

# Local Context, Personal Experience, and Perceptions of Salience in the Opioid Crisis<sup>\*</sup>

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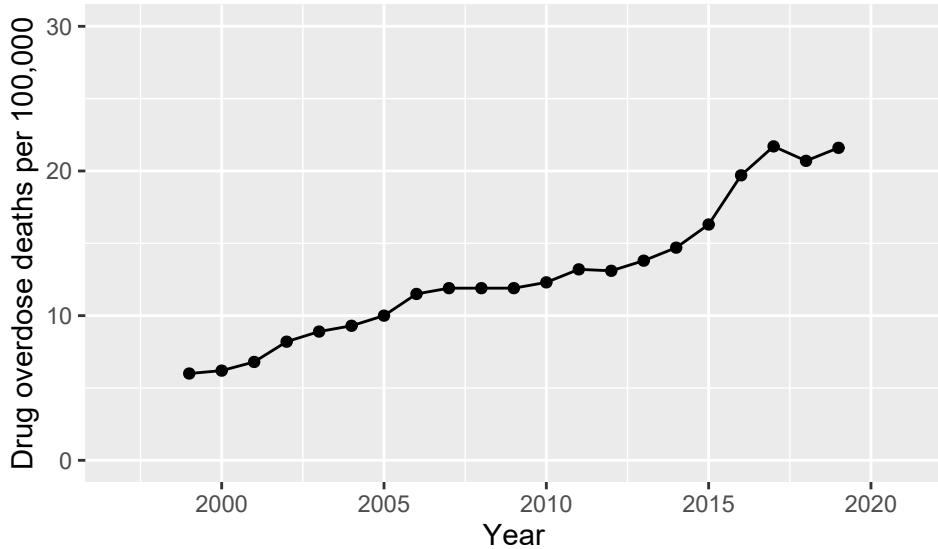
Opioid addiction continues to be a major public health crisis in the United States. From 1999-2018, opioid overdoses claimed the lives of nearly 450,000 Americans (Centers for Disease Control and Prevention, 2020a). Over this time period, opioid-related overdose death rates have risen almost six times, to reach an annual toll of nearly 15 deaths per 100,000 Americans, as seen in Figure 1. By 2010, drug overdose deaths became the leading cause of injury-related death in the United States, and by 2015 overdose mortality was higher than deaths from car accidents and firearm-related injuries combined (Katz, 2017). The opioid crisis has also contributed to an overall decline in life expectancy, especially driven by midlife mortality in the Ohio Valley and New England (Woolf and Schoomaker, 2019).

In response to this crisis, the federal government and many state and local governments across the country launched policies such as the regulation of opioid painkiller prescriptions, increased funding for treatment and research into addiction, public education programs, and

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**Figure 1:** Overdose Mortality Rates Over Time, United States

*Note:* Data obtained from Multiple Cause of Death 1999-2019 files on CDC WONDER Online Database, released 2020.

expanded access to overdose reversal drugs like naloxone (Johnson et al., 2018; Wickramati-lake et al., 2017). Despite efforts by federal, state, and local , however, governments have, at best, only been able to halt the increase of overdose deaths; even more concerning, the death rate rose again in 2020 amidst the COVID-19 pandemic (Goodnough, 2021). Even before the recent uptick during COVID-19, many public health experts argued that governments were not doing enough to prevent overdose deaths (Saloner et al., 2018).

The robust policy response to the opioid crisis suggests that this might be a salient issue to the public. Moreover, salience is an important way for issues to become part of the political agenda. In this paper, I explore two ways through which the opioid crisis may become salient to voters: state and county overdose mortality and knowing someone with addiction. I test how these experiences with addiction shape public opinion about the salience of the crisis, both for how serious it is perceived and how much priority is assigned to it. To do so, I use a number of surveys along with state and county data on overdose death rates. Ultimately, I

find that local context predicts perceiving the opioid crisis as severe and preferring politicians emphasize the issue, but this relationship is conditional on the amount of national media exposure.

## 1 Saliency, Local Context, and Experience

The salience of an issue to the public is crucial for determining which issues make it onto the political agenda (Kingdon, 1984). In general, issues the public thinks are important are more likely to be addressed by Congress (Jones and Baumgartner, 2004). Political salience may be especially important, however, for public health issues like drug overdose mortality. Oliver (2006) argues that because health issues are often seen as beyond the scope of government action, public health issues have to be a particularly striking problem or pose a socially credible threat to grab the public's attention and demand government action (Oliver, 2006). To understand political dynamics around opioid addiction, then, it is necessary to understand how the issue becomes salient to the public. In the following sections, I discuss how local and personal experiences with the opioid crisis might influence perceptions of the severity of the epidemic and how much of a political priority it should be.

