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Process Evaluation of Cancer Prevention Media Campaigns in Appalachian Ohio

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Abstract

The purpose of this study is to provide process data from campaigns (2009-2010) to improve colorectal cancer (CRC; intervention) screening and fruit and vegetable (F&V; comparison) consumption in 12 Appalachian Ohio counties. County-specific campaigns included one billboard, posters, and articles for local newspapers. Participants in CRC screening counties who reported seeing CRC screening billboards had greater intention to talk to a doctor/nurse about screening in the next 6 months (odds ratio [OR] = 2.92, 95% confidence interval [CI; 1.71, 4.99]) and had twice the odds of talking to a doctor/nurse about screening in the past year (OR = 2.15, 95% CI [1.29, 3.60]) compared to those who did not see the billboards. Participants in F&V counties who reported seeing F&V billboards had twice the odds (OR = 2.27, 95% CI [1.35, 3.84]) of talking to a doctor/nurse in the past year about F&Vs compared to those who did not see the billboards. Participants who reported campaign exposure lived closer to the billboards compared to those who did not report campaign exposure (mean distance in miles from home to billboard: 8.8 vs. 10.9; $p < .01$). Most participants reported campaign messages were clear and important. Results suggest that partnering with community members to develop campaign materials is important to ensure cultural appropriateness and that exposure to the intervention components may affect health-related outcomes.

Keywords

communication; colorectal cancer screening; community intervention; fruit; vegetables

INTRODUCTION

Colorectal cancer (CRC) is the second most commonly diagnosed cancer and the second leading cause of cancer death affecting both men and women in the United States (American Cancer Society [ACS], 2015). In 2015, it is estimated that 132,700 individuals will be

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diagnosed with CRC and 49,700 will die from this disease in the United States (ACS, 2015). In Ohio, an estimated 5,430 CRC cases and 2,090 CRC deaths will occur in 2015 (ACS, 2015). CRC rates vary among different populations according to gender, age, race, ethnicity, income, and geographic location (ACS, 2014). Appalachian Ohio residents have an increased CRC burden (Paskett et al., 2011; Siegel, Sahar, Robbins, & Jemal, 2015). The CRC incidence rate in Appalachian Ohio was 57.1 per 100,000 (2002-2006) compared to 51.0 per 100,000 in non-Appalachian Ohio, and CRC mortality rate was 21.3 per 100,000 in Appalachian Ohio compared to 19.7 per 100,000 in non-Appalachian Ohio (Paskett et al., 2011). Lower CRC screening rates likely contribute to increased CRC incidence and mortality rates among this mostly rural population (Fisher et al., 2008; Katz, Ferketich, et al., 2011). CRC screening rates, validated by medical record review (MRR), was reported as 49% among a random sample of Appalachian Ohio residents (Reiter et al., 2013).

Media campaigns have been used to promote healthy behavior in rural settings (Campo et al., 2008; Pasick, Hiatt, & Paskett, 2004; Rim et al., 2009; Young, McGloin, Zittleman, West, & Westfall, 2007; Zittleman et al., 2009). Public health practitioners have used campaigns as a common tool due to their wide reach (Hornik, 2002b; Institute of Medicine, 2002; Randolph & Viswanath, 2004; Salmon & Atkin, 2003). Additionally, campaigns are most effective when they are theoretically based, are culturally appropriate, use multiple channels, promote a specific health topic, and achieve reasonable levels of message exposure among the priority population (Campo et al., 2008; Randolph & Viswanath, 2004).

To address the major principles suggested for effective campaign design, we used a community-based participatory research approach to develop the media campaigns. We worked with community members from five local cancer coalitions located throughout Appalachian Ohio. Coalition members include cancer survivors, health care providers, community leaders, representatives from community-based organizations (e.g., health departments, ACS, etc.), and concerned citizens. These cancer coalitions have had a long-standing partnership of over a decade with the academic researchers and assisted with mobilizing community assets (i.e., identifying community members to feature in the campaigns, local newspapers, etc.) and developing culturally appropriate materials (Katz et al., 2015). The strategies that we used to ensure cultural appropriateness were as follows: (a) constituent-involving: used ideas from community members in the campaign messages, (b) peripheral: featured local community members in the campaigns, and (c) evidential: provided county-level CRC information to make the relevance of the health issue specific to the local community (Kreuter, Lukwago, Bucholtz, Clark, & Sanders-Thompson, 2003).

