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## **The Content and Effect of Politicized Health Controversies**

Erika Franklin Fowler, Wesleyan University

Sarah E. Gollust, University of Minnesota

Health issues are increasingly becoming politicized, but little is known about how politicization takes shape in the news and its effect on the public. We analyze the evolution of politicization in news coverage of two health controversies: the uproar over the 2009 mammography screening guidelines and the 2006–2007 debate over mandating the HPV vaccine as a requirement for middle school–aged girls. We then examine the public response to politicization in the HPV case, using original data from a survey-embedded experiment that was linked with news coverage in all fifty states. We find that real-world politicization is associated with decreases in support for HPV vaccine requirements, state immunization programs and in confidence in doctors and in government. In addition, among those less likely to have encountered real-world politicization, we find marginal evidence that exposure to political conflict decreases support for state immunization programs and clear evidence that politicization reduces confidence in doctors. We discuss the implications of these findings and suggest future avenues of research.

Keywords: politics; HPV vaccine; mammography screening; public opinion; news media

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## **The Content and Effect of Politicized Health Controversies**

Examples of the politicization of science (when “political interests shape the presentation of scientific facts” [Bolsen, Druckman, and Cook 2014]) are abundant, with climate change being a paradigmatic case. Politicization is also common in medical science, especially in health policy controversies. While the intrusion of politics into personal health issues is certainly not new (as evidenced by the history and politics of abortion and contraception debates), the process and effect of such politicization in the news is not widely understood.

In this article, we use content and survey data to assess the evolution and consequences of medical science politicization in two cases: mammography screening recommendations and the human papillomavirus (HPV) vaccine debate. With rare exceptions (e.g., Druckman and Leeper 2012; Chong and Druckman 2007), most scholarship considers media influence over public opinion in a static way, ignoring the evolution of media messages (Kinder 2007). In contrast, we examine how coverage evolves to become politicized and how survey respondents’ pre-survey media environment may influence their opinions.

We have three major objectives, presented separately below. First, we examine the frequency and patterns of politicization (as captured by alternative definitions) in news coverage of two cases, mammography and the HPV vaccine. Second, we examine public response to politicization of the HPV vaccine (our more complex case), using original data from a survey-embedded experiment linked with news coverage data from all fifty states. Third, we pose future research questions pertaining to the content and effects of health controversies.

### **Patterns of Politicization in News Coverage of Mammography and the HPV Vaccine**

Many scholars have observed the interplay of politics in health and science communication issues (Bolsen, Druckman, and Cook 2014; Nisbet and Hoge 2006; Lupia 2013). Kahan (2013), for instance, compares public response to the introduction of two vaccines: the HPV vaccine and the Hepatitis B vaccine. Both are for sexually transmitted diseases, but only the former became politicized. He argues that the context surrounding HPV vaccine communication—its introduction through the political sphere rather than through public health administrators in the states—made it particularly vulnerable to politicization. Obesity is another issue that evolved from politically neutral (Oliver and Lee 2005) to politically charged in communication contexts, with partisans publicly disagreeing over solutions (Kersh 2009). And, of course, political discourse surrounding health care reform is perhaps the most strikingly partisan, with elite and public partisan polarization over the Affordable Care Act (ACA) at unprecedented levels (Kaiser Family Foundation 2014).

It is clear that health issues frequently typify a competitive framing environment where two sides or opposing arguments compete with each other in the public sphere (Chong and Druckman 2007), and reporters following journalistic norms to present a newsworthy story often emphasize competition and controversy in their portrayals (Gans 1979; Graber 2010). Of course, conflict alone is not sufficient: medical experts and scientists may, and often do, disagree about health and medical issues. However, once a recognized political actor offers a conflicting viewpoint on a health issue, we argue politicization is unlikely to recede in public discourse. Political actors can have incentives to become involved in health controversies because constituents care about them and they affect a large number of people. In recent years we have observed that legislative or regulatory policy solutions often become invoked relatively early in a new health issue's emergence, and once a political policy solution is part of the issue's framing,

journalists seek out politicians on both sides of the policy debate. Thus, the political perspective intervenes in media coverage.

Our definition of politicization of health or medical issues in the news media requires one of several conditions for politicization to be present.<sup>1</sup> First, and most simply, a health issue becomes politicized if a political source is mentioned in news coverage to endorse or highlight political conflict. Second, politicization may occur if the news story describes a political context within which the audience can interpret the issue (such as referencing legislative debate over another issue). Third, an issue becomes politicized if the news story describes conflict or controversy specifically within a political dimension (such as over government action or partisan divides over an issue). These three conditions allow us to operationalize politicization in the news media in our empirical cases, as we describe below.

