Original Scholarship

Issues Relevant to Population Health in Political Advertising in the United States, 2011-2012 and 2015-2016

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Policy Points:

- Political advertising can influence which issues are public policy priorities.
- Population health–relevant issues were frequently referenced in televised political advertising in the 2011-2012 and 2015-2016 US election cycles, with about one-fourth of all ads aired mentioning traditional public health and health policy topics and more than half referencing broader determinants of population health.
- The volume of population health–relevant issues referenced in political ads varied by geography, political office, political party, and election cycle.
- Ads referencing broader determinants of population health (such as employment, education, or gender equality) rarely tied these determinants directly to health outcomes.

Context: Political discourse is one way that policymakers and candidates for public office discuss societal problems, propose solutions, and articulate

actionable policies that might improve population health. Yet we know little about how politicians define and discuss issues relevant to population health in their major source of electoral communication, campaign advertisements. This study examined the prevalence of references to population health–relevant issues conveyed in campaign advertising for political office at all levels of government in the United States in 2011-2012 and 2015-2016. Understanding advertising as part of the political discourse on topics of relevance to population health yields insights about political agenda-setting and can inform efforts to shape opinion.

Methods: We conducted a content analysis of all English-language, candidate-related campaign advertisements aired on local broadcast, national network, and national cable television in the 2011-2012 and 2015-2016 election cycles (3,980,457 and 3,767,477 airings, respectively). We analyzed the volume of coverage in these ads about issues relevant to population health, including narrowly defined public health issues as well as a broad range of other social, economic, and environmental factors that affect population health.

Findings: Across both election cycles and all electoral races, 26% of campaign advertising discussed issues relevant for the narrowly defined conceptualization of public health and 57% discussed issues pertinent to topics within the more expansive population health conceptualization. There was substantial variation in population health–related content in ads across election cycles, by level of political office, political party, and geographic area. Geographic variation indicates that where a person lives affects their potential exposure to political communication about various health-related topics.

Conclusions: Political campaign ads in the United States frequently referenced population health–relevant content at all levels of government, although the ads rarely connected population health–relevant issues to health. Variation in volume and content of these references likely shaped public opinion and the public will to address population health–related policy.

Keywords: campaign advertising, social determinants of health, politics, population health, public health, media, public opinion.

P OLITICAL DISCOURSE IS ONE CRUCIAL WAY THAT POLICYMAK- ERS and candidates for public office discuss societal problems, propose solutions, and articulate actionable policies that might improve population health. Individuals running for political office, as well as elected officials at all levels of government, hold considerable power to create and sustain a vision of a healthy society through their words and actions. These visions are perhaps most on display during

elections, when candidates compete in selling themselves and their policy proposals to voters. Although the media landscape is shifting rapidly toward online and social media forms of communication, television advertising remains a central and dominant platform through which candidates communicate their visions to the public, including their views and plans for policies relevant to population health.[1,2]

We know little about the prevalence or substantive content of US political discourse on population health–related issues, whether defined narrowly (eg, traditional public health issues related to wellness, medical care, disease prevention, workplace standards, and vaccinations) or more expansively in broader conceptualizations of population health that include social and structural determinants of health such as education, housing, criminal justice, inequality, and environmental issues, among others. We also know little about how discussion of population health–relevant issues in political advertising has varied across levels of government, throughout geographic regions, and over time.

Population health researchers and prominent funders such as the Robert Wood Johnson Foundation have argued that population health will only improve when society mobilizes to address critical factors that shape population health and health disparities that extend beyond health care and the traditional public health system.[3-6] Mobilization requires first understanding the content and focus of population health–relevant messages (even if they do not explicitly link these issues to population health). To this end, this article documents the prevalence of discussion of public health– and population health–related factors in televised political advertising during the past two presidential election cycles (2011-2012 and 2015-2016). In doing so, we analyze shifts in issue attention over time as well as geographic variation in discussion of specific health-related issues. These findings invite important questions for follow-up research about the factors that predict which health-relevant issues will be prominent on political agendas as well as the effects of this content on public opinion.

Background

An extensive literature in communication and political science attests to the importance of media in setting the agenda for what the public believes is important and what issue areas become policymaking

priorities.[7,8] Simply put, by emphasizing specific social or policy issues, the media can signal to the public and policymakers alike what are the most important issues of the day.[7,8]

Numerous researchers have applied these ideas to the health context, demonstrating that variability in media attention often corresponds to similar trends in the policy agenda. For instance, scholars have shown a high degree of media attention to childhood obesity at the same time that childhood obesity was gaining traction as a policy issue in the United States.[9] In addition, researchers found that substantial media attention to HIV/AIDS in the 1980s and 1990s may have contributed to high levels of public concern, whereas health conditions more common among African American communities received far less media attention, possibly contributing to health inequities.[10] Still others have found that media attention to harm caused by alcohol-impaired drivers helped shape the volume and nature of policy solutions proposed by the US Congress.[11] Other investigators have noted that the news media often devote more attention to cancer than other health issues.[12-14] However, media attention to cancer frequently focuses more on causal relationships between lifestyle behavior and cancer than on the environmental factors that contribute to cancer, suggesting that environmental policy solutions may be a lower public policy priority than individualized behavior and treatment.[15]

While these examples demonstrate the role of the media in public health agenda-setting in general, elections present a specific context in which media attention to health-related issues may be particularly influential. The election season provides candidates, as well as the news media outlets that cover candidates, the opportunity to present the issues they deem most important for voters and society at large to consider and address. Issue attention and the policy agenda are closely connected during an election, as voters are evaluating candidates at least in part for their proposed platform of solutions to problems they define and aim to address. Communication research on the concept of "priming" demonstrates that audiences draw on cognitively accessible issues when forming political judgments.[7,16] If members of the public see a greater volume of media messaging about a particular issue just prior to an election, they may base their political decisions on issues that had higher emphasis during the campaign.[17-21] Research also demonstrates that messaging during campaigns can alter public opinion directly, not just by priming other political evaluations.[22,23]

Political advertising is a particularly important type of media message for agenda-setting and influencing public attitudes during election seasons. Campaign advertising is the primary way that candidates for political office, interest groups, and advocacy organizations communicate their vision of governing to the public.[2,24,25] News media attention tends to correspond with the same issues that are emphasized in political advertisements,[26,27] and strategic advertising can alter the criteria used by voters to choose their preferred candidates.[17,28-31]

Although social media and other avenues for politicians to communicate with the public are on the rise, advertising—and in particular television advertising—still constitutes the largest share of campaign budgets and attention, in part due to television advertising's capacity to reach potential voters who might not otherwise seek out political information.[2,32] Furthermore, the news media often choose to cover aspects of campaign advertising (such as advertising strategies, the amount of money spent, sources of advertising, and so on) during the months leading up to an election, and this coverage can further reinforce for the public the saliency of issues that campaigns choose to emphasize.[26,33,34]

Campaign advertising can also enhance the accountability of elected officials to the public. As demonstrated by extensive research on campaign negativity, much of the content of political advertising—especially in contrast and attack ads—is about an incumbent's record as it relates to past policy promises.[25,35-37] This kind of messaging can shape public perceptions about whether candidates have been consistent in their positions and have achieved their stated policy goals. While this accountability function is most relevant for ads sponsored by candidates, outside groups such as PACs (political action committees) also sponsor many political ads—28% of all ads in federal races in 2016, with even higher percentages in some of the most competitive contests.[38] The messages developed and disseminated by noncandidate groups contribute to the agenda-setting function of campaigns; therefore, they are important to include in analyses of the political messages reaching voters.[29,39-41]