While outcome evaluation of health campaigns is critical, the process evaluation of campaigns can provide valuable information about message exposure (reach and frequency) and is rarely described in the literature (Noar, 2006). The purpose of this study was to provide process data from media campaigns to identify potential strategies to improve future health-related, community-level campaigns. We believe this innovative process evaluation provides important and useful information linking research to health promotion practice.

METHOD

Process data were collected after a 1-year campaign to improve CRC screening, as part of a larger study that used a group randomized trial design with six Ohio Appalachia counties assigned to the intervention (CRC screening) and six counties to a comparison condition (Krok-Schoen et al., 2015). During planning, community members raised concerns that some counties would be randomized to the control arm; therefore, a campaign to improve fruit and vegetable (F&V) consumption was developed for comparison counties.

Annually, residents from 12 counties were randomly selected from InfoUSA County Directories to complete a telephone survey focused on completion of CRC screening within recommended U.S. Preventive Services Task Force (2008) guidelines (fecal occult blood test in past year, flexible sigmoidoscopy in past 5 years, or colonoscopy in past 10 years) and F&V consumption. A baseline telephone survey was conducted preintervention (2009-2010) among a random sample of residents and among a new random sample of residents following the campaigns (2010-2011).

Following yearlong campaigns, participants were asked if they would be willing to complete a single, mailed survey focused on media. Men and women were eligible to participate in the media survey if they (1) were aged 51 to 75 years; (2) had a working phone number; (3) were English-speaking and able to give informed consent; (4) were a resident of one of 12 Ohio Appalachian counties at the time of the interview; (5) were average risk for CRC (no prior history of CRC, polyps, inflammatory bowel disease, family history of CRC, or hereditary CRC syndromes); and (6) completed the telephone survey immediately following the media campaign. Participants received a \$10 gift card after completing the media survey in appreciation for their time. The response rate for the media survey was 85.5% (1,013/1,185). Informed consent procedures and study protocol were approved by the Institutional Review Board of The Ohio State University.

Media Campaigns

The CRC screening campaign featured county-specific CRC survivors, individuals who had completed CRC screening, local physicians/nurses, and community members selected by local community cancer coalitions (Katz, Reiter, et al., 2011). The F&V campaign in each comparison county featured county-specific farmers, grocery store owners, and community members selected by local community cancer coalitions (Katz et al., 2015). The campaigns were guided by social cognitive theory (Bandura, 1986) and were based on a pilot study (Katz, Reiter, et al., 2011). Social cognitive theory constructs addressed by the campaigns included reciprocal determinism (behavior promotion by campaign materials), observational learning (having community members featured with the campaign message), self-efficacy (changing belief about ability to discuss CRC screening), collective efficacy (community members advocating for improved health of the community), self-regulation (enlisting social support), and facilitation (connecting community members with local screening resources).

The campaigns included one billboard/per county; posters distributed throughout counties, the numbers of which were based on population density; and articles including CRC screening or F&V information sent to local newspapers. Community members suggested (1)

billboard locations based on knowledge of high-traffic areas, (2) places for posters based on popular county locations (e.g., library, etc.), and (3) which local newspapers to feature campaign information.

Measures: Media Survey

The media survey included questions regarding county-level campaigns (In the past year, have you seen or read anything about colon cancer or colon cancer screening [intervention group]/F&V consumption [comparison group]?). Each survey included images of county-specific billboards and posters. The survey included four images of billboards: the real county-level billboard (e.g., included an identified community member from a specific county, the campaign message, study logo, and a toll-free number linked to county-level resources), a fake billboard (e.g., included a stock picture of an unidentified person, a generic message, no study logo, and no information linking to county-level resource), a contamination billboard (opposite study arm), and a fake contamination billboard (fake of the opposite study arm).

