Assessing the Content of Television Health Insurance Advertising during Three Open Enrollment Periods of the ACA

Colleen L. Barry
Sachini Bandara
Kimberly T. Arnold
Johns Hopkins Bloomberg School of Public Health

Jessie K. Pintor
Drexel School of Public Health

Laura M. Baum
Wesleyan University

Jeff Niederdeppe
Cornell University

Pinar Karaca-Mandic
University of Minnesota Carlson School of Management

Erika Franklin Fowler
Wesleyan University

Sarah E. Gollust
University of Minnesota School of Public Health

Abstract Television advertising has been a primary method for marketing new health plans available under the Affordable Care Act (ACA) to consumers. Data from Kantar Media's Campaign Media Analysis Group were used to analyze advertising content during three ACA open enrollment periods (fall 2013 to spring 2016). Few advertisement airings featured people who were elderly, disabled, or receiving care in a medical setting, and over time airings increasingly featured children, young adults, and people exercising. The most common informational messages focused on plan choice and availability of low-cost plans, but messages shifted over open enrollment cycles to emphasize avoidance of tax penalties and availability of financial assistance. Over the three open enrollment periods, there was a sharp decline in explicit mentions of the ACA or Obamacare in advertisements. Overall, television advertisements have increasingly targeted young, healthy consumers, and informational appeals have shifted toward a focus on financial factors in persuading individuals to enroll in marketplace plans. These advertising approaches make sense in the context of pressures to market

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plans to appeal to a sufficiently large, diverse group. Importantly, dramatic declines over time in explicit mention of the law mean that citizens may fail to understand the connection between the actions of government and the benefits they are receiving.

Keywords media, health insurance, local news, advertising, public opinion, politics

In the fall of 2013, the first Affordable Care Act (ACA) open enrollment period was launched to enroll Americans in health insurance through newly available insurance options in the individual (or subsequently small-group) marketplaces or through optional state Medicaid expansion for low-income Americans. By 2018, there had been five open enrollment cycles, and coverage gains were seen in the new ACA coverage options. As of February 2017, more than 10 million people were enrolled in state or federal marketplace plans, and as of June 2017, Medicaid enrollment had grown by more than 17 million (29%) since the period before open enrollment (starting in October 2013), with state Medicaid expansions in thirty-three states and the District of Columbia (KFF 2017). Enrollment of this magnitude required a large investment in informational and marketing campaigns. Many entities sponsored advertising for new health insurance products available under the ACA, including private insurance companies and brokers, state-sponsored marketplaces, a federally facilitated marketplace through HealthCare.gov, and other outreach efforts by consumer health insurance enrollment advocates such as Enroll America. Television product advertising has been a primary method for marketing new insurance options available under the ACA to consumers.[1]

Marketplace advertising has been swept up in broader partisan conflicts over the future of the ACA. In September 2017, the Trump administration announced its intention to cut advertising for television commercials for the HealthCare.gov ACA enrollment site entirely and to reduce the federal ACA enrollment marketing budget by 90 percent—from $100 million spent on the 2017 open enrollment period to only $10 million for the 2018 open enrollment cycle beginning November 2017. Importantly, this reduction did not affect other types of ACA-related health insurance product marketing dollars (e.g., advertisements sponsored by state marketplaces and private insurers).

Prior research supports the notion that news media content on the ACA powerfully influences both consumer insurance purchasing behaviors and

1. Consumers have also learned about new insurance options available under the ACA through other sources, including political advertising, news media coverage, social media, and direct outreach efforts by brokers, navigators, and consumer advocates.

the opinions of the broader public. Studies have documented substantial geographic variation in the volume and tone of insurance product advertisements during ACA open enrollment periods (Gollust et al. 2014), and this variation in exposure to media messages about the law was associated with public perceptions of the ACA, changes in insurance rates, and individuals' information seeking and uptake of marketplace plans in 2014 (Fowler et al. 2017; Karaca-Mandic et al. 2017; Gollust et al. 2018). Fowler et al. (2017) found that a higher volume of insurance advertising, as well as local news coverage, was associated with beliefs among survey respondents that they were well informed about the law. Karaca-Mandic et al. (2017) found that the volume of television advertising during the first open enrollment period was associated with greater insurance coverage. Specifically, counties with higher volumes of local insurance advertisements experienced larger reductions in their uninsured rates than other counties. State-sponsored advertisements had the strongest relationship with uninsurance declines, and this was driven by greater Medicaid enrollment among the previously uninsured. In addition, geographic variation in the counts of insurance ads aired—particularly federally sponsored ads—was associated with individuals' odds of shopping for and obtaining a marketplace plan in 2014 (Gollust et al. 2018).

The connection between health insurance advertising content and public opinion about health policy is not unique to political discourse over the ACA. Interest groups have been attempting to influence public attitudes about national health reform in the United States as long as these debates have been occurring. In his history of the public relations industry in America, for example, Scott Cutlip (1994) describes advertising efforts launched by the American Medical Association in the late 1940s to oppose President Truman's national health insurance plan, including the wide distribution of an advertisement featuring Luke Fildes's famous 1887 painting (hanging in the Tate Britain in London) of a doctor at a child's bedside at home. The accompanying captions read: "The Voluntary Way Is the American Way" and "Keep Politics Out of This Picture." More recently, West, Heith, and Goodwin (1996) used public opinion surveys to investigate public response to political advertisements to oppose President Clinton's health care reform plan in 1993–94. The authors found that advertisements, including the well-known "Harry and Louise" ads, directed against the Clinton reform plan played a critical role in the attachment of negative views by the public of some to the key elements of the proposed reform.

In contemporary policy discourse over the ACA, however, the content of television insurance product advertising has not been examined in depth,

and little is known about how advertising content has evolved over subsequent open enrollment periods as marketers learned from their experiences with the new marketplaces. Understanding how health insurance options have been depicted in advertising is consequential because the audience for the messages about the new products available as a result of the law include both uninsured individuals seeking to purchase coverage and a much larger group of insured Americans whose impressions of the law have been shaped, at least in part, through media exposure, including insurance product advertising (Soroka, Maioni, and Martin 2013). In part, this relates to the question of whether and to what extent individuals formulate opinions and make decisions in a health care setting on the basis of personal experience versus preformed opinions due to ideology or other informational sources. Prior work by Blidook (2008) suggests that opinions on health care derive from multiple sources. Importantly, the literature suggests that the more directly a person experiences an issue, the less he or she is open to external influences (e.g., via the media) on that issue (Mutz 1992; Ball-Rokeach and DeFleur 1976; Blidook 2008). Thus, the content of advertising matters not only for policy (i.e., the composition of the individual marketplace and the types of appeals used by advertisement sponsors) but also for politics, particularly on what information about the ACA the general public observing these marketing efforts might draw in forming their attitudes about the law, efforts to replace or modify it, and future health reform efforts.

