

# It's Only a Crisis if It's Fit to Print: Examining the Relationship Between Overdose Rates, News Coverage, and the Presence of the Opioid Crisis in State Legislative Campaigns

Rachael L. M. Erickson  
Joshua Meyer-Gutbrod  
University of South Carolina

## Abstract

**Context:** The modern opioid epidemic has been a prominent issue in the news media, culminating in significant attention during the 2016 and 2020 national elections, with nonuniform campaign attention at the state level. The authors explore the driving factors in this disparity, examining how public perception of the opioid crisis is shaped by its associated deaths and coverage of the issue in local media.

**Methods:** The authors model the presence of opioid policy and rhetoric in state legislative campaigns against both state-level news coverage and recorded overdose rates, including key controls for important demographic variables.

**Findings:** The authors find that news attention is the strongest predictor of campaign attention in state-level campaigns. Furthermore, while news media and actual overdose deaths can have a reinforcing effect, thereby increasing candidate attention to an issue, media attention can also influence candidates through framing, encouraging increased attention in particular communities framed as major concerns within the media.

**Conclusions:** These results contribute to an understanding of opioid reform at the state level and speak to the impact of news media in both raising awareness and shaping frames about even highly salient issues in public health and beyond.

**Keywords** media, opioids, campaigns, state legislatures

At the end of the summer of 2016, the *Richmond Times-Dispatch* in Richmond, Virginia, ran a series of four excerpts from August Wallmeyer's book *The Extremes of Virginia* in its editorial section. These opinion pieces describe the Virginian countryside as a hotbed of addiction falling rapidly into decline and abandoned by the government that had previously protected

such communities by virtue of their whiteness (Wallmeyer 2016a, 2016b). A year earlier, a letter to the editor in the *Charleston Gazette-Mail* titled “Middle-Aged, White, and at Risk: The Americans Progress Forgot” argued that the failure of white members of the baby-boom generation to outperform their parents in the continued acquisition of economic and social status led to a crisis of addiction, suicide, and overdose in white Americans (Meyer 2015). Between 2014 and 2021, more than 715,000 opinion, editorial, and commentary pieces or news articles concerned with the modern opioid epidemic were published in American news sources. This opioid crisis—imagined by media and the public as tearing apart white, rural, and impoverished communities and families—became one of the most discussed health policy issues of the 21st century. Previous research has investigated the validity of media narratives about the racial demographics of opioid users and, separately, the relationship between media and statements from politicians on racialized issues. The interaction of real-world conditions and media coverage can have powerful implications for political rhetoric and therefore for policy decisions. However, little to no research investigates the relationship between media, opioid use rates, and political campaign statements. The desire to understand the mechanisms at play in this three-part relationship shapes the central question of this inquiry: Are political responses to the opioid crisis more likely to be based on real overdose conditions in given constituencies, or on the perceived rate of overdose in those areas as shaped by local media coverage?

The relationship between the political rhetoric and the health realities of drug use have been thoroughly explored in the political science and public health literature. Medical and sociological research on the opioid crisis has broadly painted a picture of patients with opioid abuse disorder as being non-Hispanic white adults in middle age, especially those with low economic status (Grol-Prokopzyk 2018; Jou, Mas, and Vergara-Alert 2020; Stoicea et al. 2019). It is notable that although non-Hispanic whites still had the highest overall rate of overdose, non-Hispanic Black overdose deaths increased nearly 40% from 2015 to 2016, while the average rate of increase for the whole population in that time was only 21% (SAMHSA 2020). The perception of these demographic factors and both the real and perceived prevalence of opioid abuse in voters’ communities have a measurable impact on political rhetoric. Researchers have found that the frequency of opioid mentions in campaign advertisements is generally congruent with real health data from the candidate’s district (Cruz et al. 2018; Kennedy-Hendricks et al. 2021). All of these factors provide evidence for a

grounding of the opioid debate in the lived experience of constituents, leading to our first hypothesis.

H1: Real-world opioid overdose rates will be positively correlated with mentions of the issue in campaign statements.

Although opioid abuse constitutes a core health crisis, its association with illicit drug use complicates the issue by adding a moral component to the political debate. Political rhetoric—particularly on issues associated with morality or moral decay, such as drug abuse—can be a powerful tool in shaping public perception of that issue (Goode and Ben-Yehuda 1994; Hawdon 2001). However, politicians do not typically benefit from simply stating their beliefs. Campaign rhetoric and position statements are generally the result of a two-way flow of influence between the politician and the public, indicating that campaign positions on drug issues are likely also a combination of candidate goals and public desires (Arnold and Franklin 2012; Laugesen and Patashnik 2020). Responsiveness in political statements is tempered by racial or economic differences between candidates or elected officials and their constituents (Ross and Smith 2009). Thus, although tangible deaths may be a key factor in driving candidate rhetoric, public perception of the issue is foundational for shaping political response.

Voters' perceptions of opioid use in their communities extends past perceived deaths to myriad other factors. Research has shown that public opinion on opioid policy is also affected by personal wealth, with lower-income individuals preferring greater access to treatment centers, and by partisan allegiance, with Republicans expressing greater hesitation about publicly funded treatment centers (De Benedictis-Kessner and Hankinson 2019; Kaufman and Hersh 2020). Expressions of distrust or distaste for patients with opioid use disorder, however, are found across both major political parties and are not altered by personal or familial experience with the condition (Kennedy-Hendricks et al. 2017; Schneider et al. 2021). Voters are also significantly, although not intensely, divided over which level of government is best equipped to handle the situation in their communities (Blendon and Benson 2018). Politicians will want to account for these numerous perspectives in their efforts to mobilize voters around this salient issue.

Although candidates may attempt to engage with the public directly, more often the media plays a critical mediating role between candidates and the public by influencing candidate perception of public opinion within this two-way dynamic. Both mass and local media outlets are shown to have significant impact on both the facts and the relative importance of

issues in voter evaluation of policy (McCombs and Shaw 1972). Recent media coverage of the opioid epidemic has tended toward emphasis on public health solutions rather than criminal justice policy proposals, although the lagging effect of this emphasis on public opinion has not yet been explicitly measured (McGinty et al. 2019). This trend is in contrast with the language of criminality typically found in coverage of the crack cocaine epidemic, likely because of the different racialized narratives of each drug use scare (Kim, Morgan, and Nyhan 2020; James and Jordan 2018; Shachar et al. 2019). The hypothesis that media coverage of different drug epidemics is significantly shaped by racial narratives has been thoroughly researched and found to be both a real rhetorical phenomenon and capable of significantly influencing individual perceptions of drug use (Lindsay and Vuolo 2021; Netherland and Hansen 2016). The individual response to opioid-related news coverage is greatest among whites when they perceive whites to have lost the most ground as a result of the epidemic, a phenomenon that both helps explain and is partially explained by the previously discussed trends of public perception of opioid use disorder as a white-associated disease (Gollust and Miller 2020). However, the media's capabilities to influence policy on the topic of drug use should not be overstated, particularly given that receptiveness to changing information about opioid use is dependent on personal predisposition and that rhetorical shifts in drug discussions do not have a track record of leading to more health-focused or "compassionate" treatment for sufferers of opioid use disorder (Brook and Stringer 2005; Testa, Moffitt, and Schenk 2020). The intermediary role of the media between candidates and citizens forms the basis for our second hypothesis.

H2: The prevalence of news coverage on opioids will be positively correlated with the presence of the issue in political campaign statements.