First, I focus on how local overdose mortality rates may have an impact on the perceived salience of the opioid crisis. A long line of research studies how different kinds of local conditions influence political behavior in a variety of issue areas. Geography is an important aspect of intergroup relations, as race, immigration status, and religion all can shape political behavior (Key, 1949; Enos, 2017). Crime rates predict increased support for the death penalty and more fear of crime. (Baumer, Messner and Rosenfeld, 2003; Hopkins, 2018). Some

research also finds that voters hold incumbents accountable for local economic outcomes (Howell and Vanderleeuw, 1990; Ansolabehere, Meredith and Snowberg, 2014; Healy and Lenz, 2017).

Other research deals more directly with the impact of local-level mortality on public opinion. One such area is wartime casualties, which have been shown to influence public opinion about war and incumbent approval. For example, areas with more wartime casualties were less likely to support the Vietnam or Iraq wars (Gartner, Segura and Wilkening, 1997; Hayes and Myers, 2009). Local wartime casualties also decreased support for Republican Senate candidates during the Iraq War and predicted support for Donald Trump in 2016 (Kriner and Shen, 2007, 2020). In addition to wartime casualties, fatalities from natural disasters and public health emergencies also affect public opinion. Voters respond to natural disasters by holding accountable incumbents for their response (Gasper and Reeves, 2011), and local COVID-19 mortality rates predicted less support for President Trump and other Republican candidates (Warshaw, Vavreck and Baxter-King, 2020).

While the relationship between mortality events and public opinion suggests that the public may respond to local overdose mortality, there are also key characteristics of the opioid crisis that could limit this effect. War, natural disaster, and COVID-19 each represent highly salient events, often featuring an escalation over a short period of time. The opioid crisis, on the other hand, gradually grew in scale over the course of more than a decade. These mortality cases are also directly tied to government actions in a way that overdose mortality may not be. Governments declare war and frequently coordinate responses to natural disasters, and COVID-19 saw a host of government intervention. Harms from the opioid crisis, however, may be perceived as more of an individual problem than a government

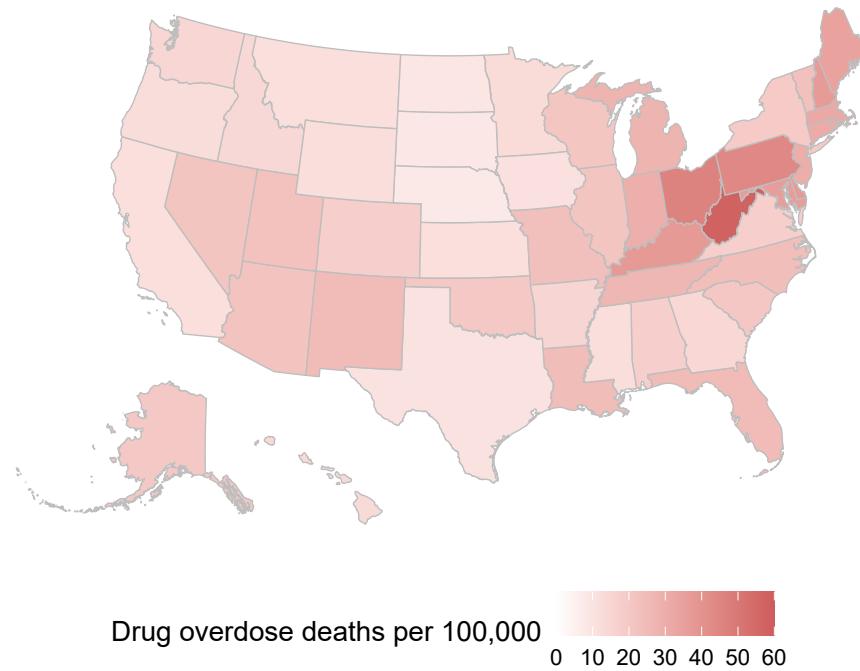
problem, compared to other kinds of crises (Tsai et al., 2019). This perception of individual responsibility for addiction might make overdose mortality less likely to become politically salient (Oliver, 2006).

There are still several reasons, however, to think that local overdose mortality might impact public opinion about the opioid crisis. First, there are considerable regional disparities in the extent of overdose mortality. While the opioid crisis is far-reaching, impacting every region and demographic in the country, overdose deaths have also been highly locally concentrated. In 2017, for example, the age-adjusted overdose death rate ranged from 8.1 per 100,000 in Nebraska to 57.8 in West Virginia. Figure 2 compares overdose death rates in each state in 2017.<sup>1</sup> This chart shows that overdose deaths are a significant factor in all 50 states, but the level varies considerably. States in New England, the Mid-Atlantic, and the Appalachian region have the highest levels of overdose death rates. Parts of the South and Southwest also have higher overdose mortality rates, while the Great Plains and West Coast states have the lowest rates. Figure 3 shows overdose death rates by county in 2017, which also shows a concentration of high overdose mortality rates in Appalachia and the Northeast, but also in parts of the Upper Midwest, Gulf Coast, and Southwest.