By sending messages about what issues are important, who is affected, and what policy remedies are most appropriate, political ads are clearly an important vehicle through which candidates and campaigns set the political agenda and construct social issues. However, research exploring the health policy implications of the content of political advertising has been limited, especially relative to the abundant research on the content of health messaging in print and television news media.[42]

It is well understood that the contours of population health can be constructed narrowly or expansively. While the public and political candidates alike are likely to think of public health in narrow terms of diet, lifestyle, and health care,[43] a more effective population health policy agenda would focus much more broadly on the "conditions of life and work"—what James House describes as the "demand" side of health policy.[44] Numerous scholars have articulated the need for an expansive vision of policymaking to advance population health,[6,45,46] addressing "upstream" factors in addition to the more proximal factors that shape health and illness in individuals and communities.[47]

Both the narrow and expansive approaches may have strategic advantages and disadvantages. As public health legal scholar Lawrence Gostin has articulated, a limited vision of public health that focuses on proximal risk factors is "traditionally accepted" but fails to address root causes; in contrast, an expansive vision of population health is bolder and potentially more effective in addressing social factors, but it can be politically misunderstood.[48]

It is unclear to what extent present-day US political discourse communicates a narrow or expansive vision of public and population health. Political ads might play an agenda-setting role both through direct communication about traditional public health and health policy topics (eg, Medicaid, the Affordable Care Act [ACA], clean water, infectious disease) and by identifying issue areas that have broad relevance to population health (eg, income inequality, education, employment).

The goals of our study were to assess the volume of attention to population health–relevant issues in televised political advertising and evaluate how these issues vary by type of public office, geographically, by political party, and across election cycles. In this article, we contribute new insights about the scope and variation in political messaging on population health–relevant issues through a large-scale analysis of the policy content of political advertising from local to national offices in two presidential election cycles.

Methods

Campaign Advertising Data

We obtained a data set of all televised English-language broadcast and national cable campaign advertising referencing candidates for offices at

all levels of government in every media market in the United States. These data come from the Wesleyan Media Project's extensive collection of campaign advertising from the 2011-2012 and 2015-2016 election cycles[49,50]. The underlying data source is Kantar/CMAG, which provides video of each ad and a frequency database of ad airings in all 210 media markets across the United States. The frequency database contains detailed information on the date, time, market, station, and program on which each ad aired. This study used the videos to further classify and analyze ad content, merging this information back to the frequency database. In this analysis, we drew on 10,014 unique English-language advertisements that aired 3,980,457 times in the 2011-2012 cycle (January 1, 2011, to Election Day, November 6, 2012) and 9,551 unique English-language ads that aired 3,767,477 times in the 2015-2016 cycle (January 1, 2015, to Election Day, November 8, 2016).

Content Coding Instrument

Using processes developed by the Wesleyan Media Project to analyze political advertising at the federal and gubernatorial level, we trained teams of human coders to filter advertising for elections at all levels of government (presidential, US congressional, gubernatorial and other statewide offices, and state legislative and local offices) by topic (stage 1). Any ad that contained topical references likely to be population health–relevant was included in stage 2, in which we sought to identify the broad and detailed policies mentioned in each ad. To create the stage 2 coding instrument, teams of coders working closely with project staff watched large subsets of videos (approximately two-thirds of the total set), taking extensive notes about the policies discussed and arguments made. The coding teams created coding rules, combining similar references into a standardized, quantitative coding instrument designed to capture both the frequency of particular policy areas referenced in ads and the details of those references. We captured policy discussions at this phase by indicating whether a particular topic was "present" (1) or "absent" (0). The codebook underwent rigorous, iterative testing by the coding team, including iterative assessments of interrater reliability (IRR). The supervisory staff then conducted a separate review, involving an external advisory member who had not been involved in the codebook development process, before proceeding to final coding and IRR assessment.

Coding Process and Interrater Reliability

A team of 24 trained student coders used the final, validated codebook to complete all stage 2 coding and a final IRR set (roughly 15% of ads were double-coded to permit IRR assessment). We calculated IRR using Cohen's κ and Krippendorf's α, both of which assesses coder agreement while adjusting for likelihood of chance.[51,52] In a few cases where κ was less than desired, we combined κ with other variables that were a conceptual match and reassessed IRR for the combined variables. Some policies with low IRR did not have a conceptual match; we have excluded these variables from discussion in this article. The mean α was 0.86, with a range of 0.68 to 1.00 and two variables below 0.70.

Classifying Population Health-Related Policies

Once coding was complete, the author team drew on conceptual models of population health[45,48,53,54] to develop a set of rules to characterize how policies relate to population health (see Table 1 for category definitions). More specifically, we classified all broad policy areas captured in the stage 2 coding as belonging to (a) a "narrow" conceptualization of public health, (b) an "expansive" conceptualization of population health, or (c) neither (eg, foreign policy, national defense, or a generalized discussion of taxes).

When classifying ads as expansively related to population health, we did not require that they link topics to health behaviors or health outcomes; in fact, when we piloted trying to track such connections, we were unable to reliably do so because explicit linkages between health and the expansive topics (such as employment or race relations) were rare. Ultimately, we included campaign ads mentioning issues broadly relevant to population health regardless of whether candidates described them in these terms because the passage of legislation or policy in these areas would be consequential for population health outcomes.

Analysis

We calculated descriptive statistics of broad policy references in campaign advertising in all 210 US media markets in the 2011-2012 and 2015-2016 election cycles, comparing trends in the prevalence of narrowly defined public health and expansively defined population health

Table 1. Classification Rules for Narrow and Expansive Population Health Topics

Health Topic Classification	Decision Rules	Examples
Narrow	Health care policy	Recent health care policy debates (eg, ACA, single-payer systems, Medicare, Medicaid)
	Medical care	References to (a) any kind of medical services (including mental health and disabilities) and/or (b) places that provide care (eg, hospitals, clinics, long-term care)
	Living/working conditions	Sanitation, hygiene, occupational health, environmental contaminants (eg, clean air/water), motor vehicle safety, food safety, infectious disease control
	Health behaviors	Proximal health behaviors (eg, smoking, substance use disorder, tobacco, fast food, beverages, diet, exercise)
	Health education	Education or promotion targeted to individuals to encourage healthy choices
	Emergency preparedness	Disaster relief, outbreak response
Expansive	SES/social determinants	Policy discussions related to education (eg, early childhood education), income/wealth, poverty, and/or employment
	Power/ marginalization	Racism, sexism, LGBTQ issues, Black Lives Matter, discrimination, incarceration

Health Topic Classification	Decision Rules	Examples
	Other risky health behaviors	Mental or behavioral issues beyond a traditional public health scope (eg, domestic violence, gun violence, sexual assault, sexual abuse, gambling)
	Urban planning	Urban design issues (eg, neighborhoods to facilitate exercise, parks)
	Broader environment	Environmental regulations beyond proximal contaminants or food safety (eg, climate change)
Neither	None of the above	Foreign affairs/policy, generic references to the economy or to taxes ("no new taxes"), federal deficit/spending, federal vs local authority and control

Table 1. *Continued*

Abbreviations: ACA, Affordable Care Act; LGBTQ, lesbian, gay, bisexual, transgender, queer; SES, socioeconomic status.

issues in policy discussion across election cycles, issue areas, types of political races and by political party. We also used geographic information systems mapping to display the relative volume of discussions of select issues across the 210 distinct US media markets.

Results

Our analysis shows that the volume of public and population health-relevant political discussion in campaign advertising depends on how public and population health are conceptualized, as well as the level of political office, but is overall quite prominent. In both 2011-2012 and 2015-2016, 26% of candidate-related televised advertising contained

references to narrowly defined public health–relevant topics (Table 2). The percentage of narrow public health references was higher in 2011-2012 (30%) than in 2015-2016 (22%). More than half (57%) of advertising airings in the two election cycles included references to one or more population health–relevant topics, as described by more expansive conceptualization (63% in 2011-2012; 51% in 2015-2016).