Questions About Billboards

Following the image of real billboards, subsequent survey items were as follows:

1. “Have you seen this billboard about colon cancer screening (or fruits and vegetables)?” Responses: “Have not seen”/“might have seen”/“have seen one to three times”/“have seen more than three times.” Response options were based on research using fake and recognition measures (Slater & Kelly, 2002). Responses of have seen one to three times or have seen more than three times were considered as confirmation of exposure.
2. “After seeing this billboard, I wanted to talk to a doctor or nurse about colon cancer screening (or eating fruits and vegetables)?” Responses: *strongly agree* to *strongly disagree* (5-point Likert-type scale).
3. “I think the billboard’s message was clear,” “I think the billboard’s message was easy to understand,” and “I think the billboard’s message was important.” Responses: *strongly agree* to *strongly disagree* (5-point Likert-type scale).
4. Please answer the following statements based on people or person on the billboard: “I know them personally,” “They look like they are from my community,” “They are colon cancer screening experts/they are experts about fruits and vegetables,” “They are people I can trust.” Responses: “Yes” or “No” for each item.

Following images of the fake billboard, the contamination billboard, and fake contamination billboard, the following question was asked: “Have you seen this billboard about colon cancer screening (fruits and vegetables)?” Responses were: “have not seen”/“might have seen”/“have seen one to three times”/“have seen more than three times.” Responses one to three times or have seen more than three times were considered evidence of exposure (Slater & Kelly, 2002).

Questions About Posters

The survey included images of several real county-level posters and a fake poster. Subsequent to the image of each real and fake poster, the following item was on the survey: “Have you seen this poster about colon cancer screening (or fruits and vegetables)?” Responses: “Have not seen”/ “might have seen”/“have seen one to three times”/“have seen more than 3 times.” Responses of one to three times or have seen more than three times were considered evidence of exposure (Slater & Kelly, 2002).

After all poster images had been presented, the following survey items were listed:

1. “Which of the posters did you see the most?”
2. Based on the poster you saw the most, how much do you disagree or agree with the following statement. “After seeing the poster, I wanted to talk to a doctor or nurse about colon cancer screening (I want to eat more fruits and vegetables).” Responses: *strongly agree* to *strongly disagree* (5-point Likert-type scale).
3. “I think the poster’s message was clear,” “I think the poster’s message was easy to understand,” and “I think the poster’s message was important.” Responses: *strongly agree* to *strongly disagree* (5-point Likert-type scale).
4. Please answer the following statements based on the people or person on the poster: “I know them personally,” “They look like they are from my community,” “They are colon cancer screening experts (They are experts about fruits and vegetables),” “They are people I can trust.” Responses: “Yes” or “No” for each item.

Questions About the Communication About Campaigns

Following items about billboards and posters, the subsequent survey items were as follows:

1. “In the past year, have you talked to anyone about CRC screening (eating fruits and vegetables)?” Response options for these items included the following: “Doctor,” “Nurse,” “Family member,” “Friend or coworker,” “Other.”
2. “Do you intend to talk to a doctor or nurse about CRC screening in the next 6 months?” Responses: “Yes” or “No.”
3. “Are you planning to talk to someone about eating fruits and vegetables?” Responses: “Yes” or “No;” “If yes, who? Doctor or nurse?”