Media outlets can help to raise the importance of an issue by transmitting public concern upward and toward elected officials, but the two-way dynamic necessarily implies that the politicians can also influence citizen perception of the issue. Two-way exchanges of issue perceptions can be shaped by perceptions of issue target populations, a mechanism especially important to consider in discussions of racialized issues like drug use (Schneider and Ingram 1993). Public perception concerning opioids has fundamentally been shaped by partisan political engagement with the issue, through communication tools such as early-campaign issue ads (Druckman 2004). This phenomenon was researched most extensively

following the 2016 presidential election, with counties both actually and perceptually affected by opioid abuse tending to vote for Donald Trump (Bilal, Knapp, and Cooper 2018). The impact of perceived suffering caused by opioid abuse on voting behavior is additionally influenced by the deeply entwined roles of racial and partisan associations of both voters and candidates of each major political party, and particularly the strong perceived and actual link between whiteness and support for the Republican party (Westwood and Peterson 2022). Preferred policy responses to the opioid epidemic also divide along party lines: Republican-controlled states are more likely to enact public health plans based on fragmentation of service delivery systems (Grogan et al. 2020).

In the case of opioids, the correlation between the communities most affected by the early stages of the modern opioid crisis and racialized partisan preferences, with Republican candidates emphasizing this risk for white and rural communities, created political inertia around the framing of the opioid epidemic as a white crisis (Giles and Hertz 1994). However, the most recent data on this point shows a notably racialized trend. Despite the opioid epidemic being traditionally understood as hitting white communities worst, overdose deaths among non-Hispanic Blacks are now increasing at a greater rate than those among non-Hispanic whites (Friedman and Hansen 2022; Furr-Holden et al. 2020; Kunins 2020; Netherland and Hansen 2017).

The lingering perception of opioid use as a white issue, despite increasing evidence to add nuance if not contradiction to that view, may be the result of several factors. First, the body of literature and history of opioid usage generally lends itself toward opioids being the drug of the white working class, a perception with significant political and policy implications (Kim et al. 2020). Second, there is a long history of the medical establishment downplaying or disbelieving the pain reported by Black patients, which may have historically meant that, or led to the perception that, Black communities are prescribed opioids at a lower rate (Cooper 2004; Parker and Hansen 2021). However, these understandings are challenged by findings that it is whites who face the greatest stigma when seeking opioid addiction treatment, and by accounts hypothesizing that the lasting socioeconomic benefits of slavery in the American South have mitigated the actual impact of the “deaths of despair” model (Gabriel et al. 2021; Goodyear, Ahluwalia, and Chavanne 2022). Together, these factors create a perception that the implementation of treatment programs in communities that are more white is of more pressing importance than in communities that are less white. This politically constructed perception

of racial difference in opioid use has significant consequences for public and candidate perception of the issue, leading to our final hypothesis.

- H3: The proportion of white population within a district will be positively correlated with the presence of the issue in political campaign statements despite fundamental change.

## Methods

To measure the level of news coverage of opioid issues across the country we relied on the archives of local and national newspapers hosted by Access World (NewsBank n.d.). This database contains archived news content from more than 14,200 sources internationally going back to 1980, including more than 8,000 sources from state and local news agencies within the United States. Each source is categorized by location (down to the state level in the United States) and content type, including print media, web-only content, and news wires. This database was chosen over others offering similar services for several reasons. First, compared to other major newspaper databases, Access World offers an impressively robust map-based location sorting mechanism that aided in the location sorting process of our data collection. In addition, this database offered the greatest number of indexed newspaper titles available (Gilbert et al. 2024). We found that the number and variety of sources found in Access World far exceeded those found through a comparable search in the most popular news database, Nexis Uni. This discrepancy seemed to stem largely from a greater number of small regional newspapers captured by the Access World database, a finding that is supported by empirical evaluations of the two databases (Gilbert et al. 2024). Finally, Access World directly incorporates news wire coverage, including both independent news wires and coverage that is adopted by local print and online mediums, a type of coverage that has historically been underreported in digital news archives (Ridout, Fowler, and Searles 2012).

We searched all outlets identified as “newspapers” by Access World, including print and online content, for mentions of “opioid,” “opioids,” “opiate,” or “opiates” to develop counts of publications mentioning the issue within each state for the 2018 and 2020 campaign years. We restricted our Access World search to include only articles that contained 500 words or more, to best capture prominent news within each state that would contribute to rhetoric on key policy debates. This limitation reduces the levels of superficial news contained in the database, and models containing

this formulation were the best fit, showing a consistently reduced Akaike information criterion across years. Newspapers of national importance (e.g., *The New York Times*, *The Washington Post*, etc.) were treated as the same as any other local news source, as these papers still cover state-level trends and news events extensively. The substantial volume of coverage produced by *The New York Times* compared to other regional papers was considered as a potential limitation to this approach. However, given that the *Times* is first and foremost the leading paper in New York state and substantially shapes the media ecosystem of that state, we found no justification to exclude it from our count. The online appendix includes robustness checks where we include counts for all newspaper articles and counts for all potential sources of news archived by Access World. These counts represent the broadest potential set of sources for local news, and the models validate the results.

For this analysis, we measure the abundance of news dedicated to opioids by exclusively relying on the total news counts during the 2018 and 2020 campaign years. Historically, measures of the salience of issues in media rely on some assumed numerator of news articles dedicated to an issue about some denominator of total news stories. This style of measure works well when dealing with national news in a space-limited sample that provides a concrete denominator, for example only examining news from the national section of a major newspaper, such as *The New York Times* or *The Washington Post*. Finding a concrete denominator for a statewide measure of media attention is much more problematic for several reasons. First, the growth of digital mediums has greatly increased the potential level of news content within a given state, fundamentally contracting the variance of a measure of any major issue. The total number of articles across all news sources within any given state across our two years of study ranged from fewer than 35,000 to more than 1,357,000, articles with a standard deviation between states of roughly 30,000 articles. Although we restrict the sample within our analysis to only articles with 500 words or more, this problem persists, with a range from 8,000 articles to more than 260,000 articles. The distribution of total news articles does not represent a normal distribution but is instead heavily skewed with outliers at the top end of the spectrum because of superfluous news. Conversely, the space dedicated to opioids within articles of 500 words or more ranged from 111 articles to 6,100 articles in 2018, with a more pronounced contraction during the 2020 campaign year. In fact, news coverage on opioids only exceeded 1% of total news coverage in 33 states in 2018 and four states in 2020, and it peaked at 4.3% of news coverage among articles with 500 words or more (West Virginia in 2018).

The size of the potential denominator is not the only problem associated with the growing digital news market. The second major issue is that this inflated media market incorporates significant news coverage that does not fundamentally compete with mainstream media issues for consumer political attention. Typical measures of salience rates, measured as a proportion of news stories out of total news stories, assume that all units in the denominator equally compete for the reader's attention. This made sense in a space-limited environment like a nationally focused print paper, where space was competitive and entirely geared toward consumption. However, given the unlimited space of digital media, news outlets are free and even encouraged to publish in greater volume. Furthermore, the rates at which a particular news agency publishes local or irrelevant content can vary widely by organization and, as the data shows, by state. Calculated at the state level, the average rate of news stories per source varies widely by state, ranging from 700 to 5,229 news stories per source, a clear indication that some outlets just remain more prolific in their publications.

The result is that for the purposes of a statewide study, common measures of the total media market represent a potentially irrelevant and highly inconsistent denominator that undermines potential theoretical assumptions about attention and space. Instead, we have opted for measuring opioid news abundance within a given state as a solid proxy for relative attention. This measure provides the best approximation of media rhetoric that can interact with campaign rhetoric across the full geography of a state. Furthermore, it represents the availability of opioid rhetoric in news media for attentive publics to target and consume. To provide additional evidence of the limitations of the significant variation in total state news, we have included the distribution of news articles within our search, total news articles, and available sources from Access World as a table in the online appendix. In addition, to provide a final robustness check we include models in the appendix that include the ratio of opioid news to logged total news articles for each news category. Weighting opioid news in this way provides a measure that accounts for state variation in total news while preventing the wide disparity in total news from rendering our count of opioid data irrelevant. Our models are robust to these alternative formulations.