The percentage of ads with narrowly defined public health–relevant issues ranged from 13% of gubernatorial advertising in 2011-2012 to 44% of congressional advertising during that same cycle. In both election cycles, campaign ads discussing narrowly defined public health issues were more likely to air in congressional races (the US House of Representatives and Senate) than in presidential, state, or local races.

The percentage of ads referencing issues within the expansive definition of population health ranged from 41% of the presidential ad airings in 2015-2016 to 74% of gubernatorial ad airings in 2011-2012. In both election cycles, expansively defined population health issues were more prevalent in ads airing for gubernatorial contests (63% in 2015-2016) and local races (over 60% for both cycles) than in federal races.

Table 3 displays the frequently referenced policy areas within the narrow and expansive definitions of public/population health for each cycle along with the IRR alpha statistics for each variable. Table 4 presents the same policy areas broken down by political party for federal and gubernatorial races only; this table does not break down data by election cycle because the differences by political party are clearest when examined across cycles. Partisan categorization is incomplete for down-ballot races; therefore, we excluded that category from Table 4.

As shown in Table 3, the volume of ads referencing health care policy—and discussion of Medicare and the ACA/Obamacare in particular—greatly exceeded the volume of ads discussing any other narrowly defined public health topic in 2011-2012, but Medicare and the ACA receded in prominence in 2015-2016. Medicare was featured in 13.1% of airings across the United States in 2011-2012. More than one-third (35.5%) of these airings mentioned protecting and expanding Medicare benefits, and nearly one-fourth (23.9%) discussed policies that increased costs for seniors (data on specific discussion within issues are not shown in Tables 2, 3 and 4). In contrast, Medicare was referenced in 3.4% of airings in 2015-2016. Similarly, while the debate over the ACA/Obamacare was prominent in campaign advertising in 2011-2012 (10.8% of airings), the issue was referenced less frequently (5% of

Table 2. Narrowly and Expansively Defined Population Health–Relevant References in Campaign Advertising by Level of Political Office, 2011–2012 and 2015–2016[a]

Cycle	Office	Narrowly Defined Public Health Issues		Expansively Defined Population Health Issues		Total Ad Airings
		No. of Ad Airings	Percent of Total Ad Airings	No. of Ad Airings	Percent of Total Ad Airings	
2011–2012	President	329,547	24%	966,176	69%	1,399,228
	US Congress	724,545	44%	494,366	57%	1,658,822
	Governor	39,381	13%	227,231	74%	306,341
	State/local	114,102	19%	368,593	60%	616,066
	Total 2012	1,207,575	30%	2,511,366	63%	3,980,457
2015–2016	President	163,422	16%	414,059	41%	1,007,552
	US Congress	423,903	28%	738,420	49%	1,518,878
	Governor	99,594	21%	290,008	63%	463,521
	State/local	131,827	17%	462,758	60%	777,526
	Total 2016	818,746	22%	1,905,245	51%	3,767,477
TOTAL		2,026,321	26%	4,416,611	57%	7,747,934

[a]Includes election-related English-language political ads aired on national network, national cable, and local broadcast television from January 1, 2011, through November 6, 2012 (Election Day), for the 2011–2012 cycle and from January 1, 2015, through November 8, 2016 (Election Day), for the 2015–2016 cycle.

Table 3. Mentions of Population Health Policy–Relevant Issues in Campaign Advertising, 2011-2012 vs 2015-2016[a]

		2011-2012		2015-2016		
Type	Broad Policy Area	No. of Airings	% of Total Ad Airings	No. of Airings	% of Total Ad Airings	α
Narrowly defined public health issues						
Health care policy	ACA/Obamacare	431,209	10.8%	190,137	5.0%	0.98
	Medicare	520,520	13.1%	127,589	3.4%	0.96
	Medicaid	23,406	0.6%	16,275	0.4%	0.91
Medical care	Abortion	151,309	3.8%	151,238	4.0%	0.97
	Planned Parenthood	74,621	1.9%	94,830	2.5%	0.96
	Health (generic)	74,066	1.9%	88,938	2.4%	0.76
	Women's health	124,622	3.1%	69,218	1.8%	0.92
	Children's health care	22,939	0.6%	53,622	1.4%	0.77
	Prescription drugs (excluding Obamacare and Medicare)	16,483	0.4%	41,758	1.1%	0.73

Continued

Table 3. *Continued*

Type	Broad Policy Area	2011-2012		2015-2016		α
		No. of Airings	% of Total Ad Airings	No. of Airings	% of Total Ad Airings	
	Veteran's health care	37,792	0.9%	39,555	1.0%	0.91
	Insurance companies (excluding ACA/Obamacare)	23,589	0.6%	28,452	0.8%	0.69
	Disability rights, benefits, and services	13,865	0.3%	23,469	0.6%	0.81
	Taxpayer-funded health care for public servants	11,868	0.3%	12,436	0.3%	0.94
	Health-related research	8,646	0.2%	10,750	0.3%	0.86
	Contraception	58,412	1.5%	10,602	0.3%	0.95
	Hospitals (generic)	15,825	0.4%	6,787	0.2%	0.71

Continued

Table 3. *Continued*

Type	Broad Policy Area	2011-2012		2015-2016		α
		No. of Airings	% of Total Ad Airings	No. of Airings	% of Total Ad Airings	
Living/working conditions	Pollution and environmental safety/health	25,435	0.6%	67,470	1.8%	0.87
	Workplace safety, benefits, and health	22,555	0.6%	6,805	0.2%	0.78
Health behaviors	Drugs/drug use and legalization/criminalization	16,878	0.4%	46,715	1.2%	0.76
	Substance use disorder/Substance abuse	5,965	0.1%	34,488	0.9%	0.92
	Food policy (excluding food stamps)	2,174	0.1%	3,491	0.1%	0.87
	Tobacco	677	0.0%	2,959	0.1%	0.86
Health education	Food and nutrition in schools	1,284	0.0%	2,250	0.1%	0.86

Table 3. *Continued*

Type	Broad Policy Area	2011-2012		2015-2016		
		No. of Airings	% of Total Ad Airings	No. of Airings	% of Total Ad Airings	α
Expansively defined population health issues						
SES/social determinants	Employment/jobs	1,648,354	41.4%	801,691	21.3%	0.88
	(General) education, school funding, and class size	315,044	7.9%	297,941	7.9%	0.80
	Minimum wage/fair wage/income (generic)/equal pay	89,891	2.3%	176,147	4.7%	0.89
	College/higher education/career readiness	170,069	4.3%	168,933	4.5%	0.91
	Economic disparity and income inequality	433,310	10.9%	165,116	4.4%	0.85
	Social Security	163,196	4.1%	158,991	4.2%	0.95

Continued

Table 3. *Continued*

| Type | 2011-2012 | | 2015-2016 | | α |
Broad Policy Area	No. of Airings	% of Total Ad Airings	No. of Airings	% of Total Ad Airings	
Housing and subprime mortgages	127,677	3.2%	74,384	2.0%	0.86
Seniors (excluding health care, Social Security, and pensions)	86,439	2.2%	63,354	1.7%	0.86
Cost of living	127,546	3.2%	48,556	1.3%	0.88
Any public school/education mention	30,503	0.8%	42,454	1.1%	0.92
Personal debt	28,177	0.7%	37,084	1.0%	0.75
Common Core, curriculum, and K-12 programs	10,446	0.3%	34,768	0.9%	0.90
Early childhood education and kindergarten	13,917	0.3%	33,428	0.9%	0.96
Childcare and family leave	13,880	0.3%	29,519	0.8%	0.94