In addition, aspects of reporting in the opioid crisis might make the issue more likely to garner local public attention. News that evokes negative emotions is especially likely to lead to perceptions of national importance (Miller, 2007). News articles about the opioid crisis frequently focus on individual stories of addiction, which could arouse these kinds of negative emotions (McGinty et al., 2015). Media reports about overdose deaths are more common in places with more overdose deaths, suggesting that people living in these areas may be

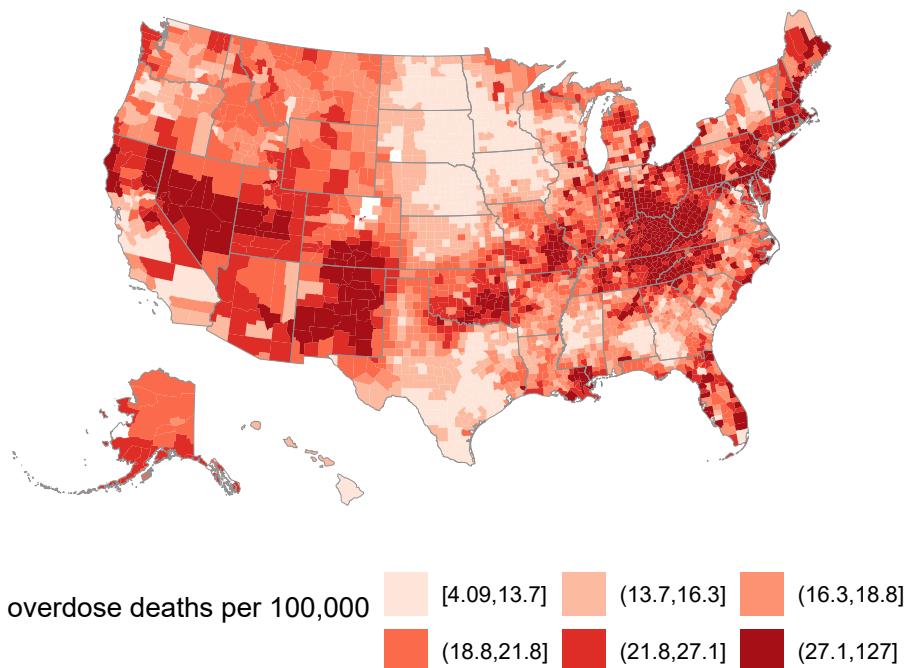
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<sup>1</sup>See the Appendix for maps for each year used in the paper.



**Figure 2:** Overdose Mortality Rates by State, 2017

*Note:* Data obtained from Multiple Cause of Death 1999-2018 files on CDC WONDER Online Database.



**Figure 3:** Overdose Mortality Rates by County, 2017

*Note:* Data obtained from Multiple Cause of Death 1999-2018 files on CDC WONDER Online Database.

more exposed to these accounts and react accordingly (Hswen et al., 2020). Indeed, there is some evidence that local conditions do correlate with public opinion about drug policy, as Republicans in areas with higher overdose mortality rates are more likely to support funding for addiction treatment (de Benedictis-Kessner and Hankinson, 2019).

In addition to state and local context, another way people might learn about the opioid crisis is through personal experience with addiction. As with local context, personal experiences are sometimes unrelated to political views; for example, people might be more concerned with the state of the national economy than their own economic situation (Kinder and Kiewiet, 1981). There are other issues, however, in which personal experiences are linked to public opinion. Being a victim of a crime is associated with increased political participation (Bateson, 2012). Family members and neighbors of 9/11 victims are more likely to participate in politics and tend more Republican than similar individuals less connected to victims (Hersh, 2013), though other research finds that knowing someone who was a casualty of 9/11 or the Iraq War is associated with disapproval of President Bush (Gartner, 2008). Opioid addiction may serve as a similar discrete experience that shapes political views. Indeed, knowing someone with an opioid addiction predicts support for redistributive treatment programs (de Benedictis-Kessner and Hankinson, 2019). Personal experience with overdose deaths has also been shown to decrease voter turnout and reduce support for Republican candidates (Kaufman and Hersh, 2020).

