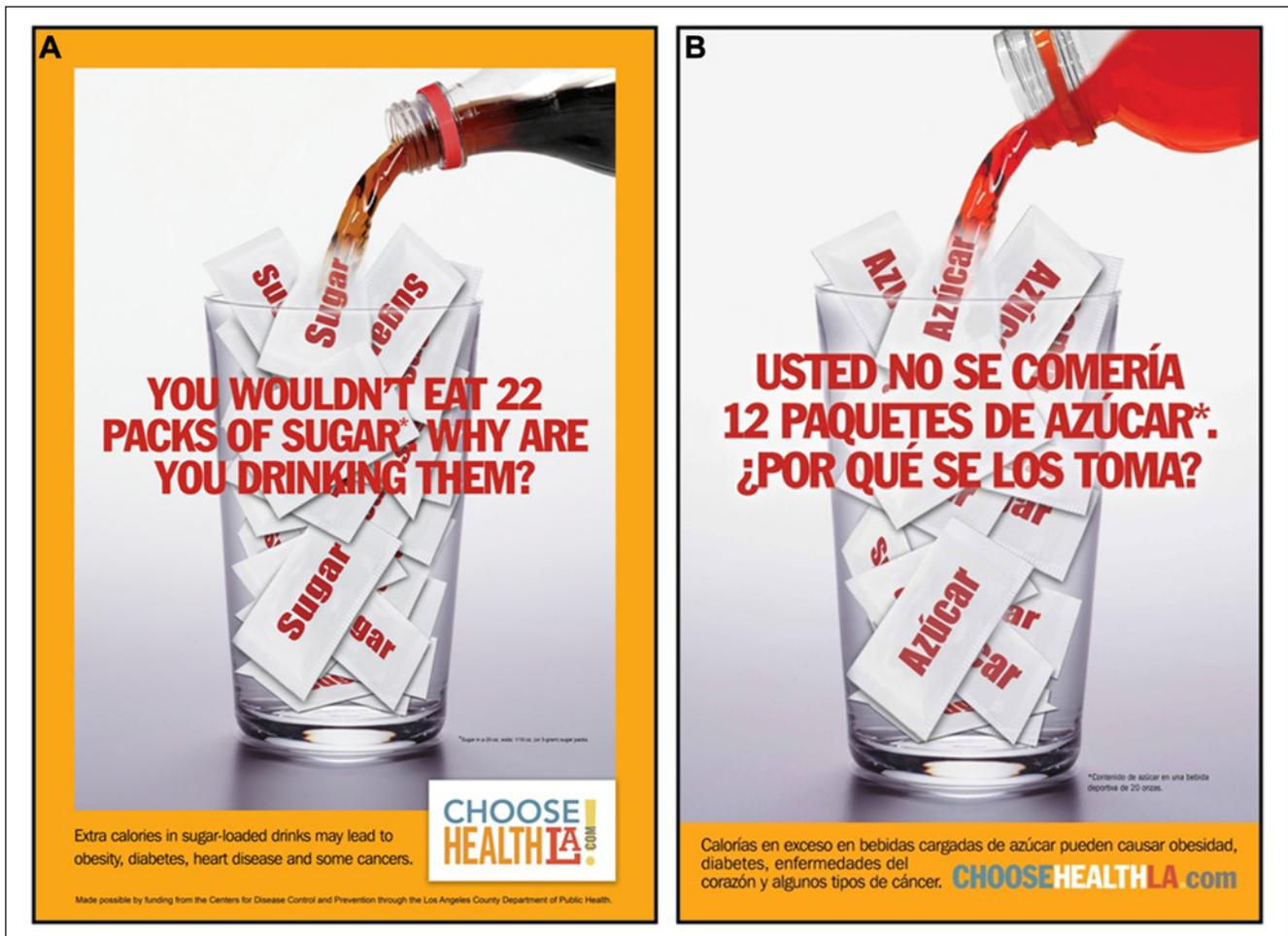


FIGURE 1 Sample Visuals From the “Sugar Pack” Health Marketing Campaign

under \$35,000 (CBS Outdoor, 2012). The first series of media placements was initiated in February 2012 and ran for approximately 8 weeks in transit shelters, indoor bus and rail cars, Metro stations (i.e., posters), outdoor billboards, and exteriors of buses and rail cars. The campaign was repeated in June 2012, adding “sports beverage” messaging to the “soda” placements (Figure 1B); these placements were displayed for 4 weeks and left in place for an additional bonus week.