One consequence of politicization, as we define it above, is political cues or symbols become integrated into the public presentation of the politicized health issue. As a result of these cues (whether particular partisan information source cues or political conflict cues more generally), we anticipate consumers or citizens will interpret the politicized health issue heuristically through a particular political or ideological slant, rather than appreciating the particular arguments undergirding the two sides of the controversy (Druckman, Peterson, and Slothuus 2013). Thus, the politicization of health issues in communication would encourage citizens to interpret the issue through a partisan perspective, leading to biased processing and motivated reasoning (e.g., Taber and Lodge 2006), which may increase or decrease policy support and may have even broader consequences for perceptions of and confidence in institutions. We discuss the consequences of political conflict cues in the next section. First,

however, we turn to our case studies of mammography recommendations and the HPV vaccine in the media to examine the patterns of emergence and evolution of politicization in these cases.

### *Mammography screening*

On November 16, 2009, the U.S. Preventive Services Task Force (USPSTF, an independent panel of experts in prevention and evidence-based medicine) released updated guidelines on breast cancer screening, recommending against “routine” mammograms for women under 50 with average risk and suggesting women 50 to 74 receive mammograms every two years (USPSTF 2009). Published in the midst of the health care reform debate, the guidelines created a firestorm of controversy, with critics suggesting that the recommendations pitted saving women’s lives against saving government dollars (Woloshin and Schwartz 2010; Berg 2010; Woolf 2010). Media coverage dramatized the conflict (Squiers et al. 2011), and stakeholders continue to publicly offer conflicting perspectives on the value of screening for younger women (Kotz 2013). In fact, the latest skirmish (in February 2014) emerged after a 25-year follow-up of a randomized controlled trial study concluded mammography does not reduce breast cancer mortality but does lead to overdiagnosis and unnecessary treatment (Miller et al. 2014). As before, this study elicited widespread media coverage. *New York Times*’ Gina Kolata remarked, “The study seems likely to lead to an even deeper *polarization* [emphasis added] between those who believe that regular mammography saves lives ... and a growing number of researchers who say the evidence is lacking or, at the very least, murky” (Kolata 2014). Kolata’s use of “polarization” emphasizes the extent of dramatic conflict and competition now characterizing public discourse on mammography screening.

To examine the emergence and extent of politicization following the 2009 guidelines, we collected the following news content: (1) evening local television news coverage (broadcasts

using closed-caption searches from fifteen media markets selected from four strata of local markets based on population size.<sup>2</sup>); (2) local newspaper coverage (the highest-circulation newspaper available in each of the fifteen markets for which we had TV coverage.<sup>3</sup>); (3) national print and broadcast news coverage of the recommendations (all national nightly news broadcasts (ABC, NBC, CBS) and two national newspapers, the *Wall Street Journal* and *USA Today*). All content was collected between November 16 and November 25, 2009 (the date the guidelines were released to when the issue receded).

Our codebook captured descriptive information about the stories (e.g., date, news outlet, length), factual messages and competitive arguments about mammography, sources cited (e.g., politician, health professional), mention of health reform, and various measures of tone and balance of coverage. Two coders coded all news stories, with 20 percent double-coded, and acceptable intercoder reliability ( $kappas \geq 0.65$ ). After excluding letters-to-editor, stories with no mention of the recommendations, and print articles with fewer than 100 words, the total sample size is 113 TV stories and 83 print stories (N=200).

A full analysis of the content of these two weeks of coverage of the mammography recommendations will be available elsewhere (Gollust et al., unpublished manuscript). For now, we focus on observations of politicized coverage, operationalized as (1) inclusion of a political source's position in a story or (2) mention of health reform legislation (e.g., providing a political context with which the audience can interpret the controversy).<sup>4</sup> We examine the patterns of politicized coverage over the debate.