In this study, we collected and analyzed the content of a random sample of television insurance product advertisements that aired in one or more US media markets during the initial three ACA open enrollments spanning three distinct time periods, from fall 2013 to spring 2016. We asked a number of questions about the information communicated to the uninsured and the general public through ACA advertising. First, we examined which groups (e.g., private companies, state and federal government agencies, consumer advocates) sponsored the health insurance advertisements that aired during these three initial open enrollment periods. Second, we assessed the extent to which advertising targeted so-called young invincibles in marketing new insurance products. This label has been given to adults under age thirty-five who often opt against purchasing health insurance due to the belief that they will not need it and might better direct their purchasing power toward other priorities (Levine and Mulligan 2017). It has been challenging to persuade young, healthy uninsured individuals to avail themselves of insurance. However, it is critical to the stability of the individual health insurance market to enroll enough healthy consumers to

counterbalance the sicker, costlier uninsured individuals who are more likely to directly benefit from enrolling. Therefore, we expected that ACA health plan advertising would target young and healthy adults disproportionately to their numbers among the uninsured, and more aggressively than other uninsured populations who might benefit from new insurance options (e.g., newly eligible middle-age adults). We also hypothesized that efforts to target so-called young invincibles might be augmented over time as concerns about risk selection in the marketplaces were highlighted in news media reports (Leonard 2016).

Third, we assessed which types of informational messages advertisers relied on to persuade uninsured individuals to enroll and whether these informational messages shifted over subsequent open enrollment periods. In short (15- to 120-second) insurance advertisements, it is not possible to convey all of the elements critical to choosing among competing health insurance products. Therefore, marketers must weigh trade-offs and make strategic choices in communicating different types of information. For example, if an advertisement sponsor is most concerned about consumers' resistance to purchase insurance due to costs, advertisements might focus on the availability of low-cost plans, the large subsidies being offered through the marketplaces, or access to free/low-cost preventive services. Alternatively, if an advertisement sponsor thought consumers might be resistant to purchasing insurance due to fears about a complicated enrollment process, advertisements might feature messages about the availability of enrollment assistance or the simplicity of the enrollment process. We hypothesized that the informational messages conveyed through advertisement airings may shift over time as plan options were constrained and premiums rose following the exodus of a subset of health plans from marketplaces. Additionally, we expected that sponsors would use different types of informational messages to persuade uninsured Latinos to enroll (e.g., simplicity of enrollment) via Spanish-language advertisements relative to advertisements airing in English.

Finally, given the ideologically charged debate over the ACA, it is important to understand whether advertisements mention the government's role in establishing and subsidizing the new health insurance options being offered through the ACA. The question of whether or not advertisements explicitly reference the health law is relevant in the context of Suzanne Mettler's (2011) theory of the submerged state. Mettler argues that public support for governmental programs will be lower when citizens fail to understand the connection between the state and the benefits they receive. This theory would suggest that, if consumers do not understand that health

plans they could benefit from are part of the ACA, these consumers would be less likely to support the law (or more likely to support repeal efforts). We hypothesize that advertisements sponsored by insurance companies would be more likely to submerge the government's role relative to other sponsors (e.g., state and federal marketplaces).

Data and Methods

Data Source

We obtained Kantar Media's Campaign Media Analysis Group (CMAG) television health insurance product advertising data airing during the first three ACA open enrollment periods in all 210 US local media markets from the Wesleyan Media Project. The data were downloaded from CMAG's password-protected online portal and were in the form of a .csv file. There were URLs within the .csv file that we used to download each unique advertisement as a video file. A media market or designated market area is defined as a geographic area that has access to similar radio and television stations and is updated annually (Nielson Company 2013). The three open enrollment periods were October 2013 through March 2014, November 2014 through February 2015, and November 2015 through February 2016. These advertising data included video files for 3,747 unique advertisements that aired on local television or national cable stations in each media market. Data also included information on the volume of airings of each advertisement overall and within media markets by open enrollment period.

We excluded unique advertisements that aired exclusively on national network or cable stations because we wanted to ensure geographic representation of messages airing at the local level throughout the country (ads that aired on both local broadcast and national stations remained in the sample). The vast majority of advertising that aired on national network or cable outlets also ran in local broadcasts (73 percent of unique advertisements and 89 percent of airings were still eligible for sampling). Only two of the twenty-one federal advertisements (10 percent of advertisements and 23 percent of airings) were excluded in this subset. In addition, we excluded television advertisements that were exclusively about Medicaid. In practice, almost no advertisements were excluded due to a Medicaid product focus. We did include advertisements, such as those from the state-based exchanges, mentioning multiple types of insurance (e.g., Medicaid and private insurance).

Next, we randomly sampled 1,054 unique advertisements to code from the entire pooled set of unique advertisements. We excluded Medicare

Advantage, Medicaid, and Children's Health Insurance Program advertisements ($n = 163$) and advertisements sponsored by specific hospitals ($n = 4$), to focus on marketing of insurance products newly available through the ACA. We also excluded twelve unique advertisements with corrupted files (i.e., problems with sounds or visuals that prevented coding). The final sample included 875 unique advertisements. Fifteen percent of the unique advertisements were Spanish language ($n = 131$). There were 1,074,653 airings of these unique advertisements, with 490,659 airings in open enrollment 1; 337,068 airings in open enrollment 2, and 246,926 airings in open enrollment 3. The decline in sampled airings across the enrollment periods mirrored the decline over time within the full census of airings. Ten percent of all airings were of Spanish-language advertisements ($n = 110{,}134$).

Coding Approach and Measures

The study team developed and pilot tested an eight-minute, twenty-eight-item coding instrument to collect data on the audio and visual content of each advertisement (see appendix A). Both English and Spanish advertisements were coded by three trained coder authors (SB, KTA, JKP), with a random subset of 12 percent of English advertisements ($n = 107$) independently coded by two coders to assess item interrater reliability. We measured interrater reliability by use of kappa statistics, a measure that enabled us to adjust for agreement by chance. Item raw agreement ranged from 88 percent to 100 percent ($\kappa = 0.70$–1.00) for all variables included in this study (see appendix B), which exceeded conventional standards for acceptable reliability (Landis and Koch 1977).

We collected and coded content at the unique advertisement level and, within advertisement, at the focal person level. We defined a focal person as a noncartoon individual of any age whose face was visible and appeared for at least three seconds in the advertisement.

At the advertisement level, we categorized each sponsor as a health insurance company (including broker-sponsored advertisements), a state marketplace (individual or Small Business Health Options Program), the federal marketplace, or enrollment advocates (i.e., Enroll America). Additionally, we coded for eight specific types of messages advertisers included to encourage enrollment: availability of a choice of plans; availability of low-cost plans; availability of free/low-cost preventive services; provision of financial assistance with premiums; enrollment assistance provided; simplicity of the enrollment process; access to high-quality medical care; and

enrolling to avoid tax penalties. We also coded whether each unique advertisement included any explicit mention of the ACA, Obamacare, health/health care reform, the health insurance marketplace, or the HealthCare.gov website.

We then coded information at the focal person level within each advertisement. We coded the following information for up to five focal people per advertisement: female or male, race, age (i.e., child, young adult, middle age, elderly person), disabled, engaging in exercise, receiving care in medical setting, overweight or obese, or smoking tobacco. We operationalized the concept of "young invincible" by examining the extent to which airings focused on young adults based on the notion that viewers observing an individual in their own age group in an advertisement might be more likely to think about health insurance as something they should consider themselves. We were also interested in understanding the extent to which people in advertisements were featured engaging in "healthy" activities (e.g., exercise) versus "unhealthy" activities (e.g., smoking). Only a subset of unique advertisements ($n = 587$) contained focal people (totaling $n = 1{,}670$ focal people), and these advertisements included an average of 2.84 focal people. At the airings level, a total of 2,056,011 focal people appeared in airings, since only a subset of airings ($n = 767{,}871$) contained focal people.