Table 3. *Continued*

| Type | Broad Policy Area | 2011-2012 | | 2015-2016 | | α |
		No. of Airings	% of Total Ad Airings	No. of Airings	% of Total Ad Airings	
	Welfare and food stamps (excluding Medicaid)	42,504	1.1%	14,419	0.4%	0.87
	School choice/vouchers and private/charter schools	4,856	0.1%	11,563	0.3%	0.87
	After school programs	2,398	0.1%	7,104	0.2%	1.00
Power/ marginalization	Crime and incarceration/sentencing	127,211	3.2%	282,080	7.5%	0.77
	Gender discrimination and equal rights for women	28,322	0.7%	126,298	3.4%	0.92
	Race relations, civil rights, and affirmative action	2,261	0.1%	39,118	1.0%	0.68
	LGBTQ issues/rights	10,500	0.3%	33,704	0.9%	0.87
	Criminal justice reform/prisons/prisoners	8,777	0.2%	25,360	0.7%	0.76
	Black Lives Matter	0	0.0%	11,681	0.3%	0.86

Table 3. *Continued*

| Type | Broad Policy Area | 2011-2012 | | 2015-2016 | | α |
		No. of Airings	% of Total Ad Airings	No. of Airings	% of Total Ad Airings	
Other risky health behaviors	Gun rights, regulation/control, and policy	45,183	1.1%	175,838	4.7%	0.94
	Domestic violence/sexual assault/harassment/child abuse	55,068	1.4%	134,961	3.6%	0.83
	Safety in schools	2,883	0.1%	17,344	0.5%	0.72
Urban planning	Roads, bridges, and transportation	59,800	1.5%	62,903	1.7%	0.91
	Community/ neighborhood parks and playgrounds	3,339	0.1%	3,057	0.1%	0.83

Continued

Table 3. *Continued*

| Type | Broad Policy Area | 2011-2012 | | 2015-2016 | | |
		No. of Airings	% of Total Ad Airings	No. of Airings	% of Total Ad Airings	α
Broader environment	Climate change/global warming	12,982	0.3%	26,201	0.7%	0.96
	EPA/environmental regulations	25,052	0.6%	22,268	0.6%	0.89

Abbreviations: ACA, Affordable Care Act; EPA, Environmental Protection Agency; K-12, kindergarten through 12th grade; LGBTQ, lesbian, gay, bisexual, transgender, queer; SES, socioeconomic status.

[a]Includes election-related English-language political ads aired on national network, national cable, and local broadcast television from January 1, 2011, through November 6, 2012 (Election Day), for the 2011-2012 cycle (3,980,457 airings) and from January 1, 2015, through November 8, 2016 (Election Day), for the 2015-2016 cycle (3,767,477 airings). All broad policy areas classified as within either the narrow or expansive definitions of population health are included. Excluded are broad policy areas that were not classified as being within a narrow or expansive definition of population health, as well as broad policy areas with α < 0.68.[69]

Table 4. Mentions of Population Health Policy–Relevant Issues in Federal and Gubernatorial Campaign Advertising, 2011-2012 and 2015-2016, by Party[a]

Type	Broad Policy Area	Pro-Democratic Ads		Pro-Republican Ads	
		No. of Airings	Percent of Airings	No. of Airings	Percent of Airings
Narrowly defined public health issues					
Health care policy	ACA/Obamacare	24,163	0.8%	551,094	17.1%
	Medicare	421,225	13.6%	209,137	6.5%
	Medicaid	27,542	0.9%	5,868	0.2%
Medical care	Abortion	151,932	4.9%	96,045	3.0%
	Planned Parenthood	132,757	4.3%	24,532	0.8%
	Health (generic)	92,399	3.0%	42,648	1.3%
	Women's health	156,846	5.1%	18,748	0.6%
	Children's health care	60,936	2.0%	7,516	0.2%
	Prescription drugs (excluding Obamacare and Medicare)	44,760	1.4%	4,657	0.1%
	Veteran's health care	46,252	1.5%	23,891	0.7%
	Insurance companies (excluding ACA/Obamacare)	42,574	1.4%	4,379	0.1%

Table 4. *Continued*

Type	Broad Policy Area	Pro-Democratic Ads		Pro-Republican Ads	
		No. of Airings	Percent of Airings	No. of Airings	Percent of Airings
	Disability rights, benefits, and services	22,633	0.7%	9,019	0.3%
	Taxpayer-funded health care for public servants	12,191	0.4%	7,106	0.2%
	Health-related research	7,421	0.2%	9,984	0.3%
	Contraception	59,611	1.9%	4,911	0.2%
	Hospitals (generic)	13,894	0.4%	4,429	0.1%
	Pollution and environmental safety/health	59,553	1.9%	8,317	0.3%
Living/working conditions	Workplace safety, benefits, and health	22,127	0.7%	4,632	0.1%

Table 4. Continued

Type	Broad Policy Area	Pro-Democratic Ads		Pro-Republican Ads	
		No. of Airings	Percent of Airings	No. of Airings	Percent of Airings
Health behaviors	Drugs/drug use and legalization/criminalization	9,842	0.3%	17,265	0.5%
	Substance use disorder/Substance abuse	6,692	0.2%	18,117	0.6%
	Food policy (excluding food stamps)	2,830	0.1%	208	<0.1%
	Tobacco	2,717	0.1%	0	0.0%
Health education	Food and nutrition in schools	2,665	0.1%	0	0.0%
Expansively defined population health issues					
SES/social determinants	Employment/jobs	852,337	27.5%	1,254,086	38.9%
	(General) education, school funding, and class size	324,178	10.5%	85,311	2.6%
	Minimum wage/fair wage/income (generic)/equal pay	151,814	4.9%	91,565	2.8%

Continued

Table 4. *Continued*

Type	Broad Policy Area	Pro-Democratic Ads		Pro-Republican Ads	
		No. of Airings	Percent of Airings	No. of Airings	Percent of Airings
	College/higher education/career readiness	243,749	7.9%	49,177	1.5%
	Economic disparity and income inequality	551,580	17.8%	11,355	0.4%
	Social Security	266,217	8.6%	51,109	1.6%
	Housing and subprime mortgages	72,251	2.3%	72,144	2.2%
	Seniors (excluding health care, Social Security, and pensions)	74,513	2.4%	27,630	0.9%
	Cost of living	30,995	1.0%	114,840	3.6%
	Any public school/education mention	34,267	1.1%	10,697	0.3%
	Personal debt	64,434	2.1%	631	<0.1%
	Common Core, curriculum, and K-12 programs	15,532	0.5%	11,546	0.4%
	Early childhood education, and kindergarten	26,079	0.8%	4,980	0.2%
	Childcare and family leave	29,712	1.0%	9,382	0.3%
	Welfare and food stamps (excluding Medicaid)	4,162	0.1%	48,232	1.5%

Table 4. *Continued*

Type	Broad Policy Area	Pro-Democratic Ads		Pro-Republican Ads	
		No. of Airings	Percent of Airings	No. of Airings	Percent of Airings
	School choice/vouchers and private/charter schools	2,998	0.1%	4,901	0.2%
	After school programs	602	0.0%	131	<0.1%
	Crime and incarceration/sentencing	64,645	2.1%	113,843	3.5%
	Gender discrimination and equal rights for women	133,058	4.3%	10,484	0.3%
Power/ marginalization	Race relations, civil rights, and affirmative action	31,663	1.0%	1,140	<0.1%
	LGBTQ issues/rights	11,418	0.4%	19,906	0.6%
	Criminal justice reform/prisons/prisoners	14,123	0.5%	7,929	0.2%
	Black Lives Matter	11,666	0.4%	10	<0.1%
	Gun rights, regulation/control, and policy	65,045	2.1%	100,417	3.1%
Other risky health behaviors	Domestic violence/sexual assault/ sexual harassment/child abuse	61,809	2.0%	42,462	1.3%