Overall, 19.5 percent of coverage identified a political source's position. In contrast, 58.5 percent cited a physician's position. Almost a quarter (24 percent) of coverage mentioned the health reform legislative backdrop. Considered collectively, 33 percent of stories were

“politicized” (defined by the union of partisan positions or health reform context). However, examining the aggregate trends ignores important patterns of emergence. Figure 1 plots the daily coverage patterns and indicates the issue was not initially politicized; in fact, only two articles on the first day of coverage (5 percent of the thirty-eight stories in the sample) included any politicization. In contrast, by the fourth day of coverage, 60 percent of news stories (twelve of the twenty stories) incorporated politicized content, and this content continued to rise in prevalence despite the volume of stories plateauing to roughly ten per day in the final days (November 21–22 was the weekend, hence the low coverage). This pattern suggests journalists “learned” to provide political context in their coverage. In other words, politicization is not inherent to an issue (even one as long contested as mammography screening; see Meissner et al. 2003). Instead, politicization can be thought of as a distinct frame journalists gravitate toward as an issue evolves on the public agenda. This may occur both because media first covers the facts and then seeks reaction and because once interested players become aware, they react in ways that may differ from initial reporting, which makes these sources and their views more noteworthy in ongoing coverage.

#### FIGURE 1

### **Emergence and Evolution of Politicization in the Media Coverage of Mammography**

#### **Screening Recommendations, by day in November 2009**

[Figure 1 about here]

#### *HPV vaccine*

Although the HPV vaccine was described as a medical breakthrough (the first cancer vaccine developed and approved by the U.S. Food and Drug Administration [FDA] in June 2006), the issue became politicized quickly during a state-based legislative push driven in part by

Merck, the vaccine's manufacturer, to mandate the vaccine as a requirement for school entry for middle school girls. Just three short months after vaccine approval, in September 2006, Michigan lawmakers became the first to introduce mandated vaccination. In total, twenty-four states (along with the District of Columbia) introduced such legislation while forty-one states considered legislation to fund or provide education about the vaccine. The policy discussion became particularly contentious following Governor Rick Perry's February 2007 executive order mandating the vaccine. Perry's order was largely met with widespread public uproar (some led by Perry's own party) over the appropriate role of gubernatorial authority in vaccine programs (Colgrove, Abiola and Mello 2010). In May 2007, Perry allowed legislation to override his order but did so at a press conference highlighting the devastation of cervical cancer.

The HPV case differs from the mammography one in several ways. Although both the mammography guidelines and the HPV vaccine approval occurred from centralized sources (the USPSTF and the FDA, respectively), vaccine requirements are handled by the states, which we hypothesize will result in richer complexity and variation in coverage as the policies introduced and the duration of the issue differ across states. In addition, the HPV case stretches over a much longer time period such that we should see the issue both rise and fall on the public agenda. Thus, while we expect politicization will evolve in issue framing like mammography (little at first, then becoming more prominent), we hypothesize that politicization will ebb and flow over the life of the case, since the media could tire of homogenous coverage over time.

To examine the emergence and prevalence of politicized controversy, we draw on an extensive database of 101 newspapers selected to represent the message environment in all 50 states from six months prior to vaccine licensure (January 2006) through 21 months afterward (March 2008). We look exclusively at newspapers here due to the cost and logistical difficulties



of acquiring archived local television news. Articles were identified through validated keyword searches, and human coders hand-excluded 638 articles that did not mention the vaccine or promoting an event, resulting in 1,823 total articles analyzed (for details on sample selection, coding, and intercoder reliability, see Fowler et al. 2012).<sup>5</sup>

## FIGURE 2

### **Emergence and Evolution of Politicization in the Media Coverage of the HPV Vaccine, by Month**

[Figure 2 about here]

As detailed extensively elsewhere (Fowler et al. 2012), we found a rapid increase in HPV vaccine politicization, corresponding with the developments across states, which is robust to alternative ways of measuring politicization (see Figure 2). First, we define politicization as “mention of controversy surrounding state action” in a news story. As shown in Panel A of Figure 2, mention of this politicization type did not exist prior to the introduction of legislation (the first mention of controversy over state action appeared in August 2006 just prior to introduction of the legislation in Michigan), and played a small part in 2006 coverage. That changed in early 2007 when controversy rose to 29 percent in January before exploding to 49 percent in the wake of the Texas uproar and then leveled off at around 30 percent through mid-year. Second, we define politicization as we did in the mammography case as articles citing the position of an identified political (e.g., elected official) source (Panel B). Articles citing political sources follow a similar trajectory, with roughly 15 percent of articles citing a political source in the early stages (from June 2006 through January 2007) compared to an average of nearly a

quarter (24 percent) in the post-Texas phase of the debate. Finally, although it is not shown, we also found a rise in the proportion of articles mentioning a political argument (e.g., whether government, science, or parents should have the authority to guide vaccination policy) over time. While political arguments (rather than political actors) were more prevalent in media coverage prior to the introduction of legislation (appearing in roughly 10 percent of all articles), the percentage including such arguments rose to 21 percent in articles published between September 2006 and January 2007 and remained high (24 percent) in the period after Texas. As such, we find support for the notion of evolution.