How does greater awareness or attention to an issue such as the opioid crisis translate into political salience? The national media environment provides a crucial role in connecting local context and personal experiences to political beliefs. Hopkins (2018) argues that local context only affects public opinion for issues that are nationally salient. Individuals receive

too many different kinds of stimuli for most of them to make a difference, so, in most cases, local context does not affect political behavior. When issues become nationally important, however, then individuals can connect their local experiences to broader political ideas and begin to form opinions. Similarly, Hutchings (2001) argues that people are more likely to pay attention to national news that is relevant for their local political contexts. Mass media is also one of the main ways voters connect their personal experiences to politics (Mutz, 1994). In general, the media's agenda-setting power is also important more broadly for shaping perceptions about the importance of issues (Iyengar and Kinder, 1987; Soroka, 2003). For these reasons, I expect that the relationship between exposure to the opioid crisis through local context or knowing someone with addiction will increase when the issue is given more national attention.

## 2 Hypotheses

The geographic dispersion of overdose mortality, potential effects of personal experiences, and the relationship between media attention and political salience leads me to test several hypotheses. The first hypothesis is that people living in areas with higher drug overdose mortality rates will be more likely to assign political salience to drug addiction and the opioid crisis. The second hypothesis is that people who know someone with opioid addiction will also be more likely to assign salience to the opioid crisis. Third, I hypothesize that this relationship between overdose mortality and political salience will vary by national media attention to the opioid crisis. Similarly, my fourth hypothesis is that, like overdose mortality rates, the relationship between personal experience with opioid addiction and salience will

vary with national media attention.

To test these hypotheses, I collect a number of public opinion surveys that ask various questions about perceived severity of drug addiction and how much priority should be given to the opioid crisis, while including state or county information from respondents. I then use overdose mortality rates from the CDC and NCHS to measure exposure to the opioid crisis and test whether these rates predict salience. Some surveys ask about knowing someone with opioid addiction, and I use these questions to test the relationship between experience and salience. Finally, I collect data using the Vanderbilt Media Project about national media attention to the opioid crisis to test how the relationships between context, experience, and political salience vary with national media coverage.

## 3 Data

### 3.1 Overdose Mortality Rates

Overdose death rates are the most consistent time-series data that captures the extent of the opioid crisis. The CDC WONDER database provides downloadable mortality data through the Multiple Cause of Death (Detailed Mortality) web form. Following reports from the National Center for Health Statistics (NCHS), I use the following codes for UCD Drug/Alcohol Induced Causes: X40-44 (Drug poisonings, overdose, unintentional), X60-X64 (Drug poisonings, overdose, suicide), and Y10-14 (Drug poisonings, overdose, undetermined) (Hedegaard, 2020). The CDC provides crude death rates, or mortality per population, and age-adjusted rates, which account for the differing mortality probabilities by age group. In practice, these

rates are very similar, so I use age-adjusted rates, which are typically prioritized in CDC reports. These rates are reported as deaths per 100,000 at the state level. Due to the suppression of death counts below 10, the CDC WONDER database excludes a number of counties. For county-level data, then, I use NCHS modeled estimates of county-level overdose mortality. The NCHS uses Bayesian methods to estimate overdose mortality rates for low-population counties.<sup>2</sup> These are also reported as deaths per 100,000.

### 3.2 Public Opinion Surveys

I use data from nineteen public opinion surveys conducted from 2014-2019 to test whether higher overdose death rates are related to perceived salience of the opioid crisis. To find surveys, I searched the Roper Center for Public Opinion's iPoll database for surveys with downloadable data.<sup>3</sup> For more information about these surveys, see Appendix Table A1. To measure context, I merged in CDC and NCHS age-adjusted overdose death rates at the state and county levels, where available in the surveys.<sup>4</sup> All dependent variable survey questions are Likert scale outcomes rescaled to 0-1. I lag the overdose mortality rates by one

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<sup>2</sup>The CDC also provides state and county opioid prescribing rate data over time. This data could be an alternative measure for local exposure to the opioid crisis that is less sensitive to problems of sparsity. The adoption of state-level prescription drug monitoring programs in the early 2010s, however, may have led to declines in the opioid prescribing rate and increases in the use of heroin and other illicit opioids, meaning that the opioid prescription data captures less of the scope of the opioid crisis (Saloner et al., 2018). Appendix Figure A1 plots the relationship between state-level opioid prescribing rates and overdose mortality rates over time, showing that these two measures were positively correlated, then shifted to an inverse U correlation, likely because states with higher overdose death rates more sharply reduced opioid prescribing rates without being able to quickly reduce overdose deaths. Appendix Figure A2 shows that the correlation between overdose death rates and opioid prescribing rates declined from nearly 0.7 in 2010 to below 0.1 in 2018. As a result of these concerns, I do not use prescribing rates as a main measure of context in the main text of the paper, but I provide models using these data instead in the Appendix. For the most part, prescribing rates are uncorrelated with public opinion outcomes.