To evaluate candidate mentions of opioid issues, we relied on data collected by the Digital Campaigns Project at the University of South Carolina (Meyer-Gutbrod n.d.). This database identifies official campaign websites for all major party candidates in races for seats in the upper and lower houses of state legislatures in 2018 and 2020. The role of perceptions of



opioid use in voting behavior not been thoroughly examined at the local level, and existing scholarship indicates that elections at the congressional or state legislative level are less influenced by local opioid use conditions than are presidential contests (Gollust and Haselswerdt 2021). Websites were included if they appeared in the first 20 results of Google searches of the candidates' full name, state, chamber, and year of campaign when the history-driven search improvement function of the Google search engine was disabled. This cutoff point was established to exclude candidates whose campaign websites are not easily found by the average voter. Official Facebook pages were also searched for links to official campaign websites but were not themselves treated as being such. These parameters resulted in 6,578 websites with text in the 2018 campaign cycle and 5,950 websites with text in the 2020 campaign cycle (Meyer-Gutbrod 2023). Website text was extracted using Archive-It's Archive Research Compute Hub (Holzmann et al. 2022). We then searched this database to identify any mentions of certain key terms mirroring the newspaper search, including the terms "opioid," "opioids," "opiate," or "opiates." To create a binomial variable to indicate presence of discussion about opioids at all, websites that mentioned any of these terms were coded 1, and those that did not were coded 0. This presence/absence coding is most appropriate given that campaign websites do not have the same spatial and resource limitations on the number of subjects they can cover that newsrooms do.

There are many reasons why there is no accurate way to measure the numbers of those who experience addiction, including the social stigma against publicly acknowledging addiction, fear of legal consequences for those who admit to using drugs illicitly, and a lack of systematic screening and treatment for those experiencing addiction, among others. Drug overdose deaths are therefore the most accurate statistics available to approximate the prevalence of addiction in communities. To approximate opioid overdose death rates, we use the total drug overdose death rate data from the Centers for Disease Control and Prevention (CDC 2022).

To analyze the data, we employed separate generalized linear models using logistic regression to determine the influence from news coverage and opioid deaths on the presence of opioid rhetoric in campaign content. Overdose death rate and news rates are measured at the state level, with news rates being measured in hundreds of articles to simplify the coefficient. To account for hypothesis 3 we included the percentage of the district population that identified as white. We also included controls measured at the district level for median age, percentage of the district population with a bachelor's degree, population, and median income (in thousands of

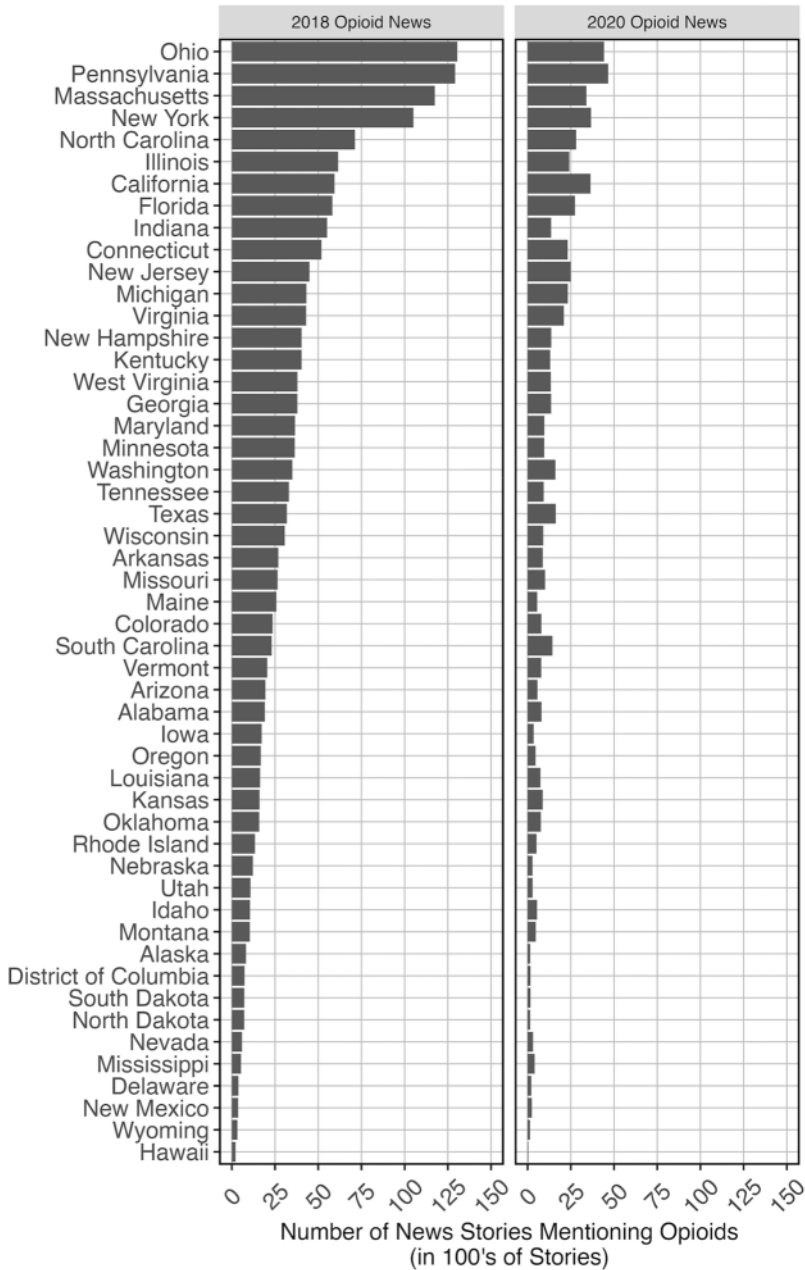
dollars). All district-level demographic variables are pulled from the 2018 and 2020 American Community Survey community estimates from the US Census Bureau (US Census Bureau n.d.). We also use robust standard errors clustered at the state level to account for unique state variation in the analysis. We also include interaction effects between party and our main variables of interest to account for interparty variation in response to the opioid crisis. Analysis for each model was conducted for the year 2018, for which we found evidence of the highest volume of public discussion of opioid issues, and the year 2020, in which national discussion of the issue sharply decreased.

## Findings

Understanding the impact of news media and drug overdose deaths requires first understanding the significant variation across states for both media attention and the systemic nature of the crisis. Figure 1 plots the total abundance of news stories from 2018 and 2020 across all states, using Access World news mentions.

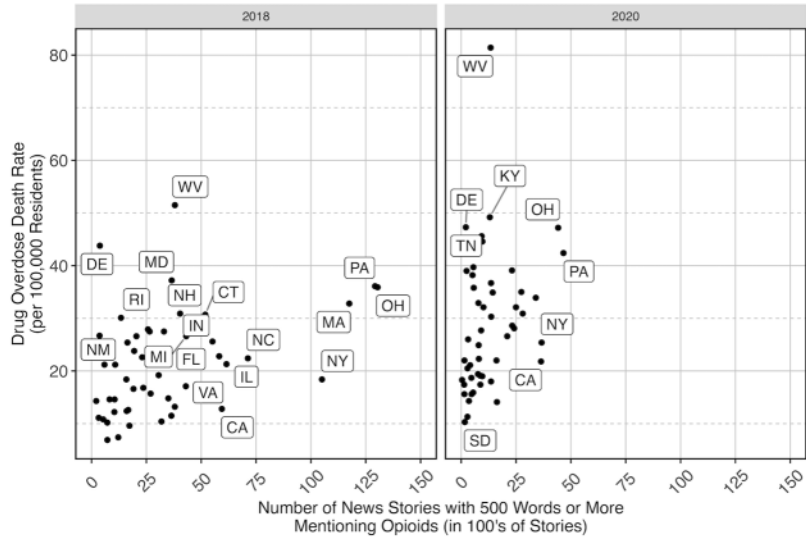
As the figure indicates, there is significant variation in media attention across states in both years. Ohio, Pennsylvania, Massachusetts, and New York have the most media mentions across both years, likely because of the presence of major population centers and news publication centers and their early experiences of the opioid crisis. In addition, it is worth noting the significant decline in news abundance during the 2020 campaign year. Nationally, news articles with 500 words or more mentioning opioids declined 70% in 2020 versus 2018. At the state level, the mean decline was 70%, with a standard deviation of 10%. Only two states declined by less than 50% (MS = 44% decline; NM = 31% decline). This pales in comparison to the decline in total news stories of 500 words or more, with a national decline of only 17%, and with a state mean decline of 18% and a standard deviation of 12%. This is an additional indication that this shift in opioid news rhetoric is the product of potential shifts in electoral priorities and the rise of the COVID-19 pandemic as a major subject for health news, and further reiterates the inability to measure shifting opioid news as a percentage of total news.