Continued

Table 4. *Continued*

Type	Broad Policy Area	Pro-Democratic Ads		Pro-Republican Ads	
		No. of Airings	Percent of Airings	No. of Airings	Percent of Airings
Urban planning	Safety in schools	3,614	0.1%	7,603	0.2%
	Roads, bridges, and transportation	36,041	1.2%	29,477	0.9%
	Community/neighborhood parks and playgrounds	0	0.0%	0	0.0%
Broader environment	Climate change/global warming	23,297	0.8%	14,482	0.4%
	EPA/environmental regulations	14,253	0.5%	15,462	0.5%

Abbreviations: ACA, Affordable Care Act; EPA, Environmental Protection Agency; K-12, kindergarten through 12th grade; LGBTQ, lesbian, gay, bisexual, transgender, queer; SES, socioeconomic status.
[a]Includes election-related English-language political ads aired on national network, national cable and local broadcast television for Democrats (3,099,469) or Republicans (3,223,130) in presidential, congressional, and gubernatorial races for both election cycles, from January 1, 2011, through November 6, 2012 (Election Day), and from January 1, 2015, through November 8, 2016 (Election Day). All broad policy areas classified as within either the narrow or expansive definitions of population health are included. Excluded are broad policy areas that were not classified as being within a narrow or expansive definition of population health, as well as broad policy areas with α <0.68. Also excluded are ads aired on behalf of candidates from third parties (0.5% of the overall sample of ads for federal and gubernatorial campaigns).

airings) in 2015-2016. Across both election cycles, most ACA references in federal and gubernatorial races were in pro-Republican attack ads on Obamacare (see Table 4), a finding that mirrors earlier research findings from 2013 and 2014.[55,56] Roughly 20% of ACA-related references in ads airing in both 2011-2012 and 2015-2016 included an explicit mention of repealing Obamacare. Otherwise, 2015-2016 ads focused largely on ACA affordability and cost (28.9%) whereas 2011-2012 airings mostly focused on the federal impact of the legislation (39.7%) (data on specific discussion within issues are not presented in this article's tables).

In both election cycles, candidate-related campaign advertising rarely discussed Medicaid; it was mentioned in only 0.6% of airings in 2011-2012 and 0.4% of airings in 2015-2016. Notably, pro-Democratic references to Medicaid in federal and gubernatorial races for the two election cycles combined were five times more common than pro-Republican ones (see Table 4).

Figure 1 shows how discussion of health care policy in television advertising varied across the United States and how it changed between election cycles. The volume of ads discussing health care policy in the 2011-2012 cycle was greatest in Florida, Virginia, portions of the upper Midwest, and western states such as Montana, Colorado, Nevada, New Mexico, and Arizona. The drop in the number of ads mentioning health care policy in 2015-2016 is quite visible; in only a few states (eg, Indiana, Missouri, and Massachusetts) was the volume comparable to the volume in 2011-2012.

Discussion of medical care issues ranked second overall in advertising volume in both 2011-2012 and 2015-2016 within the set of narrowly defined public health topics, and, as shown in Table 3, references to abortion were frequent in both election cycles (approximately 4% of total airings). Although politically contentious, abortion has long been considered a public health issue.[57] Pro-life policies were mentioned roughly three times as frequently as pro-choice policies across all races in both cycles (these data are not shown in this article's tables). At the federal and gubernatorial levels, pro-Democratic ads were more likely than pro-Republican ads to discuss abortion (Table 4); therefore, the preponderance of pro-life references may be in part due to the volume of pro-Democratic advertising attacking federal and gubernatorial opponents for pro-life positions.

Figure 1. Volume of Health Care Policy References in Televised Campaign Advertising [Color figure can be viewed at wileyonlinelibrary.com]
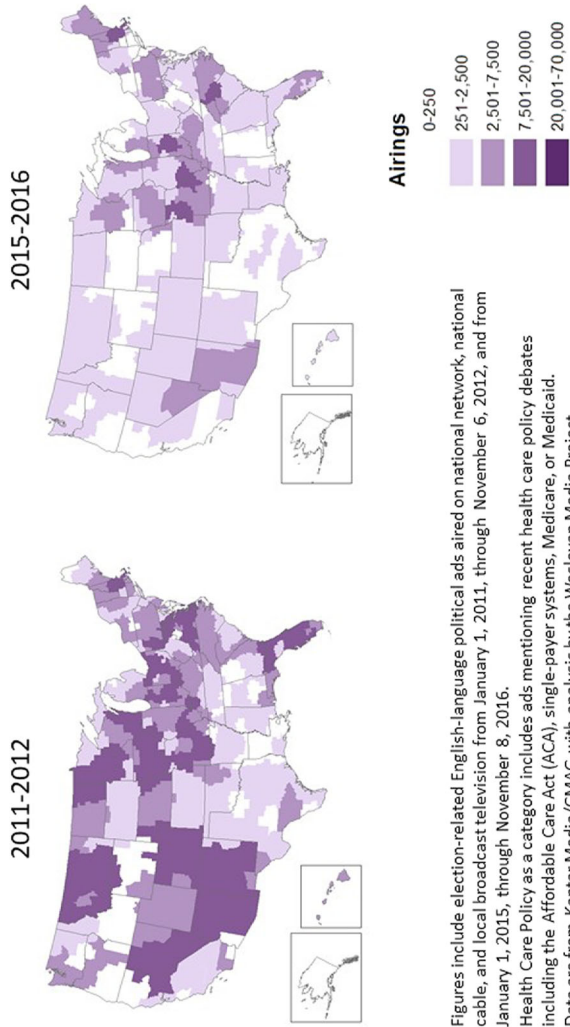
Figures include election-related English-language political ads aired on national network, national cable, and local broadcast television from January 1, 2011, through November 6, 2012, and from January 1, 2015, through November 8, 2016.

Health Care Policy as a category includes ads mentioning recent health care policy debates including the Affordable Care Act (ACA), single-payer systems, Medicare, or Medicaid.

Data are from Kantar Media/CMAG with analysis by the Wesleyan Media Project.

As shown in Table 3, messages about Planned Parenthood—including specific references to candidates opposing the organization, voting against federal funding for its services, or wanting to defund the organization—were relatively prominent in 2011-2012 (1.9% of total airings) and increased in 2015-2016 (2.5%). These references came predominately from pro-Democratic ads at the federal and gubernatorial levels (Table 4).

References to women's health and veteran's health care were among the next most prominent public health topics in both election cycles, whereas children's health care received much more attention in 2015-2016 than in 2011-2012. Table 4 shows that references to health (whether women's, children's, or veteran's) were more common in pro-Democratic federal and gubernatorial ad airings than in pro-Republican ads for those races.

Ads mentioning policy related to living and working conditions were infrequent in both the 2011-2012 and 2015-2016 election cycles (0.6% and 0.2% of ad airings, respectively). The volume of ads referencing pollution and environmental safety/health increased from 0.6% of airings in 2011-2012 to 1.8% in 2015-2016, whereas ads mentioning workplace safety, benefits, and health decreased from 0.6% of airings in 2011-2012 to 0.2% in 2015-2016. Working and living condition references in federal and gubernatorial races were more common in pro-Democratic airings than in pro-Republican airings (Table 4).