<sup>3</sup>This search contained the following search terms: opioid, opiate, overdose, heroin, painkiller, Purdue, oxycontin, fentanyl, cocaine, and marijuana.

<sup>4</sup>County-level data for Pew surveys was obtained through a separate data use agreement with Pew, rather than using Roper.

year when merging in with the surveys, to ensure that survey respondents are responding to events that have already occurred. I also include contextual control variables from the American Community Survey for state or county: percent white, median income, percent with college degree, median income, median age, percent female, unemployment rate, and percent rural. Finally, I merge in Democratic presidential vote share from the MIT Election Lab. I include these variables to control for contextual factors that might predict opioid mortality rates and public opinion outcomes (Dasgupta, Beletsky and Ciccarone, 2017).

### 3.3 Media Attention

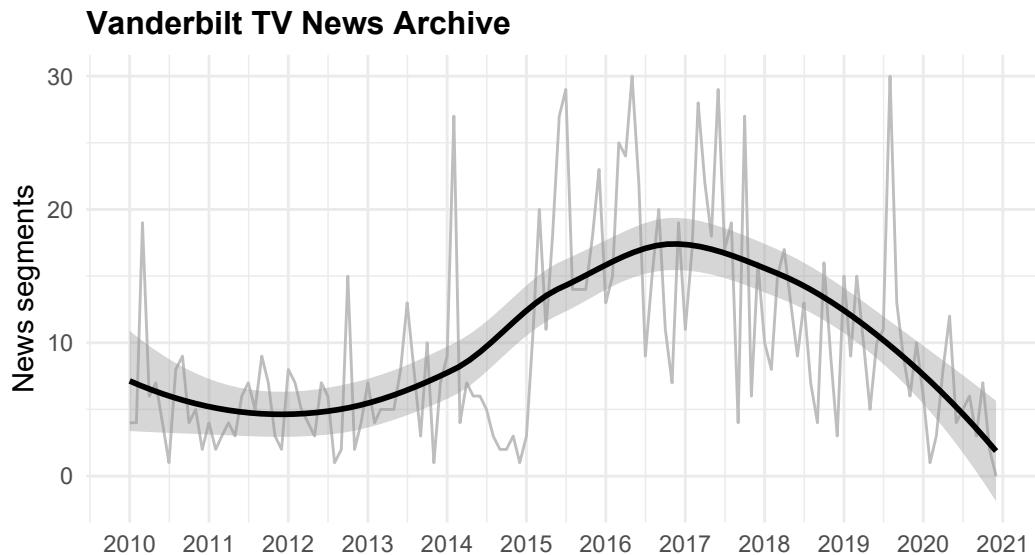
To measure national political salience, I use the Vanderbilt TV News Archive, which catalogs national broadcast news programs. Figure 4 shows the trend in news stories related to the opioid crisis over time by year and month, using data from Vanderbilt TV News Archive<sup>5</sup>. Aside from a brief spike in 2014, there is an increase in coverage from the beginning of 2015 through 2016, followed by a decline in coverage towards the end of 2017 and continuing through 2021, except for a brief spike near the end of 2019. When merging to the survey data, I use media coverage from the prior six months, following Hopkins (2010).

## 4 Empirical Strategy

There are many different ways to measure salience in public opinion research. Many studies use questions about the Most Important Problem (MIP) for respondents (e.g. Jones and Baumgartner, 2004). As Wlezien (2005) finds, however, it can be useful to separate this

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<sup>5</sup>Following McGinty et al. (2019), I used the following search terms: opioid, opiate heroin, fentanyl, “prescription painkiller,” “prescription pain medication.”



**Figure 4:** National Salience of Opioid Crisis

*Note:* Number of monthly broadcast news segments from Vanderbilt TV News Archive for the following search terms: opioid, opiate heroin, fentanyl, “prescription painkiller,” and “prescription pain medication.”

measure into two separate concepts of salience for a political issue: how serious of a problem it is, or how far away conditions are from individual preferences, and how important that problem is to voters for political decisionmaking. Following this idea, in the subsequent analyses, I will focus first on questions about the perceived *severity* of the opioid crisis. Then, I will consider questions about the *priority* given to the opioid crisis by respondents, such as the demand for political action and the importance of the crisis for one’s vote.