Data Analysis

While we coded these data at the unique advertisement and focal person levels, we conducted data analysis at the airings level, to provide a more accurate picture of the volume and geographic reach of informational content communicated to the uninsured and the general public via television advertising. We compared whether the content of advertisement airings differed significantly by advertisement sponsor (e.g., insurance companies, state marketplaces, federally facilitated marketplace, or enrollment advocates), across enrollment periods, or by advertisement language (Spanish vs. English) using chi-squared tests. We examined geographic variation at the media market level of mentions of the ACA or Obamacare in advertisement airings by enrollment periods using GIS mapping. Finally, we used logistic regression to examine the variables associated with the probability that an airing included a young adult as a focal person and the probability that an airing explicitly mentioned the ACA or Obamacare, controlling for other advertisement airing-level characteristics. These included the open enrollment period in which an airing appeared, the airing

sponsor (i.e., sponsored by insurer, state marketplace, federally facilitated marketplace, or enrollment advocate), the uninsured rate in the media market an airing appeared, the percentage of the media market's population voting for Barack Obama in the 2012 presidential election, the type of marketplace offered in the state in which the airing appeared (federally facilitated marketplace or other), and the language of the airing.

Results

Figure 1 shows the share of total health insurance advertisement airings sponsored by insurance companies, state marketplaces, the federal-facilitated marketplace and enrollment advocates. Overall, 53.0 percent of advertisement airings were sponsored by insurance companies; these airings constituted 41.5 percent of airings in open enrollment 1, 68.9 percent of airings in open enrollment 2 and 54.5 percent of airings in open enrollment 3. The second most prevalent source of advertisement airings was state Marketplace sponsors, responsible for 26.7 percent of total airings.

Advertisements sponsored by the federally facilitated Marketplace (18.9 percent of airings) and enrollment advocates (1.3 percent of airings) constituted a relatively small source of total airings. Compared with open enrollment 1, the share of federally sponsored advertisement airings decreased sharply, while the share of airings sponsored by insurance companies increased. In all three periods, advertisements sponsored by enrollment advocates constituted a tiny share of total airings.

Table 1 summarizes information on the individuals depicted in advertisement airings. Overall, very few airings included elderly people, people receiving care in a medical setting, disabled people, or overweight or obese people, and none were smokers. Compared with open enrollment period 1, focal people depicted in period 3 were less likely to be middle age or receiving medical care and more likely to be children and young adults, engaged in exercise, and overweight or obese. Compared with English-language airings, Spanish-language airings were more likely to include nonwhite people, females, children and young adults, people exercising, and people receiving medical care.

Regression results in the first column of table 2 confirm that, controlling for other airings-level characteristics, advertisements aired in enrollment periods 2 and 3 were significantly more likely to include a young adult as a focal person relative to period 1.

Compared with those sponsored by state marketplaces, advertisements sponsored by insurance companies and enrollment advocates were

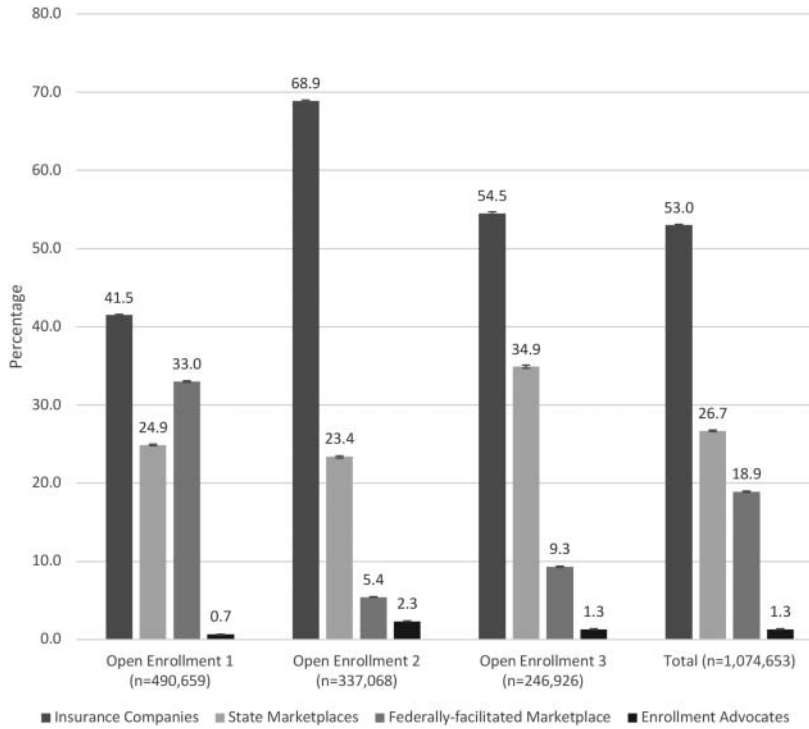

Figure 1 Television Health Insurance Advertisement Airings by Advertisement Sponsor, Overall and by Open Enrollment Period ($N = 1{,}074{,}653$ Airings)

Note: Insurance companies category includes private brokers.

significantly less likely to feature a young adult focal person, and advertisements sponsored by the federal marketplaces were more likely to feature a young adult in airings. Relative to other airings, those in English (relative to Spanish) and those that aired in media markets with higher uninsurance rates were less likely to feature a young adult, and media markets voting in higher percentages for President Obama in the 2012 election were more likely to feature a young adult.

Table 3 shows the percentages of airings including specific informational content aimed at persuading individuals to enroll in new insurance products. Overall, across all three open enrollment periods, most common types of information mentioned were choice of health plans (61.2 percent) and the availability of low-cost plans (55.4 percent). Other informational

Table 1 Focal People Depicted in Television Health Insurance Advertisement Airings, 2013–16

		Open enrollment			Language	
Characteristic	Total	Period 1	Period 2	Period 3	English	Spanish
Female (%)	45.4	47.0	44.2*	43.9*	44.4	51.8*
Nonwhite (%)	50.8	54.6	49.5*	45.6*	44.2	96.9*
Disabled person (%)	0.0	0.1	0.0*	0.0*	0.0	0.0
Child (%)	22.3	20.9	19.0*	29.4*	21.9	24.7*
Young adult (%)	16.5	11.6	21.2*	19.0*	14.7	29.4*
Middle age person (%)	59.3	66.4	58.0*	48.2*	61.9*	41.8*
Elderly person (%)	1.9	1.1	1.9*	3.4*	1.6	4.1*
Person engaged in exercise (%)	16.3	11.1	18.5*	22.9*	16.0	18.5*
Person receiving care in medical setting (%)	7.8	13.6	3.6*	3.0*	7.5	9.8*
Overweight or obese person (%)	2.4	0.9	3.6*	3.3*	2.4	2.0*
Person smoking tobacco (%)	0.0	0.0	0.0	0.0	0.0	0.0
Focal people [*n* (%)]	2,056,011 (100%)	895,869 (43.6%)	668,744 (32.53%)	491,398 (23.9%)	1,799,514 (87.5)	256,497 (12.5)

Note: *$p < 0.05$ for difference from open enrollment 1 (vs. 2 and 3) and difference from English language (vs. Spanish language)

Table 2 Multivariable Regression Results on the Probability of Inclusion of a Young Adult Focal Person and Explicit Mention of the ACA or Obamacare in Television Health Insurance Advertisement Airings, 2013–16