Although news has historically been a major driver of campaign attention for an issue, it remains a mere reflection of dynamic real-world conditions. However, unlike the news abundance shift in 2020, the actual number of overdoses increases between 2018 and 2020. The mean state change in death rate saw an increase in deaths by 37%, with a standard deviation



**Figure 1** Within-state news stories of 500 words or more that mention opioids.

*Notes:* Figure 1 plots the total within-state news stories that exceed 500 words that mention “opioid,” “opioids,” “opiate,” or “opiates” in 2018 and 2020 using the Access World database (NewsBank n.d.).



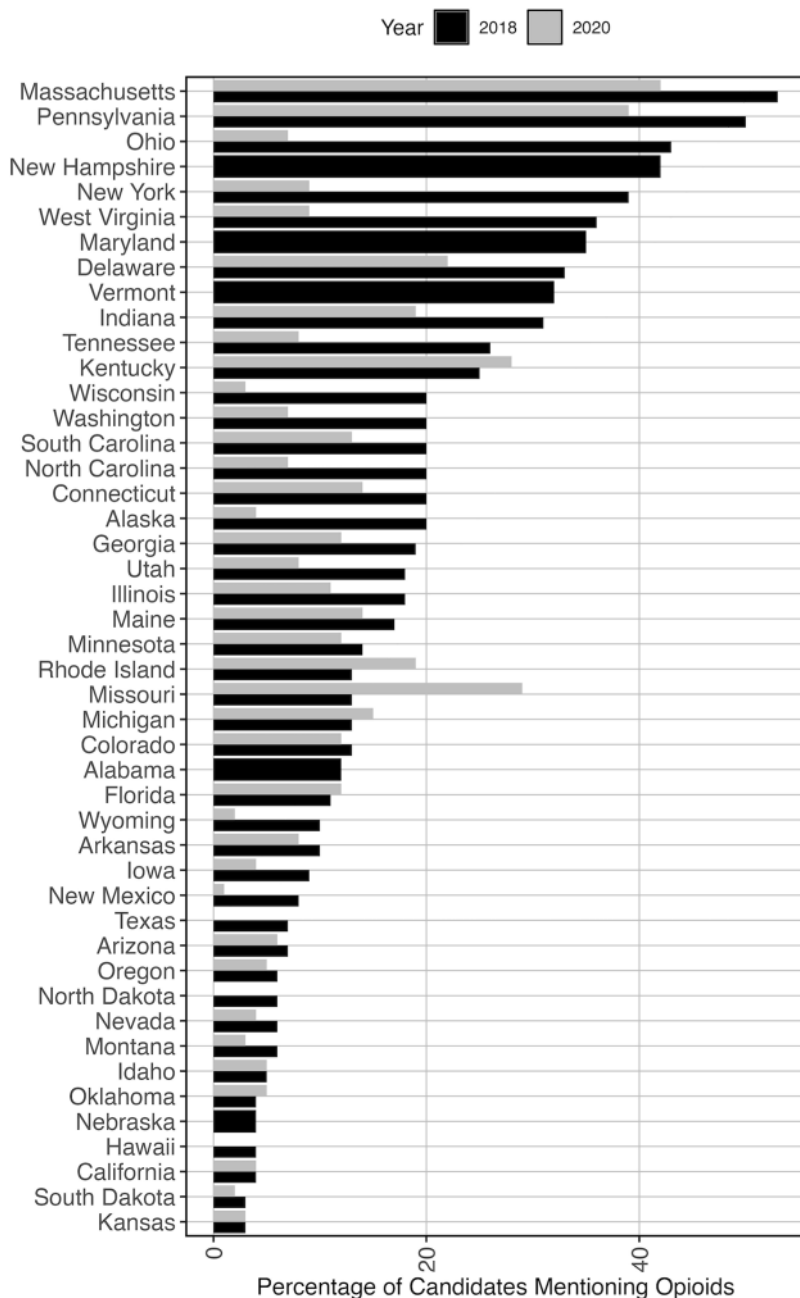
**Figure 2** Opioid news stories versus state opioid overdose death rates.

*Note:* Figure 2 plots the drug overdose death rate, per 100,000 residents, against the total within-state news stories that exceed 500 words that mention opioids in the years 2018 and 2020. The Pearson's correlation coefficient for 2018 is  $r(48) = .44$ ,  $p = 0.001$ . The correlation coefficient for 2020 is only slightly lower, at  $r(48) = .38$ ,  $p = 0.005$ .

change of 22%. Only three states saw a decline in opioid deaths in 2020 (NH, UT, NJ), and 15 states saw at least a 50% increase in deaths. Figure 2 plots the state's drug overdose death rate against the state's total number of news stories across both years, with key outlier states labeled.

As is evident within the figure, the relationship between overdose rate and news stories is much stronger during the 2018 campaign year than during the 2020 campaign year. However, both relationships are statistically correlated. The Pearson's correlation coefficient between deaths and news in 2018 is  $r(48) = .44$ ,  $p = 0.001$ , a moderately strong correlation. The correlation coefficient for 2020 is only slightly lower at  $r(48) = .38$ ,  $p = 0.005$ . Of note is the state of West Virginia, which despite its extremely high overdose rate in both 2018 and its increase in 2020, sees a marked decline in news stories during 2020. The contrast between these two years sets up an excellent test for our model to determine whether media attention or actual issues drive campaign rhetoric.

Finally, there is significant variation in the rates at which candidates address the issue of opioids in campaigns, both across states and within each state across years. Figure 3 plots the percentage of candidates within



**Figure 3** Percentage of candidates by state and year mentioning opioids.

*Note:* Figure 3 plots the percentage of candidates mentioning “opioid,” “opioids,” “opiate,” or “opiates” by state and year. States with a single full bar for 2018 indicate states with no 2020 data because of lack of elections or missing data. These include New Hampshire, Maryland, Vermont, Alabama, and Nebraska.

each state and year who include a mention of opioids on their campaign website. In 2018, the states with significant rates of attention from campaigns also dominated the news media rates and death rates, particularly states like Pennsylvania, Ohio, New York, and West Virginia. Ohio, New York, and West Virginia's attention to the issue in campaigns plummeted in 2020, alongside Tennessee. However, Pennsylvania and Massachusetts maintain relatively high in campaign attention, despite corresponding shifts in media attention. A handful of states see increased campaign attention during the 2020 campaign, including Kentucky, Missouri, Rhode Island, and Oklahoma.

These figures begin to illustrate the complex relationship between campaign attention, media attention, and the magnitude of the source issue. To better understand this dynamic, we turn to logistic regression. Table 1 shows results for our logistic regression, where the dependent variable in each model is the presence or absence of rhetoric on opioids on a candidate's website. Both coefficients and odds ratios are listed, and robust standard errors clustered at the state level are included to assess statistical significance. The results paint a complicated picture across the two years within the study regarding campaign attention relative to the actual magnitude of the crisis and the magnitude of within-state news.