The most common health behavior–related topic mentioned in campaign ads was drugs, drug use, and whether drugs should be legalized or criminalized (0.4% of total airings in 2011-2012 to 1.2% in 2015-2016). The next most frequently referenced health behavior was substance use disorder (usually described in advertisements as drug abuse), with mentions increasing from 0.1% in 2011-2012 to 0.9% in 2015-2016. According to combined data from both election cycles for federal and gubernatorial races, more pro-Republican than pro-Democratic ads discussed drugs and substance abuse (Table 4).

Ads mentioning food policies (excluding the Supplemental Nutrition Assistance Program/food stamps), tobacco, or health education topics were rare (Table 3). In federal or gubernatorial races, such references aired almost exclusively in pro-Democratic ads (Table 4).

Turning to population health–relevant topics covered in the expansive conceptualization, political ads mentioning the broad policy area of jobs and employment constituted 41% of the total ad airings in 2011-2012 and 21% in 2015-2016 (Table 3). The lower rate in 2015-2016 was

largely driven by a decrease in references to the topic within presidential advertising (from 52% of airings in 2011-2012 to 18.5% in 2015-2016), but it is also noteworthy that in congressional ads, references to jobs also decreased from 34.6% of airings in 2011-2012 to 21.1% of airings in 2015-2016 (these data are not shown in this article's tables). As shown in Table 4, both pro-Democratic and pro-Republican federal and gubernatorial advertising referenced jobs frequently (27.5% of pro-Democratic airings and 38.9% of pro-Republican airings).

As shown in Table 3, discussions of socioeconomic status (SES)/social determinants changed between the two cycles. The 2011-2012 cycle featured a greater volume of ads than 2015-2016 mentioning economic disparity and income inequality (10.9% vs 4.4% of total ad airings), housing (3.2% vs 2.0%), and cost of living (3.2% vs 1.3%). In contrast, ads airing in 2015-2016 were more likely than those airing in 2011-2012 to focus on wages and equal pay (4.7% vs 2.3%). Table 4 reveals strong partisan differences in attention to economic disparity and income inequality: nearly 18% of pro-Democratic federal and gubernatorial advertising contained mentions of these issues whereas less than 1% of pro-Republican ads mentioned them. Equal-pay references in upper-ballot races were also more likely in pro-Democratic ad airings than in pro-Republican airings (4.9% vs 2.8%). The reverse is true for references to cost of living, which were made in 3.6% of pro-Republican airings vs 1% of pro-Democratic airings. Housing received comparable levels of attention across parties in federal and gubernatorial ads (about 2% of airings for both Democrats and Republicans).

Mentions of education were relatively consistent across cycles, although K-12 and early childhood education and childcare/family leave policies received more attention during 2015-2016 than in 2011-2012 (see Table 3). References to public schools and early childhood education and childcare/family leave policies were much more likely in pro-Democratic federal and gubernatorial airings (1.1%, 0.8%, and 1.0%, respectively) than pro-Republican ones (0.3%, 0.2%, and 0.3%, respectively, see Table 4). Common Core and curriculum issues in K-12 were the only education-related policies where the volume of references in pro-Republican ads (0.4% of airings) approached the volume in pro-Democratic ones (0.5% of airings). Mentions of welfare and food stamps (excluding Medicaid) occurred much more frequently in pro-Republican (1.5%) than pro-Democratic (0.1%) federal and gubernatorial ad airings (Table 4). As shown in Figure 2, although the volume of discussion

Figure 2. Volume of References to Socioeconomic Status (SES) and Social Determinants in Televised Campaign Advertising [Color figure can be viewed at wileyonlinelibrary.com]
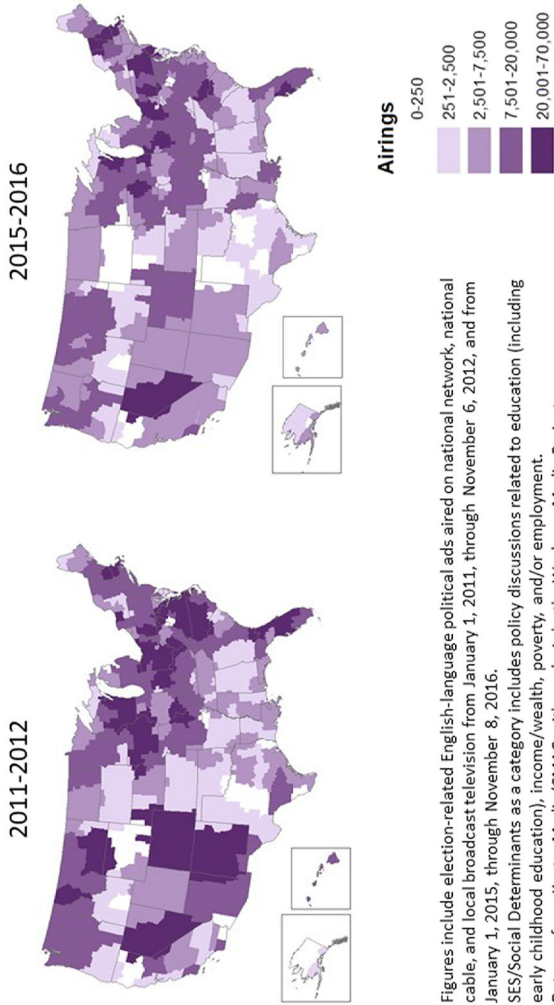
Figures include election-related English-language political ads aired on national network, national cable, and local broadcast television from January 1, 2011, through November 6, 2012, and from January 1, 2015, through November 8, 2016.
SES/Social Determinants as a category includes policy discussions related to education (including early childhood education), income/wealth, poverty, and/or employment.
Data are from Kantar Media/CMAG with analysis by the Wesleyan Media Project.

from 2011-2012 to 2015-2016 varied across markets, many areas of the United States saw a consistently high volume of political advertising that touched on topics central to SES and social determinants in both election cycles.

Turning to issues of power and marginalization, references to crime, incarceration, and sentencing increased from 2011-2012 to 2015-2016 (3.2% vs 7.5% of total ad airings); increases were also seen in 2015-2016 for mentions of gender discrimination and women's rights (0.7% in 2011-2012 vs 3.4% in 2015-2016) and lesbian, gay, bisexual, transgender, and queer (LGBTQ) rights (0.3% vs 0.9%). In federal and gubernatorial airings across both election cycles, references to crime, incarceration, and sentencing were more common in pro-Republican advertising than in pro-Democratic ads (3.5% vs 2.1%). The reverse was true for gender discrimination/women's equal rights: 4.3% of pro-Democratic federal and gubernatorial airings referenced these issues compared with 0.3% of pro-Republican airings. LGBTQ issues and rights received relatively equal attention from the two parties (0.4% of pro-Democratic and 0.6% of pro-Republican advertising in federal/gubernatorial races).

Mentions of race relations rose sharply from 0.1% of ad airings in 2011-2012 to 1.0% in 2015-2016, with 0.3% of ads explicitly mentioning the Black Lives Matter movement (which did not start until 2013) in the latter cycle (Table 3). In federal and gubernatorial campaigns, these issues were aired more often in pro-Democratic than pro-Republican ads (Table 4).

As shown in Table 3, compared to the 2011-2012 election cycle, the 2015-2016 cycle featured a substantial rise in ads mentioning other risky behaviors that have not traditionally been the focus of the public health system, including guns, violence, and public safety. The volume of ads referencing policies related to gun rights or gun regulation increased from 1.1% of all ad airings in 2011-2012 to 4.7% in 2015-2016. References to pro–gun rights policies were more common than references to pro–gun regulation positions in both election cycles, although the volume of ads discussing pro–gun regulation policies increased dramatically from 12,426 airings in 2011-2012 to 85,355 airings in 2015-2016 (data not shown in this article's tables). Explicit discussion of safety in schools was less common than discussion of guns, but mentions of school safety also rose between 2011-2012 (0.1% of all ad airings) and 2015-2016 (0.5%). Mentions of gun policy and safety in schools were more common

in pro-Republican federal and gubernatorial ads than in pro-Democratic ones (Table 4).