To test the relationship between context and political salience, I begin by using six survey questions from five surveys from 2014-2019 that ask respondents to rate the seriousness of drug addiction. These questions allow me to test how state overdose mortality rates and personal experience with opioid addiction relate to beliefs about the severity of the opioid crisis, an initial component of salience. Since the questions come from different surveys, the question text changes over time. The survey questions vary in how they define drug addiction, asking about addiction to prescription painkillers, opioids, drugs in general, or

heroin. In the main text, I exclude questions about heroin addiction but include results in the appendix. The questions also vary in what geography they include, asking respondents to consider addiction in their neighborhood, state, or the country as a whole.<sup>6</sup>

First, in each survey, I run an OLS regression to predict perceived severity, using state overdose death rates, personal experience with addiction (if asked in the survey), defined as knowing someone who is addicted to a prescription painkiller or other opioid, and individual and state contextual controls as independent variables. I then repeat the same analysis using county-level overdose mortality rates, for surveys where respondent county is available.

Next, I explore how national media attention to the opioid crisis moderates the relationship between context, experience, and perceptions of severity. First, I plot the coefficients from the above models over time and compare to patterns of media salience. Here, the expectation is that the coefficients will be largest when media attention is also the highest. I also test this idea by combining the five surveys into a single dataset.<sup>7</sup> Then, I conduct an OLS regression using perceived severity as the dependent variable and the same independent variables of context, experience, and controls, with additional interactions between media coverage and context, and between media coverage and experience.

After focusing on questions about severity, I conduct similar analyses using questions about priority given to the opioid crisis. In this section, I use ten surveys from the Kaiser Family Foundation and one from Pew. These survey questions vary in what kind of political priority is under consideration.<sup>8</sup> Some questions ask respondents how much of a priority drug addiction should be for their state government or the federal government. Other questions

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<sup>6</sup>Full question wording is available in Appendix Table A2.

<sup>7</sup>For the Pew survey, I use perceived severity of drug addiction in the country.

<sup>8</sup>Like the severity questions, I focus here on questions that ask about opioids, prescription painkillers, or more general drug addiction, while results using questions about heroin are in the appendix.

ask how much that presidential candidates or 2018 candidates should talk about addiction.

A final group of questions ask how important drug addiction is for the respondent's vote.<sup>9</sup>

I conduct the same analyses as with the severity questions. First, I run an OLS regression to predict priority using state overdose mortality rates, personal experience with addiction (when available), and controls. Then, I run the same model using county overdose mortality rates, for surveys with county codes for respondents. Finally, I repeat these models interacting national media coverage with context and experience.

## 5 Results

### 5.1 Severity

Table 1 displays the results for perceived severity using state-level context, and Table 2 displays results using county-level context.<sup>10</sup> In both tables, each column refers to a different survey. The columns are also labeled by date and which level of geography respondents were asked to consider. Figure 5 shows the coefficients for state overdose mortality, county overdose mortality, and knowing someone with addiction across all of these models, comparing these coefficients by survey date and geography under consideration.<sup>11</sup>

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<sup>9</sup>Full question wording is available in Appendix Table A7.

<sup>10</sup>See Appendix Tables A4 and A5 for the same models using state and county opioid prescribing rates. Unlike mortality rates, prescribing rates are mostly uncorrelated with perceptions of severity. Additionally, Some surveys ask about prescription painkiller addiction and heroin addiction separately. I run the same state-level models using perceived severity of heroin addiction as the dependent variable and find similar results. See Appendix Table A3.

<sup>11</sup>Appendix Figure A10 replicates this figure using questions about the severity of heroin addiction. Appendix Figure A11 shows the relationship between state and county prescribing rates and severity of drug, painkiller, or opioid addiction.