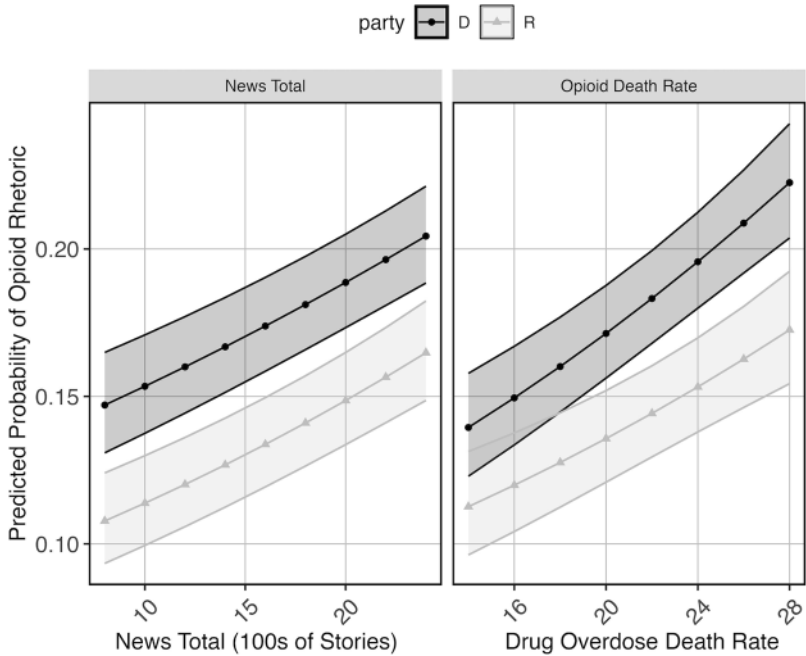
During the 2018 campaign year, we find strong evidence for all three hypotheses. There is a statistically significant and positive relationship between overdose rates and the likelihood of a candidate mentioning opioids, and it is consistent between both political parties, providing support for hypothesis 1. Furthermore, there is also a statistically significant relationship between media attention to opioids within a state and the likelihood of a candidate mentioning the issue on their website, providing support for hypothesis 2. Figure 4 plots the predicted probability of a candidate mentioning opioids on their campaign website relative to these two key variables during the 2018 campaign season, factoring in the candidate's party.

As the figure further illustrates, Democrats are slightly more likely to address the issue than Republicans, although among Republican incumbents this gap is reduced. Candidates also appear to have responded to news and actual drug overdoses relatively equally during the 2018 campaign season. An increase in news attention by one standard deviation (roughly 1,600 more stories) corresponds to a 0.07 increase in the predicted probability of a candidate mentioning opioids on their website. A corresponding increase in drug overdose death rate by one standard deviation (9 deaths/1,000 people) results in a 0.05 increase. Finally, we also see a statistically significant and positive relationship between the percentage of the population in a district that identified as white and the likelihood of a candidate

**Table 1** Model Results for Generalized Linear Model Logistic Regression for Candidate and District Qualities on Mention of Opioids on a Campaign Website News Mentions Drawn from Newspaper Articles with More Than 500 Words

	2018 Model		2020 Model	
	Coefficient (SE)	Odds ratio	Coefficient (SE)	Odds ratio
Intercept	-4.505 (1.218)	0.011*	-2.941 (1.306)	0.053*
Republican (binary)	-0.524 (0.256)	0.592*	-0.608 (0.406)	0.545
Incumbent (binary)	-0.079 (0.134)	0.924	0.335 (0.206)	1.398
Republican * incumbent	0.553 (0.185)	1.739*	0.641 (0.25)	1.899*
Opioid news total (hundreds of articles)	0.025 (0.005)	1.025*	0.081 (0.021)	1.084*
Republican * opioid news total	0.006 (0.004)	1.006	0.012 (0.024)	1.012
Opioid overdose death rate	0.041 (0.009)	1.041*	0.016 (0.011)	1.016
Republican * opioid overdose death rate	-0.005 (0.007)	0.995	-0.009 (0.009)	0.991
District median age	0.0116 (0.00918)	1.012	0.00027 (0.01354)	1
District % with bachelor's degree	0.00488 (0.005)	1.005	0.01485 (0.005)	1.015*
District population (log)	-0.002 (0.08)	0.998	-0.143 (0.079)	0.867
District median income (\$1,000s)	0.0019 (0.0033)	1.002	0.0016 (0.0043)	1.002
District percentage white	0.012 (0.004)	1.012*	0.011 (0.005)	1.011*
Alkaike information criterion <b>r</b>	5497.4		3807.9	
N	6,103		5,533	

Notes: Results show model results for a generalized linear model logistic regression, where the dependent variable is coded as 1 for the presence of opioid rhetoric on the campaign website and 0 for a lack of rhetoric. Coefficients are listed with state-clustered robust standard errors. The second column shows the relevant odds ratio, and \* indicates statistical significance at  $p < 0.05$ .



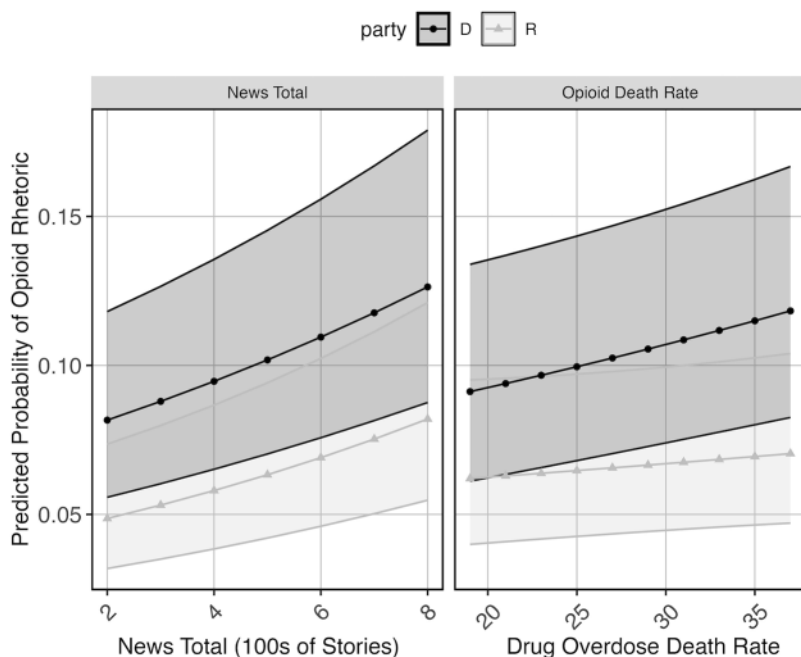
**Figure 4** Predicted probability of opioid rhetoric across the first through third quartile of the labeled variable (see table 1, 2018 model).

*Note:* Figure 4 plots the predicted probability of mentioning opioids on a candidate’s campaign website relative to within-state news attention and state-level drug overdose death rates from 2018 (table 1, model 1). The range of data displayed moves from the first quartile to the third quartile for both opioid news total and opioid overdose death rate. All other variables are held at their mean, and incumbency status is held at incumbent. Error bars show 95% confidence intervals on the predicted probability using robust standard errors clustered at the state level.

mentioning opioids. These changes are more subtle than the shifts associated with news and death rates. An increase by one standard deviation in the percentage of the district that identified as white (17% increase) corresponds to only a 0.03 increase in predicted probability of engagement with the issue of opioids. This provides evidence for hypothesis 3 and may be an indication that the racialized framing that was largely adopted by the media and the Trump campaign may have been impactful.

Shifting to the 2020 election, we observe a different dynamic emerging regarding campaign rhetoric on opioids. First and foremost, we again observe a statistically significant and positive relationship between news and campaign rhetoric. Candidates in states with a greater abundance of 2020 news coverage on opioids are more likely to mention the issue on their campaign





**Figure 5** 2020 predicted probability of opioid rhetoric across the first through third quartile of the labeled variable (see table 1, 2020 model).