Data Analysis

Comparison of demographic characteristics among mailed media survey nonresponders and responders was completed using Fisher’s exact test for categorical variables and a two-sample *t* test for age. Dichotomous predictors were created for having seen billboards or posters by combining the categories of “have not seen” with “might have seen” and “have seen one to three times” with “have seen more than three times.” Logistic regression was used to model each outcome related to CRC screening (intention to talk to doctor or nurse in next 6 months, talked to doctor or nurse in the last year, MRR confirmed CRC screening within guidelines) using dichotomous predictors for having seen real billboards or real

posters. As the pertinent research question was what factors (if any) confounded or modified the effect of having seen a component of the media campaign, a risk factor model-building approach was used (Mickey & Greenland, 1989). Covariates were included in the model along with the media campaign variable if their addition changed the coefficient of the variable by more than 10% or yielded a significant interaction. Since 15.5% of participants were missing the outcome of CRC screening within guidelines by MRR or income, these variables were imputed using a multiple imputation process (SAS PROC MI). The demographic variables in Table 1 were included in logistic imputation model, and 30 data sets were generated. Analyses were conducted in SAS Version 9.4 (SAS Institute, Cary, NC).

Additionally, participants' residential addresses and billboards were geocoded to point locations to determine if home-to-billboard distance varied by response to seeing or not seeing real billboards in a participant's county of residence. Due to limitations (e.g., P.O. boxes), 978 of 1,013 (96.6%) participants were geocoded, and billboards were geocoded to point locations. Distances were calculated across a road network using 2010 Census TIGER road data. Wilcoxon rank-sum tests were used to test for home-to-billboard distance differences by report of having seen real billboards.

RESULTS

Participant Characteristics

Media survey responders were an average age of 61.7 years, 57.6% were females, and most were non-Hispanic Whites (98.5%), which is a reflection of the Appalachian Ohio population (Table 1). The only significant difference between nonresponders and responders was that nonresponders had lower education levels ($p < .01$). Education was not identified as a meaningful confounder or effect modifier for any of the observed effects below.

Media Campaigns

Billboards—Few participants (14.4%) living in CRC screening counties reported seeing real CRC screening billboards, and 15.4% of residents in F&V counties reported seeing real F&V billboards (Figure 1). Sightings of fake billboards were reported by 1.6% of participants in CRC screening counties and by 1.4% of participants in F&V counties. Additionally, 5.3% of participants in CRC screening counties and 4.6% of participants in F&V counties reported seeing contamination billboards. The fake contamination billboard was reported as seen by 6.1% and 2.2% of participants in CRC screening and F&V counties, respectively.

Participants from intervention counties who reported seeing real CRC screening billboards at least once had approximately 3 times the odds of reporting intention to talk to a doctor/nurse about CRC screening in the next 6 months (odds ratio [OR] = 2.92, 95% confidence interval [CI; 1.71, 4.99]) and twice the odds of talking to a doctor/nurse about CRC screening in the past year (OR = 2.15, 95% CI [1.29, 3.60]) compared to those who did not see real billboards (Table 2). No confounders or modifiers of these effects were found. The odds of CRC screening within guidelines by MRR among participants who reported seeing

real billboards and those who did not see real billboards was not significant (OR from multiple imputations = 0.87, 95% CI [0.51, 1.50]). Participants who reported seeing real F&V billboards during the campaign had twice the odds (OR = 2.27, 95% CI [1.35, 3.84]) of talking to a doctor/nurse in the past year about eating F&Vs compared to those who did not see real F&V billboards, after adjusting for having seen fake billboards.

Billboard Message and Featured Individuals—Among participants who reported seeing real CRC screening billboards ($n = 72$) and real F&V billboards ($n = 77$), more than 85% reported that billboard messages were clear, easy to understand, and important (Table 3). Although only a third of participants knew community members featured on billboards, over 80% reported individuals looked like they were from their community, and almost 80% reported that individuals looked like people they could trust.

Distance From Billboard to Residence—Participants who reported seeing real billboards had significantly shorter distances from their homes to the billboards (mean distance in miles: 8.8 vs. 10.9; $p < .01$) compared to those who did not see the real billboards. A similar pattern was observed for both CRC screening counties (mean distance in miles: 10.3 vs. 11.8; $p = .038$) and F&V counties (mean miles: 7.2 vs. 9.9; $p = .006$).

Posters—Few participants (12.4%) in CRC screening counties reported seeing at least one of three real CRC posters, and 3.6% of residents in F&V counties reported seeing at least one of three real F&V posters. Sighting a fake poster was reported by 3.6% of participants in CRC screening counties and by 2.6% of participants in F&V counties.