	Young adult focal person (n = 2,056,011)	Mentions the Affordable Care Act or Obamacare[a] (n = 1,074,653)
Open enrollment period (ref: open enrollment period 1)		
Period 2	2.81* (2.78, 2.83)	0.10* (0.09, 0.10)
Period 3	2.15* (2.13, 2.17)	0.11* (0.11, 0.11)
Advertisement sponsor (ref: state marketplace)		
Insurance companies[b]	0.40* (0.40, 0.40)	14.91* (14.62, 15.21)
Federally facilitated marketplace	1.63* (1.61, 1.65)	10.35* (10.12, 10.57)
Enrollment advocates	0.68* (0.63, 0.72)	23.71* (22.69, 24.78)
Media market level		
% uninsured	0.44* (0.41, 0.47)	2.88* (2.63, 3.14)
% Obama vote, 2012	2.55* (2.45, 2.65)	0.83 (0.79, 0.88)
Federally facilitated exchange in state, 2014	1.38* (1.37, 1.40)	1.02* (1.00, 1.03)
English-language advertisement	0.51* (0.50, 0.52)	1.23* (1.20, 1.25)

Notes: [a]Includes Obamacare or Affordable Care Act or ACA or health care law or the president's (or Obama's) health care law or health reform or health care reform.

[b]Includes private brokers.

*$p < 0.05$, difference from 1.00

messages sponsors commonly included in airings were: the availability of financial assistance (49.1 percent) and the availability of enrollment assistance (40.8 percent). Only a quarter of airings included messages encouraging enrollment by noting the availability of low-cost or free preventive services (28.3 percent), and even fewer mentioned the simplicity of the enrollment process (22.2 percent), the ability to access high-quality medical care (17.8 percent), or being able to avoid tax penalties by enrolling (10.7 percent).

The percentages of airings mentioning the two most common messages, plan choice and the availability of low cost plans, declined over time. Between open enrollment periods 1 and 3, mention of these messages dropped from 70.6 to 41.4 percent and from 64.6 percent to 46.3 percent, respectively. In contrast, the percentages of advertisement airings mentioning the availability of financial assistance with premiums and

Table 3 Information Included in Television Health Insurance Advertisement Airings, 2013–16 (%; $n = 1{,}074{,}653$)

		Open enrollment period			Advertisement sponsor				Language	
Information category	Total	Period 1	Period 2	Period 3	Insurance companies[a]	State marketplaces	Federally facilitated marketplace	Enrollment advocates	English	Spanish
Choice of plans available	61.2	70.6	62.2*	41.4*	64.2	38.1*	84.2*	81.6*	61.9	55.7*
Low-cost plans available	55.4	64.6	48.8*	46.3*	43.9	47.9*	97.3*	71.5*	55.4	56.2*
Financial assistance available	49.1	41.4	56.6*	54.3*	50.5	55.7*	35.0*	65.0*	47.8	60.8*
Assistance with enrollment available	40.8	39.9	46.2*	35.0*	54.5	37.7*	7.1*	35.0*	39.8	49.5*
Free/low-cost preventive services available	28.3	32.3	25.0*	24.6*	36.8	6.9*	36.0*	6.0*	30.2	11.4*
Simplicity of enrollment	22.2	18.1	29.1*	20.7*	25.3	14.1*	26.3*	1.5*	23.1	14.4*
Access to high-quality medical care	17.8	19.2	16.0*	17.4*	29.8	7.5*	0.0*	0.0*	19.6	2.2*
Avoiding penalties	10.7	1.5	20.1*	16.3*	17.7	3.4*	1.8*	7.6*	10.6	11.8*
Health law mentioned										
Any mention law[b]	48.7	69.8	31.1*	30.9*	38.8	32.8*	99.5*	40.2*	49.6	40.4*
ACA or Obamacare[c]	27.4	47.4	11.0*	10.2*	31.9	4.9*	46.3*	32.6	28.6	17.6*
State or federally facilitated marketplace	26.9	40.1	18.8*	11.7*	8.7	28.3*	77.2*	7.5*	27.3	23.2*
HealthCare.gov website	19.2	33	5.8*	9.9*	0.6	0.0*	99.4*	1.5*	19.6	15.0*
Total airings	100	45.7	31.4	23	53	26.7	18.9	1.3	89.8	10.2

Notes: [a]Includes private brokers.

[b]Includes mentions ACA or Obamacare, mentions state or federally facilitated marketplace, or mentions HealthCare.gov website.

[c]Includes Obamacare or Affordable Care Act or ACA or Health care law or the president's (or Obama's) health care law or health reform or health care reform.

*$p < 0.05$, difference from open enrollment 1 (vs. 2 and 3), differences from insurance companies (vs. other advertisement sponsors), and differences from English language (vs. Spanish language)

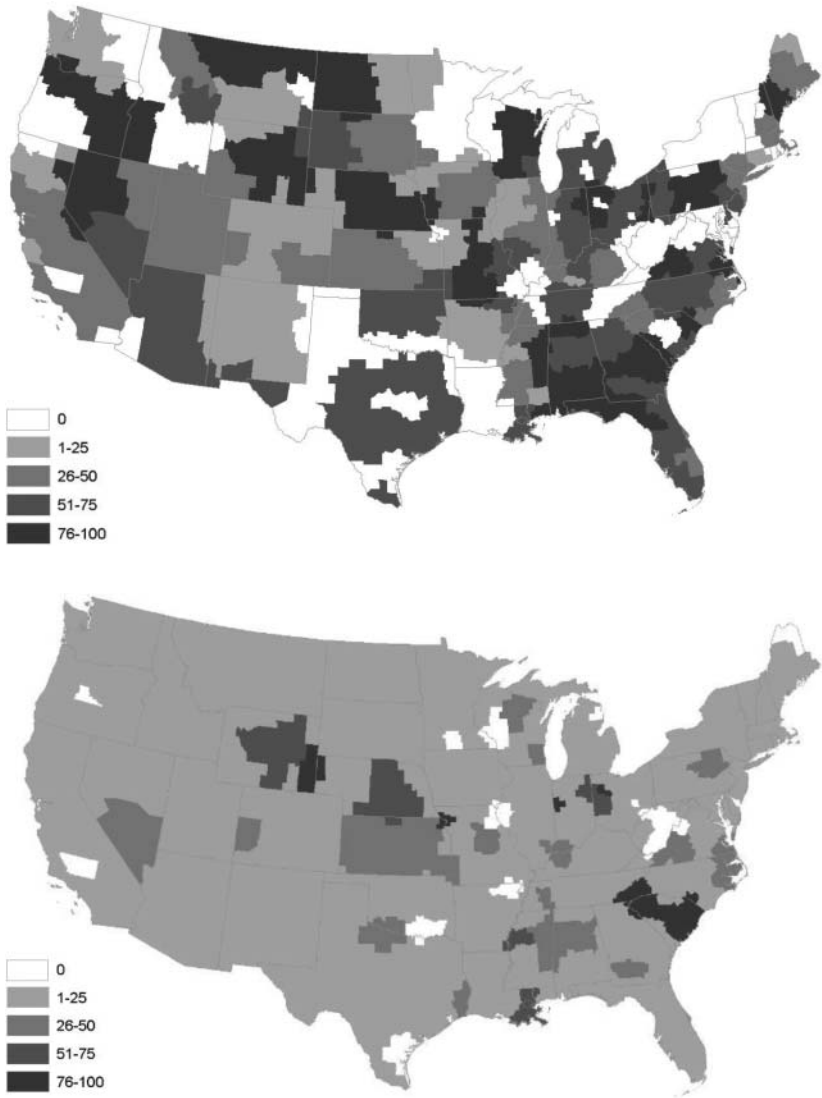

Figure 2 Geographic Variation in Health Insurance Advertisements Airings Mentioning the ACA or Obamacare in Open Enrollment: period 1 (a), period 2 (b), and period 3 (c)