Figure 2, however, does not display the large state-by-state variation we found in coverage. In analyses presented elsewhere (see Fowler et al. 2012), we demonstrated that policy issue politicization was driven by proximity (e.g., states that introduced mandate legislation were more likely to present politicization than those that did not) and by timing of the debate (e.g., controversy rises over time and in accordance with policy action). However, we also demonstrated that seminal events, such as the Texas uproar, are also likely to gain widespread attention from news outlets across the country.

In our content analysis of both cases, evidence suggests once an issue becomes politicized, the political nature of the issue tends to be somewhat sticky. Although the HPV vaccine discussion did not start out as politicized, once it became political, coverage was more likely to contain politicized elements (as evidenced by the persistent gray bars through the end of the timeline in Figure 2, which recede somewhat when states consider policy alternatives, such as education or insurance coverage, but never return to the lowest levels characterized in the early part of the debate). More anecdotally, in 2011, during a Republican presidential primary debate, Minnesota Representative Michele Bachman reignited the HPV vaccine issue as a way of

criticizing opponent Rick Perry. We note a similar “stickiness” of politicization in the mammography screening case, where media politicization of the mammography screening guidelines ultimately led to consequences for policymaking. The attachment of political controversy to the mammography screening guidelines—as reflected in its media portrayal—was essentially inculcated into subsequent law. The ACA requires health plans to provide coverage without cost-sharing for preventive services receiving a high rating (“A” or “B”) from the USPSTF; however, the law explicitly excluded the 2009 recommendation for women in their 40s, defining the breast cancer guidelines as “the most current other than those issued in or around November 2009” (Kaiser Family Foundation 2011). We have also observed that media coverage of controversy over other screening modalities since 2009 (e.g., prostate-specific antigen screening; cervical cancer screening) often references the firestorm of controversy over the breast cancer screening recommendations, suggesting cancer politicization and controversy has now provided a convenient hook for journalists to adapt to related issues.

### **Public Response to Politicization in the HPV Vaccine Case**

Having established the speed through which health issues can become politicized and the extent to which such politicization “sticks,” in part due to the norms of journalism and preference for controversy and drama, we now turn explicitly to effect. To what extent does political conflict over health issues matter? Drawing specifically on HPV vaccine politicization, we have elsewhere demonstrated that compared to a message describing universal support for HPV vaccine mandates, a message describing controversy (defined as political and medical opposition) reduced support for school mandate requirements but did not spill over to influence support for vaccine immunization programs more generally (Gollust et al. 2010). We also established that individual vaccine awareness was associated with political predispositions and

exposure to news on the issue in an individual's state (Gollust et al. 2013). In addition, we investigated the mechanisms through which prior exposure to politicized messages surrounding the HPV vaccine affected individual susceptibility and response to new experimental messaging (Fowler and Gollust 2013).

Here, we explicitly take on the question of how political controversy matters relative to medical conflict in particular. From extant literature, we know controversy tends to decrease support for any changes to the status quo (Samuelson and Zeckhauser 1988); specifically in this case, that would mean reducing support for HPV school mandates (Gollust et al. 2010). Controversy has also been shown to affect larger attitudes about the system, decreasing public support for institutions (Cappella and Jamieson 1997; Hibbing and Theiss-Morse 1995; Moy and Pfau 2000). Despite this knowledge, we know very little about how politicization in particular, relative to other forms of controversy, might influence both opinions directly related to the issue at hand and spillover attitudes about medical and political actors and institutions. This is the focus of the current analysis. In particular, we ask: How does political controversy influence support for HPV vaccine school requirements and support for state immunization programs more generally? In addition, does political controversy influence an individual's propensity to trust doctors or government?