*Note:* Figure 5 plots the predicted probability of mentioning opioids on a candidate's campaign website relative to within-state news attention and state-level drug overdose death rates from 2020 (table 1, 2020 model). The range of data displayed moves from the first quartile to the third quartile for both opioid news total and opioid overdose death rate. All other variables are held at their mean, and incumbency status is held at incumbent. Error bars show 95% confidence intervals on the predicted probability using robust standard errors clustered at the state level.

websites, providing additional evidence for hypothesis 2. An increase in news attention by one standard deviation (500 additional stories) corresponds to a 0.04 increase in the predicted probability of engagement with the topic. However, despite increased drug overdose death rates across multiple states, we see a flattening of the effect of overdose death rate in 2020, with the variable failing to achieve statistical significance, leading us to fail to reject the null hypothesis for hypothesis 1.

Figure 5 plots the predicted probability of a candidate mentioning opioids on their campaign website relative to news and death rates during the 2020 campaign season, factoring in the candidate's party. As is evidenced by the figure, within-state death rates no longer correspond to shifts in rhetoric. Instead, the crisis is only a crisis if the local news is covering it,

allowing the issue to remain ignored in states with high death rates and low news coverage. The subtle increase among Democratic candidates, while more apparent in the figure, fails to achieve statistical significance within the model. This provides strong evidence for the effect media coverage can have on perception of a public health crisis, and the willingness of political actors to ignore a crisis if it is not mentioned in print.

In addition to the shifting dynamic regarding the influence of media relative to actual deaths during the 2020 election, we see a significant shift regarding district demographics. Although district racial composition was the only demographic variable to achieve statistical significance in 2018, these demographics represent a more significant component in the 2020 model. District white population and district median income are both positively correlated with mentions of opioids on campaign websites. In addition, the percentage of the district with a bachelor's degree is now statistically significant, even though the effect is subtle, with only a 0.01 increase in predicted probability for an increase by one standard deviation in degree holders (14% increase). Thus, while race remains a consistent factor, education presents an additional factor that may impact the prevalence of opioid rhetoric for candidates.

## Conclusions

In this study, we sought to understand the effects of actual opioid use rates, approximated by opioid overdose rates, and perceived prevalence of the issue, approximated by the abundance of news coverage, on the presence of rhetoric on opioids in political campaigns. The existing literature on related topics indicates that, although opioid overdose deaths are becoming an increasing issue in nonwhite communities, public and political perceptions of the epidemic persist in understanding it as a primarily white issue. The two-directional relationship between public opinion, represented by the media, and political campaign statements indicates that this racialized understanding of opioid use has significant impact on political responses to opioid use. However, no previous research has explicitly tested how media engagement with the issue and statements from candidates for political office relate to each other alongside the impact of actual local concerns.

Our results confirm what one might expect based on the existing political science literature: The positive correlation between media coverage alone and campaign comments described in the second hypothesis is, in fact, a more significant determinant of campaign comment probability than actual

within-state drug overdoses. There are some limitations on this study's ability to establish causality around the correlation between media and campaign attention. The relationship between media and campaigns has long been recognized as endogenous, and this study does not challenge that finding. However, what remains striking is the mutual disconnect with the rates of drug overdose deaths in the real world. During the 2020 campaign, overdose death rates increase, while we also observe a significant decline in media attention and a corresponding decline in campaign attention. This is likely driven by shifting media priorities regarding COVID-19 and the pandemic's capacity to monopolize the news space dedicated to public health. However, despite this significant media decline, the positive and statistically significant correlation between media and campaign rhetoric remains persistent. Candidates are addressing the issue significantly less in 2020, and candidates in states that are more affected by the opioid epidemic are not compelled to address the issue in the absence of local media coverage.

This result may be driven in part by our focus on state legislative campaigns. State legislators, unlike their national counterparts, face a narrower media environment and may be more successful at evading nationalized issues in the absence of local attention on the issue. Furthermore, the low salience of state-level elections within the media broadly may further allow state legislators to evade discussing tangible issues within the state because of lack of attention. In this regard, this study provides interesting evidence that state-level agents are uniquely responsive to local news, despite growing nationalization within the electorate. However, addressing actual policy changes within these states is beyond the scope of the current analysis.

In addition, although our results indicate that news has a stronger connection than actual health crisis conditions to state-level response to an issue, there remains evidence for a positive potential influence from actual deaths, especially when it is concurrent with media attention. During the 2018 campaign, when both overdose death rates and media abundance are high, we observe a higher level of engagement by candidates regarding the issue of the opioid epidemic. In this sense, media attention may help to reinforce the importance of an already impactful issue, enhancing the pressure on candidates to engage with the issue. When death rates and the media each hold comparable effects on engagement probability while controlling for the other, we can surmise that the media and the actual crisis can both function to magnify the issue, further raising awareness and ultimately increasing engagement. However, with that increased media attention

comes critical shifts in framing imparted by the media that may not be present when candidates are merely responding to statistics.

In 2018, when media functioned as a reinforcing and magnifying agent to increase candidate attention to opioid issues, candidates in districts with higher percentages of white constituents were found to be the most likely to discuss opioids on the campaign trail. Previous literature has established that the modern opioid crisis is perceived as a white, and therefore more Republican, issue, as presented through the media. This frame appears to carry over into the campaigns during the 2018 campaign. However, by 2020, we find that that bachelor's degree attainment in a district constitutes an equally prominent predictor. This shift corresponds to a significant decline in media attention to the issue overall and thus a potential decline in framing around the issue. Therefore, while the media may draw more attention to an issue, it may also bring with that attention key frames that may alter the likelihood for candidates to engage with an issue based on their constituent demographics.

One alternative reason for this partisan and demographic shift is the successful deployment of humanizing media stories about opioid use in the mid-2010s. The literature and history of opioid politics in America indicate that it is the media's ability and willingness to put faces and human stories to faceless statistics that create the conditions for those statistics to become politically salient. In the opioid crisis, the media narrative of opioid abuse as a story of rural community decay, white social decline, and the difficulties faced by the impoverished elderly gave politicians a good reason to spend limited campaign time and resources discussing opioids. The text of the commentary opinions downloaded as part of the quantitative analysis almost uniformly include language emphasizing the medical nature of opioid addiction and calling for medical policy solutions to the problem of overdose. Headlines such as "Government Must Regulate Drugs," "Federal Role in National Opioid Crisis Critical," and "Crippling Crises in Rural America" emphasize that the volume of media coverage proven to positively impact the likelihood of political comment also approaches the issue of opioids with the view that its victims are sympathetic and ought to be helped by the government ("Readers Write Government Must Regulate Drugs" 2019; *Walla Walla Union-Bulletin* Editorial Board 2018; Zito 2017). Therefore, it is possible that the changed politics of opioids in 2020 are the result of the substantial impact media had on the public face of the issue in 2018.

Future research might use the same data we employed here to expand our understanding of opioids in American politics in several directions. An

analysis of the rhetorical framing of the topic of opioids in both campaign statements and news could facilitate interesting discussion of the rhetorical strategies used in drug epidemics, in which the line between “medical” use and “illicit” use is more or less clear than in the opioid crisis. This would require a more in-depth analysis of the actual language and frames used in both media stories and campaigns. This might give additional insight into the ability of media frames to infiltrate and impact campaign frames. It might also provide additional opportunities to understand how candidates are capable of reframing campaign issues in the absence of dominant media frames.

Ultimately, this research provides important empirical support for existing qualitative accounts critiquing the role that the media narrative has played in the framing of the opioid crisis as white decline. The increased understanding of media’s role in shaping opioid narratives offered by this work can help all those involved in the crafting of opioid treatment policy examine the possible biases their perceptions of the opioid epidemic might introduce into public health responses. More broadly, understanding the impact that media has on shaping which issues are politically salient is crucial for understanding the motivation behind campaign message crafting.

■ ■ ■

**Rachael L. M. Erickson** is a policy analyst for the South Carolina Department of Health and Human Services. Her research focuses on the intersection of public health policy and politicized social identities, particularly focusing on Medicaid, electoral politics, and opioid use disorder.  
rachaellme5802@gmail.com

**Joshua Meyer-Gutbrod** is a teaching assistant professor with the Department of Political Science at the University of South Carolina. His research focuses on the impact of national polarization in shaping state-level politics. He also maintains the Digital Campaigns Project, which tracks and archives state legislative campaign websites.