**Table 1:** Relationship between State Context, Experience and Perceptions of Drug Crisis Severity

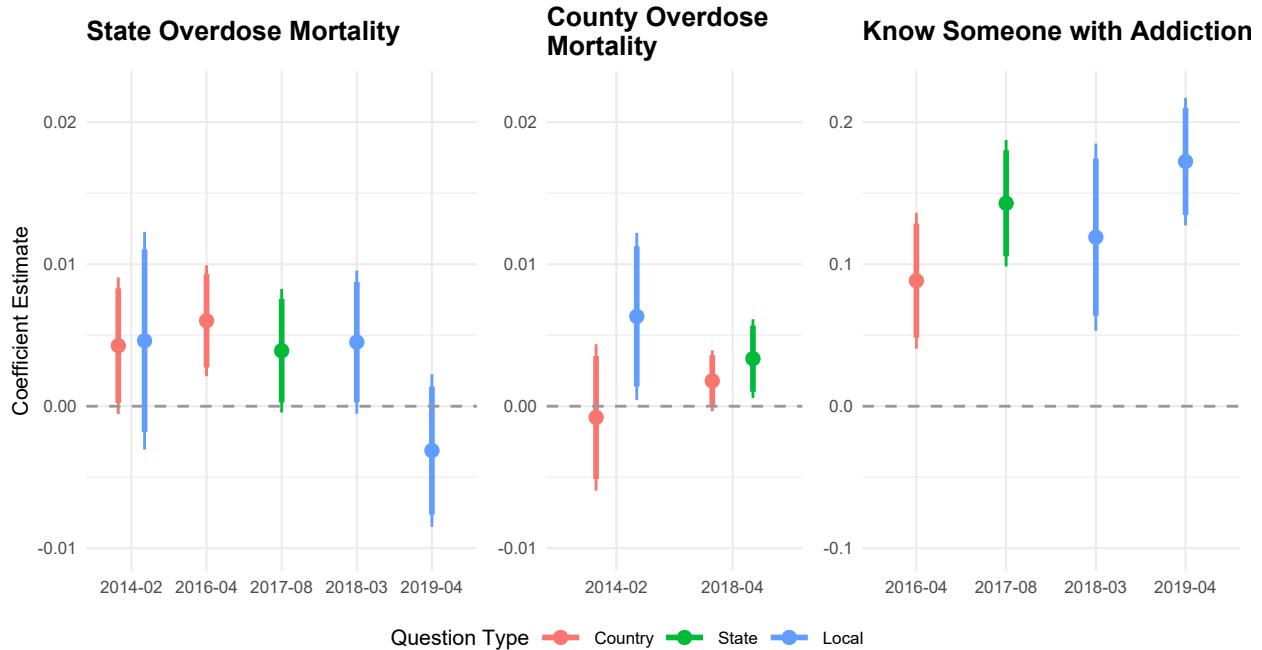
Survey:	Pew 2014-02 Country	Pew 2014-02 Local	Kaiser 2016-04 Country	Monmouth 2017-08 State	AP/NORC 2018-03 Local	AP/NORC 2019-04 Local
	(1)	(2)	(3)	(4)	(5)	(6)
State overdose mortality	0.004* (0.002)	0.005 (0.004)	0.006** (0.002)	0.004* (0.002)	0.005* (0.003)	-0.003 (0.003)
Know someone w/addiction			0.088** (0.024)	0.143** (0.023)	0.119** (0.034)	0.172** (0.023)
Independent/Other party	0.027 (0.033)	-0.014 (0.049)	-0.045 (0.034)	0.039 (0.038)	-0.005 (0.033)	-0.104** (0.041)
Republican	0.008 (0.022)	0.007 (0.027)	-0.022 (0.030)	0.059* (0.030)	-0.011 (0.030)	-0.051 (0.040)
Moderate	-0.003 (0.025)	-0.023 (0.030)	-0.001 (0.027)	-0.054* (0.030)		-0.004 (0.033)
Conservative	0.061* (0.031)	-0.024 (0.034)	-0.002 (0.038)	-0.051 (0.035)		0.006 (0.041)
Black	0.052* (0.030)	0.035 (0.030)	0.067* (0.035)	0.003 (0.043)	-0.011 (0.043)	-0.102** (0.047)
Latinx	0.038 (0.026)	0.054 (0.043)	0.035 (0.031)	0.008 (0.045)	-0.017 (0.030)	0.025 (0.030)
Other race	0.022 (0.037)	-0.028 (0.043)	-0.028 (0.049)	-0.035 (0.032)	-0.073* (0.042)	0.020 (0.033)
Female	0.031 (0.023)	0.017 (0.025)	0.039** (0.017)	0.032 (0.021)	0.052* (0.032)	0.059** (0.025)
Income: \$50,000-99,999	0.048** (0.023)	-0.031 (0.028)	-0.018 (0.028)	0.011 (0.026)	0.031 (0.035)	0.006 (0.027)
Income: \$100,000 or more	0.006 (0.029)	-0.068** (0.033)	-0.027 (0.030)	0.023 (0.023)	0.075 (0.048)	-0.015 (0.030)
Some college/Associate's degree	-0.002 (0.023)	-0.071** (0.035)	-0.018 (0.029)	0.040 (0.031)	-0.037 (0.028)	-0.015 (0.027)
Bachelor's degree or more	-0.031 (0.021)	-0.042 (0.029)	-0.032 (0.028)	0.042 (0.037)	-0.037 (0.034)	0.004 (0.030)
Age	0.003** (0.001)	0.002** (0.001)	0.001** (0.0005)	0.002** (0.001)		
Age: 30-39					-0.058 (0.065)	-0.025 (0.035)
Age: 40-59					-0.033 (0.045)	-0.029 (0.032)
Age: 60-64					-0.067 (0.055)	0.041 (0.043)
Age: 65+					0.006 (0.042)	-0.041 (0.036)
State contextual controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	746	756	967	594	1,042	1,056
Adjusted R <sup>2</sup>	0.066	0.040	0.049	0.135	0.060	0.129

Note: Results from OLS regressions with standard errors clustered by state. \* indicates  $p < 0.10$  and \*\* $p < 0.05$  (two-tailed tests).