Throughout the entire campaign period, CHLA social media activities complemented the “Sugar Pack” media placements by providing additional resources related to the primary (sugar pack) and secondary (health effects of obesity) health messages. These activities established a public health presence through Facebook, Twitter, and YouTube. Additionally, in early 2012, a sugar calculator was added to the CHLA website

to provide an interactive interface for consumers (<http://www.choosehealthla.com/multimedia/sugar-calculator/>). The calculator enabled website visitors the opportunity to estimate the total amount of sugar they were drinking and how much they were spending on sugary drinks over the course of 1 week, 1 month, 1 year, and/or 5 years.

Postcampaign Assessment

To gauge the reach of the Sugar Pack health marketing campaign in LAC, a mixed-methods postcampaign assessment was carried out during the latter half of 2012. Media coverage of the campaign was tracked and reported by a national market research firm—the same firm that helped developed the creative concepts and related visuals. For example, news stories aired on local TV stations including NBC, ABC, and Spanish

language stations Azteca America and Telemundo were recorded and archived. Analytic programs were employed to track social media metrics (e.g., impressions, number of views, and website hits). Ridership reach for the Metro placements was assessed through impressions provided by the media placement firm.

To measure public recall of the campaign and knowledge about SSBs, street intercept surveys were conducted in June 2012 by DPH staff, approximately 2 months after the first media placements. The surveys were conducted over a 2-week period at three different Metro locations known to have high-volume foot traffic. Individuals were considered eligible to participate in the survey if they lived or worked in LAC boundaries, were at least 18 years of age, and could speak either English or Spanish. The survey consisted of 15 questions, including questions on sociodemographics, current SSB consumption, health attitudes, campaign knowledge recall, and likelihood to change future SSB consumption. Due to practical considerations, both gender and weight status were determined based on observer ratings. Although observation may not provide precise classification, data for these two participant characteristics were considered sufficient for the purposes of the postcampaign assessment (Wing, Epstein, Ossip, & LaPorte, 1979). Each survey participant was given a CHLA water bottle and campaign-related educational materials as an incentive for completing the 5-minute survey.

To gauge SSB-related knowledge, participants were asked how many sugar packets an average soda contained. Additionally, campaign recognition was assessed through aided recall by providing survey participants with visuals of the actual campaign. Prior studies have shown that aided recall is a valid measure of encoded exposure to advertisements, reducing inaccurate reports of message recognition (Southwell, Barmada, Hornik, & Maklan, 2010). To assess impact of the campaign, participants were also asked about their intention to reduce future SSB consumption after exposure to the campaign. All street intercept survey data were managed and analyzed using the statistical software SAS 9.2 (SAS Institute, Inc., Cary, North Carolina). The postcampaign survey instruments and materials were reviewed and approved by the DPH Institutional Review Board prior to field implementation.

Campaign Costs

The total costs for the “Sugar Pack” health marketing campaign were estimated at nearly \$920,000. Sixty thousand dollars was spent on campaign development,

which included creative concept development, focus group testing, creation of interactive web tools, printing and dissemination of campaign messages, the “kickoff” press event, and monitoring of media metrics. Over \$790,000 was spent on paid media, including the first and second waves of placements on billboards, buses, and railways and the short video plays on transit television. And more than \$70,000 were attributed to post-campaign evaluation costs, accounting for personnel time, materials, and street intercept survey participant incentives.

► RESULTS

Earned, Paid, and Social Media, 2011-2012

Within a few weeks of the “kickoff” press event, television news stories reached an estimated audience of nearly half a million. Additionally, coverage of the campaign was extended to four local radio stations. Ten print and online news articles were published in English, two in Spanish language newspapers, and 13 print stories through Asian language media channels. A search engine optimized press release generated nearly 300 verbatim repostings online.

The reach of the paid media placements was measured using the standard communications metric: number of impressions (Table 1). The initial 8-week run, for example, comprised 2,399 billboard, bus, and railway placements, generating a total of 359 million impressions. The second 4-week run, plus the 1-week bonus, comprised 2,374 placements, generating a total of 158 million impressions. For the 12-week run of the Sugar Pack video on transit television, nearly 82 million impressions were generated.

Social media impressions of the CHLA brand, which featured the Sugar Pack campaign visuals and video, included more than 15,000 YouTube views, 1.5 million Twitter impressions, and 63,000 interactions on Facebook, alongside 535,000 website hits. The sugar calculator, which was exclusively promoted via Facebook and Twitter, received nearly 60,000 “plays” (Table 1).