### Acknowledgments

This material is based on work supported by the National Science Foundation SBE Postdoctoral Research Fellowship under grant no. 1808962. Additional funding was provided by the University of South Carolina College of Arts and Sciences Faculty Research Initiative and the University of South Carolina Honors College Research

Grant. Special thanks to Nicholas W. Waterbury and Henrik Schatzinger at the Southern Political Science Association and the reviewers at *JHPPL* for encouraging us to think critically about the measurement of media attention in a changing media climate.

## References

- Arnold, Christine, and Mark N. Franklin. 2012. "Introduction: Issue Congruence and Political Responsiveness." *West European Politics* 35, no. 6: 1217–25. <https://doi.org/10.1080/01402382.2012.713741>.
- Bilal, Usama, Emily A. Knapp, and Richard S. Cooper. 2018. "Swing Voting in the 2016 Presidential Election in Counties Where Midlife Mortality Has Been Rising in White Non-Hispanic Americans." *Social Science and Medicine* 197: 33–38. <https://doi.org/10.1016/j.socscimed.2017.11.050>.
- Blendon, Robert J., and John M. Benson. 2018. "The Public and the Opioid-Abuse Epidemic." *New England Journal of Medicine* 378, no. 5: 407–11. <https://doi.org/10.1056/nejmp1714529>.
- Brook, Heather, and Rebecca Stringer. 2005. "Users, Using, Used: A Beginner's Guide to Deconstructing Drugs Discourse." *International Journal of Drug Policy* 16, no. 5: 316–25. <https://doi.org/10.1016/j.drugpo.2005.05.002>.
- CDC (Centers for Disease Control and Prevention). 2022. "Drug Overdose Mortality by State." [https://www.cdc.gov/nchs/pressroom/sosmap/drug\\_poisoning\\_mortality/drug\\_poisoning.htm](https://www.cdc.gov/nchs/pressroom/sosmap/drug_poisoning_mortality/drug_poisoning.htm) (accessed May 2024).
- Cooper, Hannah. 2004. "Medical Theories of Opiate Addiction's Aetiology and Their Relationship to Addicts' Perceived Social Position in the United States: An Historical Analysis." *International Journal of Drug Policy* 15, nos. 5–6: 435–45. <https://doi.org/10.1016/j.drugpo.2004.05.006>.
- Cruz, Cesi, Philip Keefer, Julien Labonne, and Francesco Trebbi. 2018. "Making Policies Matter: Voter Responses to Campaign Promises." National Bureau of Economic Research, NBER Working Paper 24785, June. <https://doi.org/10.3386/w24785>.
- De Benedictis-Kessner, Justin, and Michael Hankinson. 2019. "Concentrated Burdens: How Self-Interest and Partisanship Shape Opinion on Opioid Treatment Policy." *American Political Science Review* 113, no. 4: 1078–84. <https://doi.org/10.1017/s0003055419000443>.
- Druckman, James N. 2004. "Priming the Vote: Campaign Effects in a US Senate Election." *Political Psychology* 25, no. 4: 577–94. <http://www.jstor.org/stable/3792410>.
- "Editorial: Federal Role in National Opioid Crisis Is Critical." 2018. *Walla Walla Union-Bulletin*, March 4.
- Friedman, Joseph R., and Helena Hansen. 2022. "Evaluation of Increases in Drug Overdose Mortality Rates in the US by Race and Ethnicity Before and During the COVID-19 Pandemic." *JAMA Psychiatry* 79, no. 4: 379–81. <https://doi.org/10.1001/jamapsychiatry.2022.0004>.

- Furr-Holden, Debra, Adam J. Milam, Ling Wang, and Richard Sadler. 2020. "African Americans Now Outpace Whites in Opioid-Involved Overdose Deaths: A Comparison of Temporal Trends from 1999 to 2018." *Addiction* 116, no. 3: 677–83. <https://doi.org/10.1111/add.15233>.
- Gabriel, Ryan, Michael Esposito, Geoff Ward, Hedwig Lee, Margaret T. Hicken, and David Cunningham. 2021. "White Health Benefits of Histories of Enslavement: The Case of Opioid Deaths." *Annals of the American Academy of Political and Social Science* 694, no. 1: 142–56. <https://doi.org/10.1177/00027162211009776>.
- Gilbert, Stacy, Kyunghye Kim, Rebecca Kelley, Alyssa Wright, and Alessia Zanin-Yost. 2024. "Evaluation of Six News Aggregator Databases: A Comparison for Researchers and Librarians." *Journal of Electronic Resources Librarianship* 36, no. 1: 36–54. <https://doi.org/10.1080/1941126X.2024.2306045>.
- Giles, Micheal W., and Kaenan Hertz. 1994. "Racial Threat and Partisan Identification." *American Political Science Review* 88, no. 2: 317–26. <https://doi.org/10.2307/2944706>.
- Gollust, Sarah E., and Joanne M. Miller. 2020. "Framing the Opioid Crisis: Do Racial Frames Shape Beliefs of Whites Losing Ground?" *Journal of Health Politics, Policy and Law* 45, no. 2: 241–76. <https://doi.org/10.1215/03616878-8004874>.
- Gollust, Sarah E., and Jake Haselswerdt. 2021. "A Crisis in My Community? Local-Level Awareness of the Opioid Epidemic and Political Consequences." *Social Science and Medicine* 291: article ID 114497. <https://doi.org/10.1016/j.socscimed.2021.114497>.
- Goode, Erich, and Nachman Ben-Yehuda. 1994. "Moral Panics: Culture, Politics, and Social Construction." *Annual Review of Sociology* 20, no. 1: 149–71. <https://doi.org/10.1146/annurev.so.20.080194.001053>.
- Goodyear, Kimberly, Jasjit Ahluwalia, and David Chavanne. 2022. "The Impact of Race, Gender, and Heroin Use on Opioid Addiction Stigma." *Journal of Substance Abuse Treatment* 143: article ID 108872. <https://doi.org/10.1016/j.jsat.2022.108872>.
- Grogan, Colleen M., Clifford S. Bersamira, Phillip M. Singer, Bikki Tran Smith, Harold A. Pollack, Christina M. Andrews, and Amanda J. Abraham. 2020. "Are Policy Strategies for Addressing the Opioid Epidemic Partisan? A View from the States." *Journal of Health Politics, Policy and Law* 45, no. 2: 277–309. <https://doi.org/10.1215/03616878-8004886>.
- Grol-Prokopczyk, Hanna. 2018. "Use and Opinions of Prescription Opioids Among Older American Adults: Sociodemographic Predictors." *Journals of Gerontology: Series B* 74, no. 6: 1009–19. <https://doi.org/10.1093/geronb/gby093>.
- Hawdon, James E. 2001. "The Role of Presidential Rhetoric in the Creation of a Moral Panic: Reagan, Bush, and the War on Drugs." *Deviant Behavior* 22, no. 5: 419–45. <https://doi.org/10.1080/01639620152472813>.
- Holzmann, Helge, Nick Ruest, Jefferson Bailey, Alex Dempsey, Samantha Fritz, Peggy Lee, and Ian Milligan. 2022. "ABCDEF: The 6 Key Features Behind Scalable, Multi-Tenant Web Archive Processing with ARCH: Archive, Big Data, Concurrent, Distributed, Efficient, Flexible." Paper presented at the ACM/IEEE Joint Conference, Cologne, Germany, June 20–24. <https://ieeexplore.ieee.org/document/9852832>.