To analyze these questions, we draw on a 1,216 person, nationally representative Time-Sharing Experiments for the Social Sciences (TESS)-funded survey experiment<sup>6</sup> (fielded in June-July 2009) in which respondents were randomly assigned to four treatment group messages varying in the support/opposition expressed regarding HPV vaccine school requirements. Specifically, individuals either saw: 1) a universal support condition where doctors and politicians expressed unified support for the policy, 2) a political conflict condition in which

doctors expressed unified support and politicians were divided over the issue, 3) a medical conflict condition in which politicians were united in support but doctors were divided, or 4) a dual conflict condition in which both politicians and doctors were divided. We restrict our sample to only those respondents who got versions of the conflict frame (groups two through four) to make comparisons among types of conflict—politicized versus conflict only within the medical domain. Our operationalization of politicization focuses on highlighting actor division rather than on describing politicization more explicitly through a specific argument or message (see note 1). We believe this is a conservative approach, as explicit arguments conveying politicization may be even more influential in moving opinion. Therefore, to the extent that we find any effect, it would not be unreasonable to suspect influence would be stronger with the incorporation of explicit politicization arguments in addition to actor cues.

Because politicized controversy on this issue occurred long before our survey and we believe pretreatment influences matter (Druckman and Leeper 2012), we also matched respondents to the volume of politicized (and nonpoliticized) controversy in their state as measured through the content of the two newspapers sampled within their state. Because we cannot match respondents to their specific newspaper (we analyzed only two per state) and because local newspaper use is correlated with our key outcomes (especially trust in doctors in particular), we chose to use volume, not exposure or consumption (see Huber and Arceneaux 2007); however, overall results are robust to including local newspaper consumption as a control. Although our content data cover 27 months (from January 2006 through March 2008), there is a gap in time between our content codes and the fielding of the TESS experiment (June 2009). Based on keyword searches of the newspapers for the intervening period, however, we know that only 350 total articles appeared in our sample of 101 newspapers compared to the 2,181

analyzed. That plus the fact that only five school mandates were introduced in the two legislative seasons following our coded timeframe compared to twenty-four in the 2006–2007 legislative season gives us greater confidence that we captured the vast majority of politicization on the issue.

We first examined the effect of pretreatment availability of politicized information (as measured by the logged count of stories mentioning controversy over state action<sup>7</sup> in the respondents' state) along with the experimental treatments of political and dual conflict conditions relative to medical conflict on both support for school mandate legislation and state immunization programs more generally. We measured support for HPV vaccination through a measure (National Poll on Children's Health [NPCH] 2007): "Do you support, oppose, or neither support nor oppose a state law that requires girls to get the HPV vaccine (that prevents cervical cancer) before entering ninth grade? [If favor or oppose]: Do you (favor/oppose) that a great deal, moderately, or a little?" We re-coded this variable into a 7-point scale. Our measure of support for immunization programs and immunization safety came from five items (Davis and Fant 2005) measuring agreement with: "Required childhood vaccinations are important for protecting the American public from disease"; "Government should have the authority to require vaccines"; "Vaccines protect children's health"; "Vaccines protect adults' health"; and "Vaccine are safe." We constructed a five-item index (ranging from strongly disagree to strongly agree) using these items. In both models, we controlled for the logged count of articles not mentioning controversy over state action (to ensure it is indeed politicization and not total volume of coverage that matters) along with individual characteristics known to affect opinions (i.e., partisanship, ideology, gender, years of education, age, income, and an indicator for whether there is a teen-aged girl in the household as well as need-to-evaluate) to guard against the

pretreatment coverage covarying with individual differences of respondents. Model estimations are survey weighted and clustered by state to account for nonindependence.

TABLE 1

**Effect of Politicization on School Mandate and State Immunization Program Support**

[Table 1 about here]

*Findings*

Turning to the first column in each set of estimations in Table 1, we find the experimental conflict conditions appear to be statistically indistinguishable. However, pretreatment politicization in one's state is negatively associated with support for both the directly linked policy proposal (mandating the vaccine for all middle school-aged girls) and support for state immunization programs more generally. Because we believe experimental messaging effects may depend upon the availability of pretreatment politicization, we also examined model stratifications splitting pretreatment politicization at its median to compare low levels of politicization (columns two and five) to high levels of politicization (columns three and six). We find marginal evidence that political conflict may decrease support for state immunization programs but only among those with low pretreatment politicized content in their environments ( $\beta = -0.248$ ,  $p < 0.10$ ); however, this result does not hold up in robustness tests incorporating interactions with pretreatment politicization and the experimental condition (measured either as a median split or a continuous variable). Interestingly, we found that some support coverage of the HPV vaccine without politicization may have increased support for the policy when pretreatment politicization was high ( $\beta = 1.229$ ,  $p < 0.05$  and  $\beta = 0.753$ ,  $p < 0.01$  respectively).