Participants who reported seeing at least one of the real CRC screening posters had greater than twice the odds of reporting intention to talk to a doctor/nurse about CRC screening in the next 6 months (OR = 2.31, 95% CI [1.33, 4.00]) and had twice the odds of talking to a doctor/nurse about CRC screening in the last year (OR = 2.15, 95% CI [1.25, 3.71]) compared to those who did not see a real poster. No confounders or modifiers of these effects were found. There was no significant difference in the odds of CRC screening within the guidelines by MRR among individuals who reported seeing at least one real poster compared to those who reported not seeing any of the real posters (OR from multiple imputations = 1.42, 95% CI [0.82, 2.46]). There were so few participants who reported seeing real or fake F&V posters during the media campaign that modeling for this outcome was not completed.

Poster Message and Featured Individuals—Among participants who reported seeing at least one real CRC screening posters ($n = 63$) and one real F&V posters ($n = 18$), over 90% reported poster messages were clear, easy to understand, and important. In addition, among participants who reported seeing at least one real poster, a little over a third knew the community members featured on posters, over 70% reported individuals looked like they were from their community, and over 80% reported individuals looked like people they could trust.

Newspaper Articles—Media kits were sent to 13 local newspapers (one county had two newspapers), and we are aware that three newspapers ran articles about the campaigns. Only

a limited number of participants reported reading about the CRC screening campaign (4.7%) or F&V campaign (1.8%) during the campaign period.

DISCUSSION

This study describes process data about exposure and content relevance of county-level campaigns conducted in Appalachian Ohio. Participant exposure to county-specific billboards was 14.4% for CRC screening and 15.4% for F&Vs. Participant exposure to county-specific posters was 12.4% for CRC screening and 3.6% for F&Vs. Intervention county participants, who reported seeing real CRC screening billboards, had approximately 3 times the odds of reporting intention to talk to a doctor/nurse about CRC screening in the next 6 months and twice the odds of talking to a doctor/nurse about CRC screening in the last year, compared to participants who did not see real billboards. However, CRC screening rates within guidelines were similar among individuals who reported seeing real billboards compared to those who did not report seeing real billboards. The same pattern was found for individuals who reported seeing a real CRC screening poster compared to those who did not see a CRC screening poster. In addition, comparison county participants who reported seeing real F&V billboards had twice the odds of talking to a doctor/nurse about F&Vs in the past year compared to those who did not report seeing F&V billboards.

Despite modest exposure to the intervention components, several important observations were made by conducting a process evaluation. Individuals who reported campaign exposure lived closer to real billboards confirming importance of material location. There are examples that increased campaign exposure achieves behavioral outcomes (Hornik, 2002a). For example, in rural Colorado, more respondents reported ever having a CRC screening test and having plans to complete a screening test when reporting exposure to a CRC screening campaign (Westfall et al., 2013). Increased campaign exposure may increase the opportunity for learning the message, improve recognition of message importance, increase message discussion with others, and increase perception that the behavior is socially acceptable (Hornik, 2002a).

Reasons for a modest campaign exposure were that we were unable to use the billboard or poster locations our community members suggested since billboard companies had sold locations for many years or certain locations (e.g., post office) would not allow posting of campaign materials. In these few cases, we used the closest billboard location available and hung posters at other recommended county locations. In addition, based on several factors (i.e., community preference, pilot study, cost, and lack of high-speed Internet access), the campaigns did not include radio, television, or Internet components (Katz, Reiter, et al., 2011).

An important finding was among participants who reported they saw a real billboard or poster. Most (>85%) reported campaign messages were clear, easy to understand, and important, indicating we achieved message relevance. Finally, participants (>70%) who reported seeing real campaign messages reported individuals featured in the campaigns looked like they were from their community and individuals looked like people they could trust, implying we achieved cultural appropriateness of campaign materials. These additional

positive observations are important to consider when planning future community-level health-related campaigns.