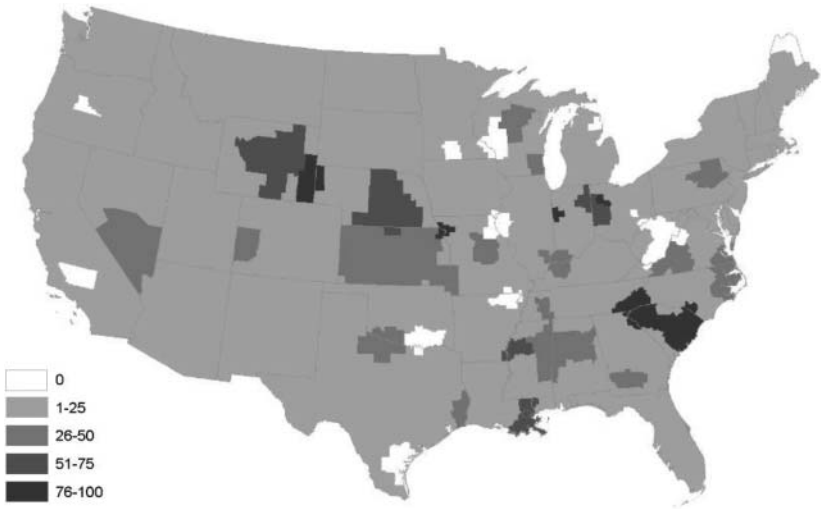

Figure 2 (continued)

avoiding tax penalties increased dramatically. Airings noting the availability of financial assistance increased from 41.4 percent in period 1 to 56.6 percent in period 2 and 54.3 percent in period 3, and airings noting avoidance of tax penalties increased from 1.5 percent in period 1 to 20.1 percent in period 2 and 16.3 percent in period 3.

As indicated in table 3, we also identified differences in the types of informational messages by the sponsor and the language of airings. Insurance companies, for example, were more likely to emphasize the availability of assistance with enrollment and the benefits of accessing high-quality medical care in their advertisements relative to other sponsors. Spanish-language advertisements were significantly more likely to mention the availability of financial assistance (60.8 percent vs. 47.8 percent) and enrollment assistance (49.5 percent vs. 39.8 percent) compared with English-language advertisements but were less likely to mention preventive services (11.4 percent vs. 30.2 percent), the simplicity of the enrollment process (14.4 percent vs. 23.1 percent), or the high quality of care (2.2 percent vs. 19.6 percent).

Nearly half of all airings (48.7 percent) included some mention of the health care law (i.e., the ACA or Obamacare, the state or federally facilitated marketplaces, or the HealthCare.gov website), but this percentage dropped sharply over time from 69.8 percent in open enrollment 1 to 30.9 percent in period 3 (see table 3). Likewise, the subset of airings

specifically mentioning the ACA or Obamacare (excluding the state or federally facilitated marketplaces or the HealthCare.gov website) fell from 47.4 percent of airings in period 1 to 10.2 percent in period 3. As expected, nearly all airings sponsored by the federally facilitated marketplace mentioned the HealthCare.gov website (99.4 percent), and the federally sponsored airings were also more likely to mention specifically the ACA or Obamacare (46.3 percent) relative to other sponsors. Spanish-language airings were less likely than English-language airings to include any mention of the health care law (40.4 vs. 49.6) or a specific mention of the ACA or Obamacare (17.6 percent vs. 28.6 percent).

As shown in figure 2, there was substantial geographic variation in specific references to the ACA or Obamacare in airings across the 210 US media markets. The sharp drop in explicit mentions of the ACA or Obamacare that occurred over time was not restricted to any specific location of the country.

Regression results in the second column of table 2 confirm that, controlling for other airings-level characteristics, advertisements aired in enrollment periods 2 and 3 were significantly less likely to mention the ACA or Obamacare explicitly relative to period 1, consistent with the patterns demonstrated in the maps in Figure 2. Compared with those sponsored by state marketplaces, advertisements sponsored by insurance companies, federal marketplaces, and other sponsors were more likely to mention the ACA or Obamacare in airings. Relative to other airings, those in English (relative to Spanish) and those that aired in media markets with higher uninsurance rates were more likely to explicitly mention the ACA or Obamacare. Surprisingly, media markets voting in higher percentages for President Obama in the 2012 election had lower odds of explicitly mentioning the ACA or Obamacare.

Discussion

Television advertising has been a primary method in communicating to uninsured Americans and the general public about health insurance products newly available in 2014 under key provisions of the ACA. A majority of the health insurance advertisement airings during the initial three open enrollment periods were sponsored by insurance companies, but state marketplaces, the federally facilitated marketplace, and enrollment advocates sponsored advertisements encouraging uninsured Americans to enroll.

Our results indicate an effort to market to younger, healthier individuals. Over time, advertising efforts appeared to focus in a more targeted manner

on young, "healthy invincibles," with the exception of a slight increase over time in airings featuring overweight or obese individuals. Following the first open enrollment period, media reports of a sicker than expected group of newly insured individuals (Rogers 2014) may have prompted insurers and regulators to be more concerned about market stability to refine targeted marketing in subsequent periods.

Over time, fewer airings focused on health plan choice, low-cost plans, and availability of free/low-cost preventive services and more airings focused on avoiding penalties, availability of financial assistance, and the simplicity of the enrollment process. These shifts in messaging make sense in the context of widely reported declines in the number of plan choices available within markets as some insurers (e.g., Aetna) chose to abandon the new marketplaces and large premium increases were reported. In addition, the types of appeals featured in airings differed by the sponsor type in fairly predictable ways. Insurance companies and state marketplaces that had made sizable investments in enrollment assistance highlighted them in their advertising more than did federal marketplaces. It appears likely that sponsors used advertisements to highlight the aspects of their plans that prospective enrollees might find most appealing in a highly competitive market.

We also observed dramatic declines over time in explicit mention of the health care law. The percentage of airings explicitly mentioning either the ACA or Obamacare dropped to only 10 percent by open enrollment period 3, indicating that advertisement sponsors increasingly shied away from connecting insurance products with the law. This finding might be best understood through the lens of the submerged state. Public opinion data has consistently shown that many Americans do not understand the law, nor do they believe they have benefited from it until, in the era of the Trump presidency and a Republican Congress, these benefits have been under threat of being taken away (Sanger-Katz 2017). The theory of the submerged state predicts that public support for governmental programs will be lower when citizens fail to understand the connection between the actions of government and the benefits they are receiving. This could help explain the paradoxical phenomenon that some Americans who have directly benefited from the health care law express opposition to it. If advertisement sponsors do not highlight that certain private insurance options (e.g., those outside of employer-sponsored insurance) are available and affordable only due to the health care law (via establishment of new marketplaces, availability of government subsidies, changes in guaranteed

issue, etc.), then consumers might not readily understand the government's role in what they understand to be a purely commercial enterprise.