- James, Keturah, and Ayana Jordan. 2018. "The Opioid Crisis in Black Communities." *Journal of Law, Medicine, and Ethics* 46, no. 2: 404–21. <https://doi.org/10.1177/1073110518782949>.
- Jou, Ariadna, Nuria Mas, and Carles Vergara-Alert. 2020. "Housing Wealth, Health, and Deaths of Despair." *Journal of Real Estate Finance and Economics* 66, no. 3: 569–602. <https://doi.org/10.1007/s11146-020-09801-5>.
- Kaufman, Aaron R., and Eitan D. Herish. 2020. "The Political Consequences of Opioid Overdoses." *PLoS One* 15, no. 8: article ID e0236815. <https://doi.org/10.1371/journal.pone.0236815>.
- Kennedy-Hendricks, Alene, Colleen L. Barry, Sarah E. Gollust, Margaret E. Ensminger, Margaret S. Chisolm, and Emma E. McGinty. 2017. "Social Stigma Toward Persons with Prescription Opioid Use Disorder: Associations with Public Support for Punitive and Public Health-Oriented Policies." *Psychiatric Services* 68, no. 5: 462–69. <https://doi.org/10.1176/appi.ps.201600056>.
- Kennedy-Hendricks, Alene, Erika Franklin Fowler, Sachini Bandara, Laura M. Baum, Sarah E. Gollust, Jeff Niederdeppe, and Colleen L. Barry. 2021. "Relationship Between Drug Overdose Mortality and Coverage of Drug-Related Issues in US Television Political Campaign Advertising in the 2012 and 2016 Election Cycles." *Journal of Health Politics, Policy and Law* 46, no. 3: 381–407. <https://doi.org/10.1215/03616878-8893515>.
- Kim, Jin Woo, Evan Morgan, and Brendan Nyhan. 2020. "Treatment Versus Punishment: Understanding Racial Inequalities in Drug Policy." *Journal of Health Politics, Policy and Law* 45, no. 2: 177–209. <https://doi.org/10.1215/03616878-8004850>.
- Kunins, Hillary V. 2020. "Structural Racism and the Opioid Overdose Epidemic: The Need for Antiracist Public Health Practice." *Journal of Public Health Management and Practice* 26, no. 3: 201–5. <https://doi.org/10.1097/phh.0000000000001168>.
- Laugesen, Miriam J., and Eric M. Patashnik. 2020. "Framing, Governance, and Partisanship: Putting Politics Front and Center in the Opioid Epidemic." *Journal of Health Politics, Policy and Law* 45, no. 2: 365–72. <https://doi.org/10.1215/03616878-8004958>.
- Lindsay, Sadé L., and Mike Vuolo. 2021. "Criminalized or Medicalized? Examining the Role of Race in Responses to Drug Use." *Social Problems* 68, no. 4: 942–63. <https://doi.org/10.1093/socpro/spab027>.
- McCombs, Maxwell E., and Donald L. Shaw. 1972. "The Agenda-Setting Function of Mass Media." *Public Opinion Quarterly* 36, no. 2: 176–87. <https://doi.org/10.1086/267990>.
- McGinty, Emma E., Elizabeth M. Stone, Alene Kennedy-Hendricks, Kaylynn Sanders, Alexa Beacham, and Colleen L. Barry. 2019. "US News Media Coverage of Solutions to the Opioid Crisis, 2013–2017." *Preventive Medicine* 126: article ID 105771. <https://doi.org/10.1016/j.ypmed.2019.105771>.
- Meyer, Dick. 2015. "Middle-Aged, White, and at Risk: The Americans Progress Forgot." *Charleston Gazette-Mail*, November 8.
- Meyer-Gutbrod, Joshua. n.d. Digital Campaigns Project. <http://digitalcampaignsproject.uofsccreate.org/> (accessed May 2024).



- Meyer-Gutbrod, Joshua. 2023. "Preaching to the Choir or Proselytizing to the Opposition: Examining the Use of Campaign Websites in State Legislative Elections." *State Politics and Policy Quarterly* 23, no. 2: 166–86. <https://doi.org/10.1017/spq.2023.1>.
- Netherland, Julie, and Helena B. Hansen. 2016. "The War on Drugs That Wasn't: Wasted Whiteness, 'Dirty Doctors,' and Race in Media Coverage of Prescription Opioid Misuse." *Culture, Medicine, and Psychiatry* 40, no. 4: 664–86. <https://doi.org/10.1007/s11013-016-9496-5>.
- Netherland, Julie, and Helena Hansen. 2017. "White Opioids: Pharmaceutical Race and the War on Drugs That Wasn't." *BioSocieties* 12, no. 2: 217–38. <https://doi.org/10.1057/biosoc.2015.46>.
- NewsBank. n.d. "Access World News—Historical and Current." Database. <https://infoweb-newsbank-com.eu1.proxy.openathens.net/apps/news/?p=WORLDNEWS> (accessed April 5, 2024).
- Parker, Caroline Mary, and Helena Hansen. 2021. "How Opioids Became 'Safe': Pharmaceutical Splitting and the Racial Politics of Opioid Safety." *BioSocieties* 17, no. 4: 577–600. <https://doi.org/10.1057/s41292-021-00230-y>.
- "Readers Write Government Must Regulate Drugs." 2019. *Star Tribune*, July 29.
- Ridout, Travis N., Erika Franklin Fowler, and Kathleen Searles. 2012. "Exploring the Validity of Electronic Newspaper Databases." *International Journal of Social Research Methodology* 15, no. 6: 451–66.
- Ross, Bettrall L., and Terry Smith. 2009. "Minimum Responsiveness and the Political Exclusion of the Poor." *Law and Contemporary Problems* 72, no. 4: 197–221.
- SAMHSA (Substance Abuse and Mental Health Services Administration). 2020. "The Opioid Crisis and the Black/African American Population: An Urgent Issue." Publication no. PEP20-05-02-001. <https://library.samhsa.gov/sites/default/files/pep20-05-02-001.pdf> (accessed May 2024).
- Schneider, Anne, and Helen Ingram. 1993. "Social Construction of Target Populations: Implications for Politics and Policy." *American Political Science Review* 87, no. 2: 334–47. <https://doi.org/10.2307/2939044>.
- Schneider, Kristin E., Deborah Wilson, Lauren Dayton, Erin M. Goodell, and Carl A. Latkin. 2021. "Political Partisanship and Stigma Against People Who Use Drugs in Opinions About Allocating COVID-19 Prevention Resources to Vulnerable Populations." *International Journal of Drug Policy* 95: article ID 103301. <https://doi.org/10.1016/j.drugpo.2021.103301>.
- Shachar, Carmel, Tess Wise, Gali Katznelson, and Andrea Louise Campbell. 2019. "Criminal Justice or Public Health: A Comparison of the Representation of the Crack Cocaine and Opioid Epidemics in the Media." *Journal of Health Politics, Policy and Law* 45, no. 2: 211–39. <https://doi.org/10.1215/03616878-8004862>.
- Stoicesa, Nicoleta, Andrew Costa, Luis Periel, Alberto Uribe, Tristan Weaver, and Sergio D. Bergese. 2019. "Current Perspectives on the Opioid Crisis in the US Healthcare System." *Medicine* 98, no. 20: article ID e15425. <https://doi.org/10.1097/md.00000000000015425>.
- Testa, Paul F., Susan L. Moffitt, and Marie Schenk. 2020. "Public Preferences for New Information on Opioids." *Journal of Health Politics, Policy and Law* 45, no. 2: 311–39. <https://doi.org/10.1215/03616878-8004898>.

- US Census Bureau. n.d. American Community Survey Data. Database. <https://www.census.gov/programs-surveys/acs/data.html> (accessed May 2024).
- Wallmeyer, August. 2016a. "State of Decline." *Richmond Times-Dispatch*, August 28.
- Wallmeyer, August. 2016b. "Addiction and Death in the Countryside." *Richmond Times-Dispatch*, September 4.
- Westwood, Sean J., and Erik Peterson. 2022. "The Inseparability of Race and Partisanship in the United States." *Political Behavior* 44, no. 3: 1125–47. <https://doi.org/10.1007/s11109-020-09648-9>.
- Zito, Salena. 2017. "Crippling Crises in Rural America: The Opioid Crisis—No One's Fault and Everyone's Fault Hammer." *Richmond Times-Dispatch*, July 9.