We turn next to politicization effects on attitudes toward the medical profession and government, which we measured with two items: “How much of the time do you think you can trust the government to do what is right?” and “How much of the time do you think you can trust doctors to do what is right?” The response categories included “just about always,” “most of the time,” “only some of the time,” or “almost never.” We recoded both questions so increases in the scale corresponded with increases in trust and again utilized survey weights with clustering by state.

TABLE 2

**Effect of Politicization on Trust in Doctors and Trust in Government**

[Table 2 about here]

We find evidence that politicization may spill over to affect attitudes about the systems of government and medicine more broadly (Table 2). Specifically, although neither of our politicized experimental conditions is distinguishable from the medical controversy condition in the overall specification, we find pretreatment availability of politicization decreases both trust in doctors and in government. This effect persists even when controlling for nonpoliticized coverage of the HPV vaccine and in the face of other individual-level controls known to be associated with trust. When we stratify the specifications by splitting pretreatment politicization at its median, we find evidence for an interaction between pretreatment and experimental messaging. More specifically, when pretreatment politicization was low, respondents report being less likely to trust doctors when they are exposed to the political conflict condition. Unlike the estimations in Table 1, this finding is robust to alternative specification, including an interaction between the politicization measure (either as the median split or the continuous logged count) and the experimental treatment groups in the overall model (in both cases, both the



political conflict and pretreatment measures are negative and significant [ $p < 0.05$ ], while the interaction term is positive and significant [ $p < 0.05$ ]). We find no similar evidence that the influence of our experimental treatments on trust in government was moderated by pretreatment politicization. Given that past messaging may affect future susceptibility to experimental message treatments, the fact that we find both prior and current (for those who were not previously exposed) politicizing messages influence trust in doctors suggests politicization may be particularly important in shaping confidence in doctors and medical science more generally. This result is important because it signals that when citizens perceive political factors to be intruding on a medical domain, they may trust the medical sphere less, which may also affect health behaviors and outcomes as discussed below.

### **Future Directions and Implications**

As Bolsen and colleagues indicated, “few studies directly explore how frames that highlight politicization affect public support” (Bolsen, Druckman, and Cook 2014, 1). Filling this gap is an important priority for scholars in disciplines ranging from political science to psychology to communication to public health. As such, we identify key questions and approaches that might provide a more complete understanding of how medical science politicization affects citizens.

First, politicization in health issues can vary in the extent to which it already exists (e.g., the extent to which it is already politically charged or within the political realm by being intertwined with politicians’ proposed policies, etc). For instance, although the HPV vaccine issue did not start out as politicized, it is now thoroughly politicized because of the high salience of legislative mandates and ideological concern over promiscuity and vaccine side effects (Gostin 2011). This context shapes how participants view the issue, and indeed how they viewed the issue at the time of our 2009 survey experiment when awareness of the vaccine already

varied by political predispositions (Gollust et al. 2013). In addition, the ACA is already thoroughly politicized, thus imposing political cues (e.g., Democrats are for and Republicans against) in an experimental context is unlikely to enhance politicization effects, since these cues are already ingrained (at least among the most aware/educated/knowledgeable). We believe it would be fruitful for researchers to compare the effects of politicization cues or arguments across a range of issues: some that are already “naturally” associated with politics and others that have not yet evolved to be politicized. We anticipate that the effects of explicit politicization, via experimental treatments, on public responses will differ depending on the natural history of the selected issues. At the very least, our analysis here demonstrates that researchers ignore prior politicization messaging at their peril, as pretreatment is likely to have already affected opinion.

Second, there are a number of politicization consequences researchers should examine. Domain-specific opinion (e.g., on the issue in question) is an important, albeit somewhat narrow, outcome. If, as we show, medical science politicization decreases trust in doctors, important health-related consequences may also be affected (e.g., doctor visit propensity, preventive care such as vaccines or cancer screening, or the likelihood of insurance enrollment). Media research examining the influence of general conflict on other attitudes and behaviors can be a guide for future work on politicization specifically (Nagler 2014; Niederdeppe et al. 2010).

In light of these broader findings for trust and other health outcomes, our results suggest politicization may be normatively problematic. However, more analysis and theorizing on politicization’s normative implications are critical. While we and others can describe the politicization effects, there is a need for more attention to the ethical and normative consequences.