The volume of ads discussing domestic violence, sexual assault, sexual harassment, and/or child abuse more than doubled between 2011-2012 and 2015-2016, from 1.4% to 3.6% of ad airings (Table 3). Data for both election cycles (Table 4) show that issues of domestic violence and abuse were mentioned more often in pro-Democratic federal and gubernatorial ads (2.0% of airings) than in pro-Republican ones (1.3%).

Unlike many of the other expansively defined population health topics, the volume of references to urban planning was consistent between election cycles (see Table 3); in both cycles, transportation issues were much more common than discussion of parks and playgrounds. In federal and gubernatorial races, both parties mentioned transportation issues in about 1% of ad airings (Table 4).

Turning to broader environmental issues, the volume of references to the Environmental Protection Agency (EPA) and environmental regulations was consistent across cycles, constituting 0.6% of all ad airings in both 2011-2012 and 2015-2016 (Table 3). References to these topics were roughly equivalent in number across parties at the federal and gubernatorial levels (Table 4).

References to climate change remained very low overall but more than doubled between 2011-2012 and 2015-2016, from 0.3% to 0.7% of ad airings (Table 3). Across election cycles, in upper-ballot races, pro-Democratic ads were more likely than pro-Republican ads to mention climate change (0.8% of airings vs 0.4%).

Figure 3 presents four scatterplots depicting the change in population health–relevant messaging by level of office and across cycles for eight broad types of population health–relevant issues. We created type-level indicators to track whether each ad mentioned any of the broad policies within each type. We then collapsed those indicators to create sums of the number of airings that mentioned each type. In one instance (SES/Jobs), we split the type into two separate types: one that contains references to jobs and employment only, and one that contains references to any other policy within the social determinants category. We omitted the health education category due to the lack of volume of mentions and the lack of variation across cycles. In each quadrant of the figure, the y-axis plots the 2011-2012 proportion and the x-axis displays the 2016 proportion for the type of race. Dots above the dotted 45-degree line indicate that

Figure 3. Change in Volume of Ad Airings for Population Health–Relevant Policy Types by Level of Office Over Time
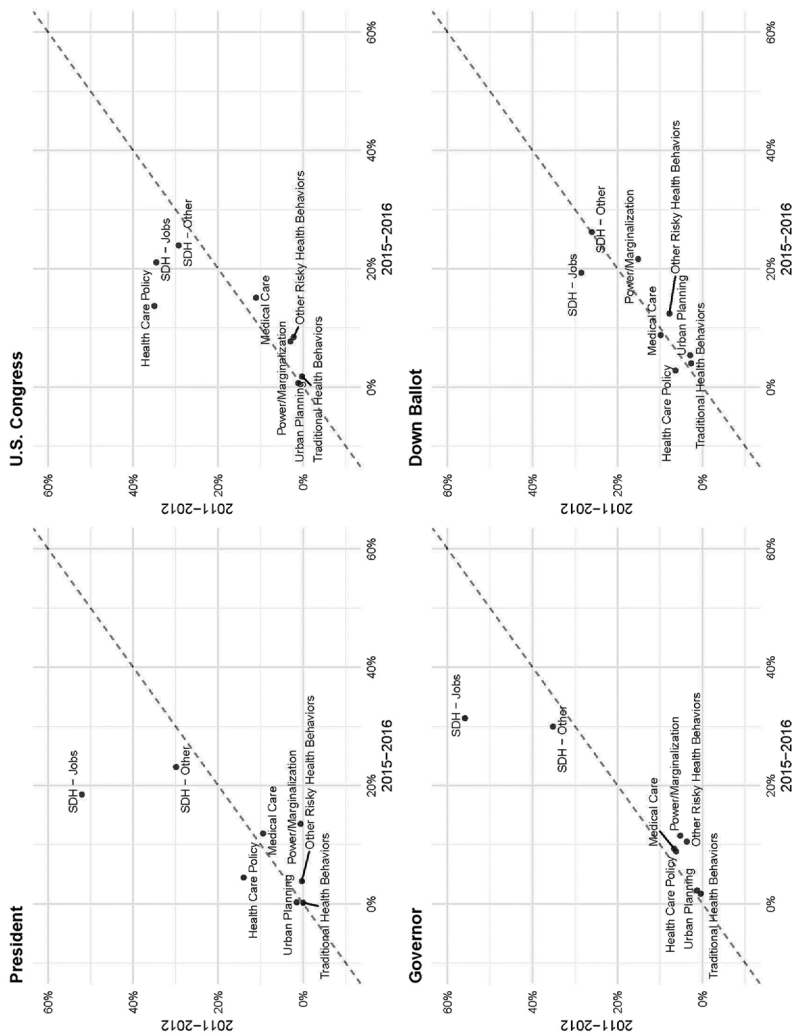
Abbreviations: SDH, social determinants of health.

the policy type was discussed more frequently in 2011-2012, and dots below the line indicate that the issue was discussed more in 2015-2016.

For many of the policy types, the volume of ads aired was relatively consistent across cycles, as indicated by proximity to the dotted 45-degree line. In all races, social determinants (both discussion of jobs and all other references) tended to be most prominent in ads. However, there are some interesting outliers and other notable policy patterns. Ads in both the presidential and gubernatorial races were much more likely to talk about jobs in 2011-2012 than in 2015-2016, although discussion was high in both election cycles. References to other policies related to social determinants were a distant second to job references in the earlier cycle but the rates were much more comparable in 2015-2016. Health care policy references were much more prominent in advertising for races for US Congress in the 2011-2012 cycle, when almost exclusively pro-Republican airings were attacking Obamacare, than in the 2015-2016 cycle. Medical care tended to be the next most referenced policy type after social determinants, except in down-ballot offices, where issues of power and marginalization played a larger role.

Discussion

This study is the first to comprehensively examine discussion of population health–relevant topics in televised political advertising in campaigns at all levels of government during the 2011-2012 and 2015-2016 US elections. Before diving into the interpretation of the key findings, it is important to acknowledge some of the particular policy context of the latter part of the Obama administration. Most salient, the ACA became law in 2010, prompting a vocal Republican opposition, most notably among members of the Tea Party movement, that began with the 2010 midterms and continued into 2012, catapulting policy battles over Medicaid expansion and the health insurance exchanges to the states.[58,59] Beyond the ACA, the Obama administration pursued a quieter policy agenda with regard to population health and public health. For instance, following the appointment of Donald M. Berwick as its administrator in 2010, the Centers for Medicare and Medicaid Services began explicitly identifying the importance of population health and recognizing social determinants.[60] The public face of the federal public health agenda was exemplified in Michelle Obama's domestic priority

of childhood obesity, including her "Let's Move" initiative as well as several distinct changes to federal obesity policy (such as menu labeling requirements as part of the ACA), and numerous state and local policies targeting healthy eating and physical activity proposed and passed during this time.[61] The political advertising we analyzed was both a reflection of and reaction to the health policy initiatives occurring at all levels of government in this particular political context and may differ from advertising in other election cycles.

While previous work concluded that only 9% of presidential rhetoric in 2015-2016 featured public health-related topics,[62] we found that substantial population health-relevant content was communicated in political advertising in both 2011-2012 and 2015-2016, although the volume and scope of discussion varied by political office, political party, location, and election cycle. Attention to narrowly defined public health issues appeared, on average, in just over one-quarter (26%) of campaign advertising across both cycles. The volume of references was highly variable across levels of political office, with congressional candidates being most likely to reference public health-related topics. Additionally, pro-Democratic and pro-Republican advertising often emphasized different policy areas. Advertising in 2011-2012 featured more public health–relevant discussion than ads in 2015-2016. Unsurprisingly given the pronounced backlash to the ACA, we found that attention to the ACA was prominent in 2011-2012, with most mentions occurring in pro-Republican attack ads. Surprisingly, despite the importance of the Medicaid expansion under the ACA, Medicaid was mentioned in less than 1% of all airings across both electoral cycles.