Finally, data suggest that modest exposure to the campaigns in the respective intervention and comparison counties was not attributable to inaccurate reporting. Self-reporting of exposure to fake billboards was lower among participants who reported having seen a real billboard at least once, in both CRC screening and F&V counties. In CRC screening counties, participants also reported recognition of fake F&V billboard slightly more than real F&V billboard, suggesting little, if any, contamination. In F&V counties, a fake CRC screening billboard was recognized less often than real CRC screening billboards; however, both were recognized less than 5% of the time.

Process data about health-related campaigns are limited because of cost and challenges associated with measuring exposure and message recall. For example, limited process and cost analysis data have been reported for Centers for Disease Control and Prevention's Screen for Life campaign to increase CRC screening awareness (Ekwueme, Howard, Gelb, Rim, & Cooper, 2014; Jorgensen, Gelb, Merritt, & Seeff, 2001; Vanderpool & Coyne, 2006). A recent report documented only 8.3% of 772 women in a national telephone survey recalled having seen/heard a Screen for Life public service announcement featuring a celebrity encouraging CRC screening (Cooper, Gelb, & Lobb, 2015). Even though there has been an increase of media devoted to improving public's awareness and knowledge of CRC screening, this does not always translate into screening behavior change (Schroy et al., 2008). Furthermore, it has been shown that Screen for Life campaign materials may not resonate with rural populations because individuals featured in the campaign do not look like individuals they would know and messages did not use plain language (language that is easy to read and understand; Campo et al., 2008).

The strength of county-level campaigns conducted in Appalachia was that they were developed in partnership with community members. Thus, our campaign materials were culturally appropriate and our messages resonated with residents. The CRC screening campaign focused on promoting CRC screening awareness and activated community members to talk to their provider about screening as suggested by the National Colorectal Cancer Roundtable (Levin et al., 2002), and the F&V campaign focused on promoting a healthy lifestyle. Exposure to campaign materials was evaluated using a mailed survey so images of real, fake, and contamination billboards and real and fake posters could be included in the survey to improve accuracy in reporting sightings of real materials and to check for contamination (Slater & Kelly, 2002).

This study was limited by the modest number of individuals who reported seeing the county-specific campaign materials, especially local newspaper articles. In addition, we were not able to differentiate between the effects of the various types of campaign materials on reported behaviors. Although there is evidence our campaign messages were relevant, strategies to improve exposure to campaign materials are important, especially among rural populations. Other limitations include the short campaign time, and the serial cross-sectional survey study design makes it impossible to establish cause and effect between exposure and behaviors.

CONCLUSION

Partnering with community members to develop health-related campaign materials continues to be important in order to ensure message acceptance and cultural appropriateness of materials. Strategies to maximize exposure to campaigns at the community level within a crowded information environment are needed as well as to follow individuals over time to determine changes in behavior after campaign exposure.

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Figure 1. Billboard Sightings by Participants in the CRC Screening and Fruit and Vegetable Counties

NOTE: CRC = colorectal cancer.

Table 1

Demographic Characteristics of Participants: Nonresponders and Responders to Media Campaign Survey