This raises the question of why some media markets continued to reference ACA/Obamacare in their airings. We explored this by examining 8the media markets where over 75 percent of airings mentioned ACA/Obamacare in open enrollment period 3; they were fairly geographically dispersed, with eight in the South (four in Florida, two in Virginia, one in North Carolina, one in Alabama), three in Missouri, and one in Nevada. The specific media markets were Tallahassee, FL; Norfolk, VA; Greenville, NC; West Palm Beach, FL; Richmond, VA; Jacksonville, FL; Ft. Myers, FL; Columbia, MO; Springfield, MO; St. Joseph, MO; Huntsville, AL; and Reno, NV. No obvious shared characteristics were evident that connected these locations. Additionally, as Figure 2 indicates, these regions with a high share of airings mentioning the ACA/Obamacare differ from the markets with high mentions during the second open enrollment period.

Given the absence of a clear pattern, it is important to note that another possible explanation of declines in mentions of the ACA/Obamacare following the initial open enrollment period was that advertisers learned from enrollment period 1 that reference to the law was not a particularly motivating reason to enroll in insurance, even among those that favor the law. In other words, this may not have been an effort to intentionally distance the marketing of new insurance options from the ACA but, rather, a strategy to move toward enrollment messages viewed as more persuasive by advertisement sponsors.

We detected some important differences in advertisements appearing in Spanish. For example, Spanish-language advertisements were more likely (9.8 percent vs. 7.5 percent) to include depictions of people receiving care in a medical setting. Latinos have higher rates of uninsurance (Doty et al. 2015) and also tend to be younger and healthier than other groups (Centers for Disease Control and Prevention 2015). For these reasons, marketers may have considered that the advantages of showing people receiving services in health care settings would outweigh the risk of attracting enrollment among sicker individuals.

Both theory and empirical research suggest that the content of television advertising shapes public perceptions about the ACA, changes in insurance rates, and individuals' information seeking and uptake of marketplace plans. Our findings indicate that, while ACA insurance advertising messages have evolved over time, people continue to hear different messages about the law based on who they are and where they live. Given what we know about how media affects public attitudes and consumer behaviors, it

is not surprising that views on the law continue to be highly contentious and hinge in part on attitudes about and trust in government.

Several limitations are important to note. First, kappa statistics confirming high interrater reliability are limited to English-language advertisements, with Spanish-language advertisements coding performed by a single author (JKP). Therefore, we are unable to assess reliability in coding for Spanish-language advertisements. Despite this limitation, it is important to note that the three authors who were coders were involved in an extensive coder training process that included detailed debriefing about coding differences, and all three worked closely on pilot testing of the instrument. For these reasons, our expectation was that coding differences between English- and Spanish-language advertisements would be minimal. Second, while this study sheds light on how television advertisements portrayed insurance products newly available through the ACA, it does not directly provide insights on how exposure to media influenced public attitudes about the law and product purchasing behavior. Third, we were unable to calculate kappa statistics for focal persons with disabilities and smoking tobacco because no unique advertisements with these images were included in our double-coded sample (see appendix B). Fourth, we were unable to compare the content of insurance product advertisements during ACA open enrollments with pre-ACA advertising strategies. The question of how the approaches used by health insurers shifted with the entry of new products into the marketplace following the ACA is an important unanswered question. Fifth, and relatedly, while all of the ads examined were aired corresponding with the timing of open enrollment periods 1–3, some of the ads from insurance company sponsors may have been targeted for their nonmarketplace products, such as employer-sponsored insurance; we did not determine which ads were for products available on the exchange, off the exchange, or only for employer-sponsored plans.

Finally, as noted, we excluded ads that aired exclusively on a national network or cable advertising because we wanted to ensure geographic representation of messages airing at the local level throughout the country. Importantly, this means that advertisements that aired on both local broadcast and national networks remained in the sample. The vast majority of advertising that aired on national network or cable outlets also ran on local broadcast: 73 percent of unique ads and 89 percent of airings were still eligible for inclusion. While it is possible that the content of insurance product advertising airing exclusively on national network news

or national cable differed in important respects from other advertisements, they represent a small percentage (11 percent) of all airings that ran nationally (whether exclusively or on both national and local television), and an even smaller percentage (0.3 percent) of the universe of airings available for analysis.

The future of health insurance in the United States remains murky in the context of an ongoing, highly polemic national debate. In the period since our data collection effort concluded, the type and volume of informational messages appear to have shifted with reports the Trump administration has pulled advertisements and outreach efforts encouraging people to sign up for health insurance under the law (Park 2017). In this rapidly evolving environment, whether and how marketing messages are transmitted to consumers will influence purchasing decisions. Equally important, the nature of advertising and other media messaging will impact the broader public's views on the appropriate role of government in the health insurance landscape going forward.

Conclusion

Television advertising constitutes one important source of information available to consumers and the broader public about the health plan options newly available starting in 2014 under the ACA. Sponsors' choices about 8the volume and content of television advertisements aired around the country can influence who should consider enrolling, the advantages of enrolling in one plan over another, and the public's perceptions about role of government in facilitating broader access to insurance via individual and small-group marketplace options. Results indicate that, over the three open enrollments, advertisement sponsors increasingly targeted appeals to young, healthy consumers. Additionally, advertisement sponsors altered the informational content as market dynamics changed (e.g., focusing less on plan choice over time as choices dwindled within markets) and increasingly opted against explicitly connecting the insurance products with the health law. These strategies may make sense from a business standpoint, but it is clear that the viability of the law over the longer term will depend in part on advertising sponsors' ability to successfully market plans that will appeal to a sufficiently large, diverse group.

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Colleen L. Barry is Fred and Julie Soper Professor and chair of the Department of Health Policy and Management at the Johns Hopkins Bloomberg School of Public Health. Her research examines on how health and social policies can affect a range of outcomes, including access to medical care and social services, care quality, health care spending, financial protection, and mortality. She conducts empirical research to understand how communication strategies influence public attitudes about health insurance, drug addiction, mental illness, gun policy, and obesity and food policy. A focus of this work is to identify evidence-based approaches to reducing stigma. cbarry@jhu.edu

Sachini Bandara is a post-doctoral fellow funded through the National Institute for Mental Health T32 Training Grant for Mental Health Services and Systems (MH109436; Multi PI: Barry/Stuart) at the Johns Hopkins Bloomberg School of Public Health. She conducts policy analysis with a focus on the health and well-being of vulnerable populations, including individuals with criminal justice involvement, mental illness, and substance use disorder. She also has an overarching interest in policy communication, public opinion, and message framing.

Kimberly T. Arnold is a PhD student in health and public policy at the Johns Hopkins Bloomberg School of Public Health. She is funded through the National Institute for Mental Health T32 Training Grant for Mental Health Services and Systems (MH109436; Multi PI: Barry/Stuart). She is interested in the implementation and sustainability of school mental health interventions for youth exposed to trauma. She received her MPH from the Drexel University Dornsife School of Public Health in 2014 and her BA in biology with minors in African American studies and health from the College of Charleston in 2012.

Jessie K. Pintor is a mixed-methods researcher whose work addresses immigration and health care policy, disparities in access to and quality of care for children and families, and the effectiveness of population health interventions. Her work uses a range of quantitative and qualitative methods, including community-based participatory approaches, to measure and understand health care access. She holds a PhD in health services research, policy, and administration and an MPH in maternal and child health from the University of Minnesota, and she completed a postdoctoral fellowship at University of California, Davis. Prior to entering graduate school, she spent six years working with Latino immigrant families in Minneapolis, Minnesota.