If additional inquiry confirms undesirable effects, it may be important for political communication researchers to consider questions and methodologies that address how to prevent or combat politicization. For instance, what communication strategies can compete successfully against politicized messages? Such empirically based strategies might then be translated to health or medical practitioners along with the journalists who set up the politicized contexts for interpreting these issues. Lupia (2013) offers a model for such a line of inquiry, calling for science communicators to establish their source credibility through their expertise and by emphasizing common interests and values with their audience. Yet these issues raise additional normative considerations about scientists' and other experts' roles and responsibilities in communicating in competitive, politicized discourse. Should scientists communicate their perspectives in the face of intervention from political entrepreneurs in the discourse? And if so, how much framing and rhetorical strategy should they employ, or should they hew only to the "facts"? We know of very few pieces exploring these issues (Nisbet 2009; Nisbet 2014). Finally, what should the roles of journalists be; should they be held responsible for avoiding or diluting the politicization frame, or is it the responsibility of sources to avoid representing their perspectives in politically charged contexts? More work is needed on the ethical implications of competitive framing and science and health politicization.

Our analysis suggests politicization, once it emerges in a health issue's discourse, can become a persistent feature of coverage. Furthermore, politicization not only affects domain-specific policy opinions but may also influence broader support of institutions. As such, more research is needed both to corroborate and extend our knowledge on the specific mechanisms through which this happens and on whether any interventions (if appropriate) may halt the potentially deleterious effects of such politicization.

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## Notes

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<sup>1</sup> Our definition is more specific than other definitions. Jotterand (2006), for instance, writing on nanotechnology, defines politicization as “the convergence of science, technology, politics, and economics for social and governmental purposes” (p. 658). Such a definition is overly broad to be useful for media analysis, and we argue science often—if not always—can be leveraged for social and governmental purposes (thus this volume’s engagement). In contrast, our definition is more similar to Bolsen et al. (2014), who defined politicization more concretely allowing us to recognize it when we see it: “when political interests shape the presentation of scientific facts to fit distinct models of ‘reality’” (p. 4)” Yet our specific operationalization differs from theirs in highlighting actor division rather than describing politicization in part because we want to capture the different ways in which it occurs naturally in media.

<sup>2</sup> We selected markets from four strata organized by population size: New York City, Los Angeles, Chicago, Philadelphia, and Dallas (strata one); San Francisco, Washington DC, Detroit, and Miami (strata two); Sacramento, St Louis, Portland, and Pittsburgh (strata three), and Ft. Myers and Madison (strata four).

<sup>3</sup> To complement the TV collection, we selected the highest-circulation newspaper available in each city for which we had TV: *The New York Times*, *Los Angeles Times*, *Chicago Tribune*, *The Philadelphia Inquirer*, *The Dallas Morning News*, *The San Francisco Chronicle*, *The Washington Post*, *Detroit Free Press*, *Miami Herald*, *Sacramento Bee*, *St. Louis Post-Dispatch*, *The Oregonian*, *Pittsburgh Post-Gazette*, *Ft. Myers News-Press*, and the *Wisconsin State Journal*. However, neither of the search engines we employed had full text articles of Miami’s highest-circulating newspaper, the *Miami Herald*, nor Ft. Myers’s highest-circulating newspaper, the *Ft. Myers News-Press*. To replace them, we selected two Florida newspapers with similar circulation rates: *Tampa Tribune* and *The Sarasota Herald Tribune*.

<sup>4</sup> As noted above this differs from Bolsen et al.’s (2014) avoidance of partisan sources so as to not conflate politicization with partisan polarization. As we are analyzing content not creating messaging, avoiding conflation is harder. We are agnostic to which side is taken and instead look primarily for the journalist’s use of political actors or political context as a way to highlight partisan conflict.

<sup>5</sup> Fowler et al. (2012) analyzed two years: 2006–2007. Here, we extend data by three months (through March 2008) to get us closer to the June 2009 survey experiment fielding dates, so the content will differ slightly.

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<sup>6</sup>Time-Sharing Experiments for the Social Sciences: NSF Grant 0818839, Jeremy Freese and Penny Visser, Principal Investigators.

<sup>7</sup> We use a log based ten count of coverage in part to account for the nonlinearity of media effects (e.g., as coverage increases, we would not expect each additional ten articles to have the same effect as the first ten).