<i>Variable</i>	<i>Level</i>	<i>Nonresponders (n = 172)</i>	<i>Responders (n = 1,013)</i>	<i>Total (N = 1,185)</i>
Age (years), <i>M</i> (<i>SD</i>)		61.4 (6.9)	61.7 (6.6)	61.7 (6.7)
Gender	Male	83 (48.3%)	419 (41.4%)	502 (42.4%)
	Female	89 (51.7%)	594 (58.6%)	683 (57.6%)
Hispanic ethnicity	Non-Hispanic	171 (99.4%)	995 (98.3%)	1,166 (98.5%)
	Hispanic	1 (0.6%)	17 (1.7%)	18 (1.5%)
Race: White	No	9 (5.3%)	29 (2.9%)	38 (3.2%)
	Yes	162 (94.7%)	983 (97.1%)	1,145 (96.8%)
Marital status	Single/never married	10 (5.8%)	49 (4.8%)	59 (5.0%)
	Married/living as married	123 (71.5%)	796 (78.6%)	919 (77.6%)
	Divorced/widowed/separated	39 (22.7%)	168 (16.6%)	207 (17.5%)
Education *	<High school	23 (13.4%)	68 (6.7%)	91 (7.7%)
	High school graduate	67 (39.0%)	363 (35.8%)	430 (36.3%)
	Some college or more	82 (47.7%)	582 (57.5%)	664 (56.0%)
Employment	Full or part time	78 (45.3%)	442 (43.7%)	520 (44.0%)
	Unemployed or disabled	37 (21.5%)	165 (16.3%)	202 (17.1%)
	Retired/volunteer	57 (33.1%)	404 (40.0%)	461 (39.0%)
Household income, \$	<30,000	58 (39.2%)	280 (30.6%)	338 (31.8%)
	30,000-59,999	54 (36.5%)	343 (37.5%)	397 (37.3%)
	60,000+	36 (24.3%)	292 (31.9%)	328 (30.9%)
Health insurance	Uninsured	20 (11.6%)	103 (10.2%)	123 (10.5%)
	Public	69 (40.1%)	373 (37.1%)	442 (37.6%) ^a
	Private	83 (48.3%)	529 (52.6%)	612 (52.0%)

NOTE: Not all rows within a factor sum to the total due to missing data.

*
 $p < .01$.

Table 2

Outcomes of Participants Who Reported Seeing the Real CRC Screening or the Real F&V Billboard at Least Once During the Media Campaign

Outcome	OR [95% CI] for real BB vs. not seeing real BB
Colorectal cancer screening	
Intend to talk to a doctor or nurse about CRC screening in the next 6 months	2.92 [1.71, 4.99] [*]
Talked to doctor or nurse about CRC screening in the last year	2.15 [1.29, 3.60] [*]
Either intend to talk to a doctor or nurse about CRC screening in the next 6 months or talked to a doctor or nurse about CRC screening in the last year	3.43 [1.75, 6.71] [*]
Fruits and vegetables	
Talked to anyone in last year about eating F&V	0.93 [0.49, 1.75]
Talked to doctor or nurse about eating F&V in the past year ^a	2.27 [1.35, 3.84] [*]

NOTE: CRC = colorectal cancer; F&V = fruit and vegetable; OR = odds ratio; CI = confidence interval; BB = billboard.

^aTalked to doctor or nurse in past year about eating fruits and vegetables adjusted for seeing the fake F&V billboard.

^{*}
 $p < .01$.

Table 3

Comments About the Billboard's Message and Featured Individuals Among Participants Who Reported Seeing the Real Billboard

<i>Media campaign</i>	<i>Strongly agree or agree, n (%)</i>
Colon cancer screening (<i>n</i> = 72)	
After seeing this billboard, I wanted to talk to a doctor or nurse about colon cancer screening.	40 (55.5)
I think the billboard's message was clear.	61 (84.7)
I think the billboard's message was easy to understand.	60 (83.3)
I think the billboard's message was important.	62 (86.1)
<i>Yes, n (%)</i>	
People (or person) on billboard: I know them personally	26 (36.1)
People (or person) on billboard: They look like they are from my community	58 (80.6)
People (or person) on billboard: They are colon cancer screening experts	25 (34.7)
People (or person) on billboard: They are people I can trust	58 (80.6)
<i>Strongly agree or agree, n (%)</i>	
Fruits and vegetables (<i>n</i> = 77)	
After seeing this billboard, I wanted to eat more fruits and vegetables	48 (62.3)
I think the billboard's message was clear.	69 (89.6)
I think the billboard's message was easy to understand.	68 (88.3)
I think the billboard's message was important.	66 (85.7)
<i>Yes, n (%)</i>	
People (or person) on billboard: I know them personally	33 (42.9)
People (or person) on billboard: They look like they are from my community	63 (81.8)
People (or person) on billboard: They are experts about fruits and vegetables	44 (57.1)
People (or person) on billboard: They are people I can trust	60 (77.9)