Laura M. Baum is the project manager for the Wesleyan Media Project, a role she has filled since September 2012. Based at Wesleyan University, she manages ongoing operations of the project's real-time tracking of television advertising, including student management, web, and social media content, and data visualizations. She grew up in Portland, Oregon, and holds a BA from Brown University and a master of urban and regional planning from the University of Minnesota.

Jeff Niederdeppe is associate professor of communication at Cornell University. His research examines the mechanisms and effects of mass media campaigns, strategic health messages, and news coverage in shaping health behavior, health disparities, and social policy. He has published over 125 articles in communication, public health, health policy, and medical journals, and his work has been funded in recent years by the National Institutes of Health, National Science Foundation, Environmental Protection Agency, and Robert Wood Johnson Foundation. He is an associate editor of *Communication Methods and Measures* and serves on the editorial boards for eight other journals.

Pinar Karaca-Mandic is associate professor and academic director of the Medical Industry Leadership Institute in the Department of Finance of Carlson School of Management, University of Minnesota. She is also a research associate at the National Bureau of Economic Research in the Health Economics and Health Care Programs. Her research focuses on health insurance benefit design, health care regulations, insurance markets, pharmaceutical use, and medical technology diffusion. She holds a PhD in economics from University of California at Berkeley and a BA in economics and mathematics and a concentration in public policy from Swarthmore College.

Erika Franklin Fowler is associate professor of government at Wesleyan University and codirector of the Wesleyan Media Project. Her research examines the content and effect of media messaging in electoral and health policy contexts. Her work has appeared in such outlets as the *American Journal of Political Science*, *Journal of Communication*, and *Health Affairs*, and she is the coauthor of *Political Advertising in the United States* (2016). Her research in recent years has been funded by the Robert Wood Johnson Foundation, the John S. and James L. Knight Foundation, and the American Cancer Society.

Sarah E. Gollust is associate professor of health policy and management at the University of Minnesota. She studies the intersections of communication, politics, and health politics. Her research has examined the roles of news media and public opinion within significant health policy issues, including obesity, health disparities, the Affordable Care Act, and cancer screening. Her work has recently been funded by the American Cancer Society and the Robert Wood Johnson Foundation. She is the associate director of Interdisciplinary Research Leaders, a Robert Wood Johnson Foundation program to support leaders engaged in research to advance health equity.

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References

Ball-Rokeach, Sandra J., and Melvin L. DeFleur. 1976. "A Dependency Model of Mass-Media Effects." *Communication Research* 3, no. 1: 3–21. doi: 10.1177/009365027600300101.

Blidook, Kelly. 2008. "Media, Public Opinion and Health Care in Canada: How the Media Affect 'The Way Things Are.'" *Canadian Journal of Political Science / Revue Canadienne de Science Politique* 41, no. 2: 355–74.

Centers for Disease Control and Prevention. 2015. "CDC Vital Signs: Hispanic Health," www.cdc.gov/vitalsigns/pdf/2015-05-vitalsigns.pdf.

Cutlip, Scott M. 1994. *The Unseen Power: Public Relations: A History.* Hillsdale, NJ: Routledge.

Doty, Michelle, Sophie Beutel, Petra Rasmussen, and Sara Collins. 2015. "Latinos Have Made Coverage Gains but Millions Are Still Uninsured." *Commonwealth Fund Blog*, April 27. www.commonwealthfund.org/publications/blog/2015/apr/latinos-have-made-coverage-gains.

Fowler, Erika Franklin, Laura M. Baum, Colleen L. Barry, Jeff Niederdeppe, and Sarah E. Gollust. 2017. "Media Messages and Perceptions of the Affordable Care Act during the Early Phase of Implementation." *Journal of Health Politics, Policy and Law* 42, no. 1: 167–95. doi: 10.1215/03616878-3702806.

Gollust, Sarah E., Colleen L. Barry, Jeff Niederdeppe, Laura Baum, and Erika Franklin Fowler. 2014. "First Impressions: Geographic Variation in Media Messages during the First Phase of ACA Implementation." *Journal of Health Politics, Policy and Law* 39, no. 6: 1253–62. doi: 10.1215/03616878-2813756.

Gollust, Sarah E., Andrew Wilcock, Erika Franklin Fowler, Colleen L. Barry, Jeff Niederdeppe, Laura Baum, and Pinar Karaca-Mandic. 2018. "TV Advertising Volumes Were Associated with Individuals' Health Insurance Marketplace Shopping and Enrollment Behaviors in 2014." *Health Affairs* 37, no. 6: 956–63. doi: 10.1377/hlthaff.2017.1507.

Karaca-Mandic, Pinar, Andrew Wilcock, Laura Baum, Colleen L. Barry, Erika Franklin Fowler, Jeff Niederdeppe, and Sarah E. Gollust. 2017. "The Volume of TV Advertisements during the ACA's First Enrollment Period Was Associated with Increased Insurance Coverage." *Health Affairs* 36, no. 4: 747–54. doi: 10.1377/hlthaff.2016.1440.

KFF (Henry J. Kaiser Family Foundation). 2017. "Key Facts about the Uninsured Population." September 19 (updated November 29). www.kff.org/uninsured/fact-sheet/key-facts-about-the-uninsured-population.

Landis, J. Richard, and Gary G. Koch. 1977. "The Measurement of Observer Agreement for Categorical Data." *Biometrics* 33, no. 1: 159–74.

Leonard, Kimberly. 2016. "'Young Invincibles' Remain Elusive for Obamacare." *US News and World Report*, September 7. www.usnews.com/news/articles/2016-09-07/young-invincibles-remain-elusive-for-obamacare.

Levine, Deborah, and Jessica Mulligan. 2017. "Mere Mortals: Overselling the Young Invincibles." *Journal of Health Politics, Policy and Law* 42, no. 2: 387–407. doi: 10.1215/03616878-3766781.

Mettler, Suzanne. 2011. *The Submerged State: How Invisible Government Policies Undermine American Democracy*. Chicago: University of Chicago Press.

Mutz, Diana C. 1992. "Impersonal Influence: Effects of Representations of Public Opinion on Political Attitudes." *Political Behavior* 14, no. 2: 89–122. doi: 10.1007/BF00992237.

Nielsen Company. 2013. "DMA Regions." www.nielsen.com/intl-campaigns/us/dma-maps.html (accessed July 18, 2018).

Park, Haeyoun. 2017. "Four Ways Trump Is Weakening Obamacare, Even after Repeal Plan's Failure." *New York Times*, July 19. www.nytimes.com/interactive/2017/07/19/us/what-trump-can-do-to-let-obamacare-fail.html.

Rogers, Kate. 2014. "Early ACA Enrollees Were Sicker than Average," Fox Business, April 9, www.foxbusiness.com/features/2014/04/09/report-early-aca-enrollees-were-sicker-than-average.html.

Sanger-Katz, Margot. 2017. "Obamacare More Popular Than Ever, Now That It May Be Repealed." *New York Times*, February 1. www.nytimes.com/interactive/2017/02/01/us/politics/obamacare-approval-poll.html.

Soroka, Stuart, Antonia Maioni, and Pierre Martin. 2013. "What Moves Public Opinion on Health Care? Individual Experiences, System Performance, and Media Framing." *Journal of Health Politics, Policy and Law* 38, no. 5: 893–920. doi: 10.1215/03616878-2334656.