Campaign Recall and Knowledge About SSB

A total of 1,041 street intercept surveys were completed after the first media placements. The survey response rate was approximately 56%. Among participants who completed this survey, 50.6% were male and 45.7% were female; information for the remainder (3.7%) was missing. More than one third (35.9%) had a high school education or less, and based on observation, 33.7% were overweight or obese (Table 2). Nearly 600

TABLE 1
Estimated Reach of Media Placements, October 2011
Through December 2012

<i>Media Form</i>	<i>Units</i>	<i>Impressions</i>
8-Week paid media placements: February-March 2012		
Billboards	9	20,517,630
Bus taillight displays	325	67,694,000
Bus interior cards	1,500	61,658,688
Bus shelters	115	144,900,000
Exterior rail	75	7,500,000
Interior rail car	325	29,656,000
Posters	50	27,553,000
4-Week paid media placements: July 2012		
Billboards	9	12,418,308
Bus taillight displays	325	33,847,000
Bus interior cards	1,500	24,514,655
Bus shelters	115	72,450,000
Interior rail	325	14,828,000
Posters	100	176,517,00
12-Week paid transit television video plays: January-April 2012		
Transit television	4,180 (Screens)	81,862,608
Choose Health LA social media: 2011-2012		
63,000 Facebook interactions		
1.5 Million Twitter impressions		
15,000 YouTube views		
Sugar calculator: 2012		
60,000 Online “plays” for the sugar calculator		

participants (57.3%) reported viewing the campaign on buses, subways, bus exteriors, bus shelters, and transit video. When asked how often they had seen the campaign (aided with onsite visuals), over a third (36.3%) reported viewing the campaign at least once (Table 3). Of those who did not see the campaign, 18.3% reported the number of sugar packets in a soda in the accurate range and of those who did see the campaign 38.8% reported the accurate range of sugar packets. Report of 11 to 22 sugar packs in a soda was considered being “in the accurate range”; this was based on the typical soda portions (e.g., 12- to 20-ounce bottles) sold in stores.

Campaign Impact on Intention to Change Future SSB Consumption

Among participants who completed the street intercept surveys, 438 reported drinking SSBs and seeing

TABLE 2
Characteristics of Street Intercept Survey Participants

<i>Characteristic, total n = 1,041</i>	<i>n (%)</i>
Sex ^a	
Male	527 (50.6)
Female	476 (45.7)
Missing/other	38 (3.7)
Age, years	
18-24	217 (20.9)
25-44	407 (39.1)
45-64	344 (33.0)
65+	63 (6.1)
Missing	10 (1.0)
Weight status ^a	
Underweight/normal	648 (62.2)
Overweight/obese	351 (33.7)
Missing	42 (4.0)
Race/ethnicity	
Hispanic/Latino	414 (39.8)
African American/Black	279 (26.8)
White/non-Hispanic	148 (14.2)
Asian/Pacific Islander	114 (11.0)
Other	70 (6.7)
Missing	16 (1.5)
Education	
Less than high school	99 (9.5)
High school graduate/GED	275 (26.4)
Some college	289 (27.8)
College or professional graduate	302 (29.0)
Missing	76 (7.3)

a. Information is based on observation.

the Sugar Pack campaign. More than 60% reported likely or very likely to reduce their daily consumption of SSBs as a result of seeing the campaign.

DISCUSSION

Health marketing strategies that employ mass media can serve as an effective primer for large audiences to accept and embrace broader changes to their environments (Schmitt, 1999). Based on evidence from the obesity prevention efforts of the past decades and most recently from 2010 to the present, successful system and environmental changes often require concurrent community strategies and preparative health education approaches (Robles, Wood, Kimmons, & Kuo, 2013;

TABLE 3
Viewing Frequency, Knowledge, and Impact of the
“Sugar Pack” Health Marketing Campaign Among Street
Intercept Survey Participants

<i>Total n = 1,041</i>	<i>n (%)</i>
Exposure to campaign (bus, subway, video)	
Exposed	596 (57.3)
Not exposed	323 (31.0)
Missing	122 (11.7)
Viewing frequency of the “Sugar Pack” campaign on the Metro transit (aided recall)	
1-5 times	140 (13.4)
6-10 times	72 (6.9)
11-20 times	42 (4.0)
21- 60 times	62 (6.0)
61-100 times	8 (0.8)
>100 times	8 (0.8)
Every time I ride ^a	46 (4.4)
Don’t know/not applicable/missing	663 (63.7)
Knowledge of the number of sugar packs in a soda	
Underreported	278 (26.7)
In the accurate range ^b	311 (29.9)
Overreported	218 (20.9)
Don’t know	173 (16.6)
Missing	61 (5.9)
Likelihood of reducing daily sugar-sweetened beverage consumption as a result of seeing the campaign among participants who consume sugar-sweetened beverages and saw the campaign (<i>n</i> = 438)	
Likely or very likely	274 (62.6)
Neutral	59 (13.5)
Unlikely or very unlikely	105 (24.0)
Accurate knowledge of the number of sugar packs in a soda among participants who reported the number of sugar packs in the accurate range ^c (<i>n</i> = 311)	
Exposed	231 (74.3)
Not exposed	59 (19.0)
Missing	21 (6.8)
	<i>p</i> < .001