When we examined topics pertinent to the more expansive definition of population health[3], we found relevant references in ads for all levels of office, but especially in gubernatorial and other state and local advertising (across both cycles) and in the 2011-2012 presidential race. The decreased volume of population health–relevant content in 2015-2016 in presidential advertising, whether measured through narrowly or expansively defined topics, is consistent with previous research suggesting that political discourse in that campaign was unusual in focusing on personal characteristics over policy-focused messaging.[38]

Notably, although the issue references tracked in this study, such as education, income inequality, and racism, are relevant to population health, campaign ads rarely explicitly identified any connection between

those issues and population health. Future research will be needed to determine whether messages that explicitly link population health to issues not traditionally associated with health (eg, poverty, education, or inequality) affect public understanding of these issues or public support for particular policies to address them. These links likely depend on a variety of factors that include the nature and strength of the evidence supporting these ideas and the ways in which messages link these issues to population health.

When we probed further into the types of population health topics referenced in political advertising, we found that employment and jobs were the most frequently referenced. Across the two election cycles, the volume of ads mentioning jobs and employment and other social determinants were stable. In contrast, the volume of references to health care policy and measures of inequality and social justice varied substantially. More specifically, political advertising in 2011-2012 was characterized by extensive discussions of economic disparity and income inequality driven largely by pro-Democratic advertising. By comparison, ads in 2015-2016 featured more prominent discussions of gender inequality (from pro-Democratic advertising) and domestic/sexual violence (from both political parties). The 2015-2016 cycle also featured much more discussion of incarceration and sentencing, often from pro-Republican advertising focused on strengthening incarceration and sentencing policies. Future work should consider in-depth, issue-by-issue analysis of how attention to particular issues varies across election cycles and regions across the country, and whether that attention shapes opportunities and support for policy actions.

Our study demonstrated that political party remains an important factor in both issue emphasis and the content of particular policy messaging on population health–relevant advertising. For example, pro-Democratic messages tended to reference economic disparities and income inequality, whereas pro-Republican messages were more likely to reference issues surrounding the cost of living. At the same time, several issues were prominent on the agendas of both political parties. For example, both parties referred frequently to jobs and employment in both political cycles.

Understanding the similarities and differences between messages from pro-Democratic versus pro-Republican advertising may be important for advocates and others trying to shape policy discussion. For instance, both early childhood policy and housing policy are important pillars of

the policy agenda to advance population health.[44] Our study demonstrated that pro-Democratic ads were four times more likely to mention early childhood than were pro-Republican ads (0.8% vs 0.2% of total party ad airings), whereas housing mentions in ads were about equal (2.3% of pro-Democrat and 2.2% of pro-Republican ad airings). The current analysis might inform the strategic direction of policy advocacy by identifying not only areas where the political parties share emphasis and concern but also areas where a single party's perspective is predominant.

Finally, we found widespread geographic variation in references to population health–relevant issues, which was likely driven by a number of factors, including local demographics, candidate characteristics, and the competitiveness of a given election. Areas for future research include why certain issues dominate over others in specific locations, and whether campaign attention correlates with indicators of health in those specific areas in particular. This sort of investigation could involve case studies of local political messaging and/or linking population data to advertising data to assess correspondence.

Population Health Implications

Like any broad, high-level overview of messaging, this analysis opens many more questions than it answers. Would more explicit connections between expansive population health topics and health improve societal understanding? Are variations in topical focus related to incidence of population health indicators? Does campaign advertising attention shape public support for policy action? We hope that this analysis catalyzes future research into these and other important questions about political advertising, which represents a large source of public information about population health–relevant topics.

The policy proposals communicated through political advertising offer important information on the values and priorities of society. Extensive prior research suggests that media messaging plays an important role in shaping public attention to problems and their likely solutions.[9,63-65] Survey data suggest the public has relatively low understanding of the social determinants of health, including the connection between issues presented with high frequency in political advertising—such as income inequality, employment, and child care policies—and population health.[43] The current analysis provides an important baseline

from which to understand public attention to population health-relevant issues, both overall and relative to each other, and from which to advance further research on specific issues. Future analyses are needed to assess factors that affect the overall and regional volume of discussion of population health policies, as well as how political discourse may influence public opinion (and potentially shift underlying values) in ways that could advance policies to promote population health.[66-68]

Limitations

Several limitations to our study are noteworthy. We measured political discourse solely through televised campaign advertising archived by Kantar/CMAG in two presidential election cycles. Although the database is a comprehensive resource for the 7.7 million English-language ad airings that ran on national network, national cable, and local broadcast channels, it is still limited by only having two election cycles from the Obama era; furthermore, even within those two cycles, it is an incomplete picture of the campaign media environment. Our analysis was limited to English-language ads, excluding 122,665 airings of Spanish-language ads, which amount to 1.6% of total airings. We did not analyze local cable advertising because there is no systematic database for it. Although local cable advertising has limited inventory (roughly two minutes per hour on national cable stations are reserved for purchasing at the local level), candidates do advertise on local cable to reach smaller geographic areas of citizens, and we did not capture these ad airings. We also lack data on radio and online advertising and news coverage of campaigns, all of which may offer different issues to the public. Nevertheless, television advertising remains a dominant source of information about political candidates for the public.[1,2]

Our coding instrument focused on explicit, policy-related content. It is therefore possible that we have failed to capture implicit or more oblique references to population health topics conveyed subtly through imagery, music, or references to the personal health status of various candidates for office. In addition, quantitative coding can also miss important nuance in policy references. Refinements to the complexity in categorization or additional qualitative work might have allowed us to ascertain the valence of whether that particular policy would do more to promote or inhibit population health. For example, while

we captured references to K-12 education, our analysis does not track specific approaches that might be taken to reform K-12 education or their implications for population health.

Moreover, although we pilot-tested coding for whether ads (outside of the health care policy or medical care categories) made explicit linkages to health (analyzing over two-thirds of the ads in an inductive search for these references), these connections almost never occurred in the pilot-testing phase of this work. Extremely low incidence prevented us from formal quantitative assessment of the frequency with which ad sponsors explicitly recognized the topics of the ads as having health relevance because calculating measures of IRR requires variation on these variables. However, given the extreme rarity of these connections in our extensive pretesting work, we can confidently state that such connections were almost nonexistent. These findings suggest that either (a) few political candidates and policymakers view social determinants issues (eg, jobs, education) as having the population health relevance that scholars attribute to them, or (b) candidates are aware of the population health implications of social determinant issues but do not perceive this information to be relevant or compelling to voters.[6,45]

Finally, this analysis presents only a descriptive analysis of the population health content. Our analysis cannot speak to any potential effect of these messages on the public or policymakers.

Conclusion

In this study, we found that political campaigns in the United States frequently referenced population health–relevant content in television advertising by and on behalf of candidates for office at all levels of government in 2011-2012 and 2015-2016. Extant theory and research suggests these references were likely consequential in shaping public opinion about population health issues, as well as generating public will to address them.[4,69] Continued surveillance of these discussions could inform future efforts to promote policies that advance population health by describing the current information environment around these issues. This study provides an important baseline for subsequent work to plan and implement strategic messaging campaigns aimed at improving public understanding around these issues and their relevance in shaping population health outcomes.

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