West, Darrell M., Diane Heith, and Chris Goodwin. 1996. "Harry and Louise Go to Washington: Political Advertising and Health Care Reform." *Journal of Health Politics, Policy and Law* 21, no. 1: 35–68. doi: 10.1215/03616878-21-1-35.

Appendix A. Coding Instrument
ACA Ad Content Analysis—Single Coding

Q1 Coder
❍ SB (1)
❍ KA (2)
❍ JP (3)
❍ Double Coding (4)
Q2 Ad ID number
Q3 What is the ad type?
❍ Insurance (1)
❍ Political (2)
❍ Other/PSA (3)
Q4 Language of Ad (Check all that apply)
❑ English (1)
❑ Spanish (2)
❑ Other (3) _____
Q5 What is the insurance type sponsoring the ad? (select all that apply)
❑ State-individual (1)
❑ State-SHOP (2)
❑ Federal (3)
❑ Enrollment advocate (4)
❑ Insurance Company (5)
❑ Private Broker (6)
❑ Other (7) _____
Q6 Ad depicts following settings:

	Yes (1)	No (0)
Enrollment oroutreach event or enrollment center (1)	❍	❍
Health care setting (2)	❍	❍

Condition: Health care setting (7b)—no is selected, skip to: ad depicts following images:
Q7 If yes to health care settings:
❑ Emergency room/ambulance (1)
❑ Outpatient clinical office (2)
❑ Inpatient clinical office (3)
❑ Dental office (4)
❑ Undeterminable/other health care setting (5)
Q8 Ad depicts following images:

	Yes (1)	No (0)
Child/children (1) **letter/number?}**	❍	❍
Couple(s) (2)	❍	❍
Mom (3)	❍	❍
Dad (4)	❍	❍
Pregnant woman (5)	❍	❍
Elderly individual(s) (6)	❍	❍
Disabled individual(s) (7)	❍	❍
Health care professional(s) (8)	❍	❍
Individuals from two or more racial/ethnic groups (9)	❍	❍

Q9 Enrollment resources provide for viewer:

	Yes (1)	No (0)
Website (1)	❍	❍
Phone number or in-person assistance (e.g., enrollment center, health fair) (3)	❍	❍
Social media (5)	❍	❍
Other—please specify (4)	❍	❍

Q10 Ad mentions:

	Yes (1)	No (0)
Simplicity of enrollment (1)	❍	❍
Low-cost plans available/ "affordable" (2)	❍	❍
Financial assistance/subsidies/tax credits available (3)	❍	❍
Assistance with enrollment available (4)	❍	❍
Choice of plans available (5)	❍	❍
Immigration status or immigration documentation (6)	❍	❍
Avoiding penalties (7)	❍	❍
Free/low-cost preventive services available (9)	❍	❍
Access to high-quality medical care (10)	❍	❍

Q11 Words, if any, used to refer to the ACA (visual or oral). Check only if these exact words are used; otherwise use "Other" to write in

	Yes (1)	No (0)
Obamacare or Affordable Care Act or ACA (2)	❍	❍
Health care law or the president's (or Obama's) health care law (4)	❍	❍
HealthCare.gov (5)	❍	❍
Health reform or health care reform (6)	❍	❍
Marketplace (8)	❍	❍
Other (specify below) (7)	❍	❍

Q12 Ad makes appeal to humor?
❍ Yes (1)
❍ No (0)
Q13 Is there a primary spokesperson?
❍ Yes (1)
❍ No (0)
If no is selected, then skip to end of block
Q14 Spokesperson: Gender
❍ Male (1)
❍ Female (2)
❍ Other/unclear (3)
Q15 Spokesperson: Nonwhite
❍ Yes (1)
❍ No (0)
❍ No selection (3)
If no is selected, then skip to spokesperson: celebrity status
Q16 Spokesperson: If nonwhite:
❍ Black/African-American (1)
❍ Hispanic/Latino (2)
❍ Asian (3)
❍ Other/unclear (4)
Q17 Spokesperson: Celebrity status
❍ Yes (1)
❍ No (0)
Q18 What is the total number of focal people in the ad?
❍ 0 (0)
❍ 1 (1)
❍ 2 (2)
❍ 3 (3)
❍ 4 (4)
❍ 5 (5)
❍ 6 or more (specify number) (6) _____
Q69 Any additional comments:
Q19 Focal person 1: Person level ID
Q20 Focal person 1: Gender
❍ Male (1)
❍ Female (2)
❍ Other/unclear (3)
Q21 Focal person 1: Age
❍ Child (younger than 18) (1)
❍ Young adult (18–30) (2)
❍ Middle age adult (31–64) (3)
❍ Senior citizen (65+) (4)
❍ Missing (5)
Q22 Focal person 1: Nonwhite

❍ Yes (1)
❍ No (0)
❍ Missing (3)
Condition: No is selected, skip to: Focal person 1: Is person's insurance . . . .
Q23 Focal person 1: If Nonwhite,
❍ Black/African-American (1)
❍ Hispanic/Latino (2)
❍ Asian (3)
❍ Other/Unclear (4)
Q24 Focal person 1: Is person's insurance status indicated?
❍ Uninsured (1)
❍ Has health insurance (2)
❍ Unclear (0)
Q25 Focal person 1: Work
❍ No work depicted (0)
❍ Blue-collar worker (1)
❍ White-collar worker (2)
❍ Service sector worker (3)
❍ Work depicted but type of worker is unclear (4)
Q26 Focal person 1: Powerful attributes

	Yes (1)	No (0)
Young invincibles (2)	❍	❍

Q27 Focal person 1: Observed health status

	Yes (1)	No (0)
Person is overweight or obese (2)	❍	❍
Person is shown as patient in medical setting (3)	❍	❍
Person is disabled (3)	❍	❍

Q28 Focal person 1: Behaviors depicted

	Yes (1)	No (0)
Eating or drinking (1)	❍	❍
Smoking tobacco (2)	❍	❍
Engaged in exercise or wearing exercise attire (3)	❍	❍

Appendix B Per Item Kappa Statistics and Raw Percentage Agreement Calculated at the Unique Advertisement and Focal Person Levels for Measures Used in this Study

Variable	Kappa Statistic	Raw Percent Agreement
Unique creative-level variables		
Simplicity of enrollment	0.82	94
Low cost plans available	0.89	94
Financial assistance available	0.93	96
Assistance with enrollment available	0.73	87
Choice of plans available	0.77	89
Avoiding penalties	1.00	100
Free/low-cost preventive services available	0.93	98
Access to high-quality medical care	0.80	93
Health reform mentions		
Affordable Care Act	0.97	99
HealthCare.gov	1.00	100
Marketplace	0.85	96
Focal-person-level variables		
Female	0.96	98
Age	0.89	93
Nonwhite	0.89	94
Insurance status mention	0.84	94
Overweight/obese	0.39	97
Disabled individual	No mentions	No mentions
Patient in medical setting	0.88	98
Eating or drinking	0.75	93
Smoking tobacco	No mentions	No mentions
Engaged in exercise	0.94	98

Source: Content analysis of insurance advertisements

Note: Double-coded sample consisted of only English-language ads. Affordable Care Act mention includes Obamacare or Affordable Care Act or ACA or health care law or the president's (or Obama's) health care law or health reform or health care reform. Insurance companies category includes private brokers.