a. Viewing frequency question was open ended. Rather than providing a numeric response, some participants responded with “every time I ride.” Present analysis assumed these participants saw the campaign more than once.

b. Report of 11 to 22 sugar packs in a soda was considered being “in the accurate range”; this is based on typical soda portions (e.g., 12-20 ounces) sold in stores.

c. The number and percentage of participants in this subgroup analysis may not correspond to the overall sample size due to missing information and other considerations. Comparison analysis was conducted using the Mantel-Haenszel chi-square test. Even after adjusting for age, sex, race, education, and weight, knowledge of the number of sugar packs in a soda in the accurate range for participants who were exposed to the “Sugar Pack” campaign remained higher than participants who were not exposed to the campaign (logistic regression: adjusted odds ratio = 2.63; 95% confidence interval = 1.85, 3.75; *p* < .001).

Story et al., 2008). Engaging the public through mass media channels has been critical for helping to garner community support and buy-in for system and environmental changes in other arenas, including tobacco control (Flynn et al., 1992; Worden & Flynn, 2000).

The message development for the Sugar Pack health marketing campaign highlighted several key challenges in providing consumers with a streamlined health message from the local health department. For example, in the development of the campaign, there were discussions about competing concepts such as educating consumers about sugar packs versus promoting alternatives to sugary drinks (e.g., water, unsweetened tea). Another important challenge was the development and dissemination of a simplified message that could effectively resonate with the public in a highly saturated media market.

With modern marketing techniques no longer focusing on selling a simple product but rather a stimulating experience that is part of a lifestyle (Schmitt, 1999), local health departments, by necessity, are starting to recognize the benefits of applying health marketing approaches to risk communication. Although social marketing and other health communication techniques have been used for years in tobacco control efforts (Flynn et al., 1992; Worden & Flynn, 2000), their inclusion in obesity prevention is relatively new.

Implementing effective health marketing strategies can be challenging but, when successful, can accelerate community acceptance of public health interventions designed to change individual behaviors as well as the physical and social environment. The present campaign greatly benefitted from the use of formative market research and from reviewing and adapting health marketing materials used by other jurisdictions. The demonstrated reach and impact suggest that the campaign planning process was important for increasing the saliency of the message conveyed to the public on the harms of excess SSB consumption.

Limitations

There are a number of limitations to the development and postcampaign assessments of the Sugar Pack health marketing campaign. First, because of time and resource constraints, the focus groups were limited to only certain segments of the intended audiences. Expansion of formative work to other segments of the LAC population would have further informed the refinements of the creative concepts and messages. Second, the Metro system ridership, although ideal because it includes low-income or working-class segments of the LAC population (based on media vendor

statistics), may be overrepresented for some sociodemographic characteristics (e.g., younger age-groups or certain ethnic groups). Thus, the observed effects of the campaign may not be generalizable to the overall county population. Third, individual responses to the street intercept survey questions were subject to a number of potential biases, including selection, self-report, and social desirability biases. Fourth, the analytic metrics for paid media and web-based communications approximate counts (e.g., impressions and hits) but provide few insights on how the health messages may have influenced public opinion and/or action. Finally, the number of impressions generated by the campaign may have been due to the budget size and a function of the planning process rather than a function of the campaign strength (e.g., appeal).

► CONCLUSIONS

Health marketing is but one component of DPH's comprehensive, multisectoral effort to reduce excess SSB consumption and to ultimately decrease obesity in LAC. Optimization of limited resources, including use of formative research and cross-pollination from other U.S. jurisdictions, was both informative and efficient for designing local public health interventions. This cross-pollination approach, however, should be done with care, as all audiences, small or large, have unique characteristics and specialized needs. To learn from and to improve obesity prevention strategies, further evaluation of the Sugar Pack and other health marketing campaigns should be conducted, placing special emphasis on how public engagement using these approaches can complement or prepare intended audiences for a variety of public health interventions, including system-wide changes to the physical and social environment.

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