**Table 2:** Relationship between County Context and Perceptions of Drug Crisis Severity

	Pew 2014-02 Country	Pew 2014-02 Local	Monmouth 2018-04 Country	Monmouth 2018-04 State
	(1)	(2)	(3)	(4)
County overdose mortality	-0.001 (0.003)	0.006** (0.003)	0.002 (0.001)	0.003** (0.001)
Independent/Other party	0.032 (0.030)	0.008 (0.043)	-0.005 (0.015)	0.065* (0.034)
Republican	0.015 (0.024)	0.016 (0.029)	0.025 (0.019)	0.048 (0.046)
Moderate	-0.015 (0.023)	-0.031 (0.029)		
Conservative	0.053* (0.029)	-0.034 (0.033)		
Black	0.055* (0.032)	0.008 (0.043)	-0.004 (0.012)	-0.043 (0.051)
Latinx	0.042 (0.028)	0.042 (0.045)		
Other race	0.032 (0.036)	-0.026 (0.050)	0.001 (0.017)	0.065 (0.062)
Female	0.046** (0.019)	0.009 (0.024)	0.029* (0.018)	0.003 (0.034)
Income: \$50,000-99,999	0.038 (0.023)	-0.036 (0.028)	0.039 (0.030)	0.051 (0.039)
Income: \$100,000 or more	0.008 (0.026)	-0.057* (0.032)	0.037 (0.024)	0.032 (0.038)
Some college/Associate's degree	-0.007 (0.022)	-0.082** (0.032)	-0.013 (0.021)	-0.010 (0.049)
Bachelor's degree or more	-0.031 (0.023)	-0.040 (0.031)	-0.0004 (0.012)	0.013 (0.052)
Age	0.003** (0.001)	0.002** (0.001)	-0.0004* (0.0002)	-0.0004 (0.001)
County contextual controls	Yes	Yes	Yes	Yes
Observations	767	763	541	541
Adjusted R <sup>2</sup>	0.072	0.043	0.030	0.005

*Note:* Results from OLS regressions with standard errors clustered by state. \* indicates  $p < 0.10$  and \*\* $p < 0.05$  (two-tailed tests).



**Figure 5:** Relationship between Context, Experience and Perceptions of Drug Crisis Severity

*Note:* Points are OLS coefficient estimates using state overdose death rates, county overdose death rates, or an indicator for knowing someone with addiction to predict perceptions of drug crisis severity.

Horizontal lines are 90 and 95% confidence intervals. The dependent variable questions ask how serious the drug, prescription painkiller, or opioid addiction crises are at the national, state, or local levels. The different levels of geography referred to in each question is marked by color.

The results for state-level context (Table 1 and Figure 5) show that state overdose mortality is, in most surveys, positively correlated with perceptions of severity. This effect is statistically significant in four of the six models at the  $p < 0.1$  level and significant at the  $p < 0.05$  level in the 2016 survey. At its highest value in 2016, each additional overdose death per 100,000 is associated with a 0.006 increase in severity perceptions on a 0-1 scale. Put differently, an increase in 2016 overdose mortality rates from Georgia, which is just below the first quartile at 13.6 deaths per 100,000, to Tennessee, which is just below the third quartile at 24.9 deaths per 100,000, is associated with a 6.8 percentage point increase in perceived

severity.

The results for county-level context (Table 2 and Figure 5) also show that overdose mortality rates, this time measured at the county level, can be associated with increased perceptions of drug crisis severity. Here, however, I find that county overdose mortality is associated with perceptions of state or local drug crisis severity, but less so for perceptions of national severity. The effect sizes for county-level context are similar to those for state-level context. It is a bit difficult to make clear over-time comparisons because of less data and the Monmouth survey only including New Jersey, but one interesting result is that perceptions of national and local context are more closely linked in 2018 than in 2014.

Personal experience with the opioid crisis, on the other hand, is a more powerful predictor. Knowing someone with an opioid addiction is associated with an increase in perceived severity ranging from 8.8 to 17.2 percentage points. The importance of personal experience is especially notable given how few demographic variables have a consistent effect, with the possible exception of age and gender. Interestingly, despite younger men being the most vulnerable to overdoses (Ruhm, 2019), women and older respondents tend to rate the opioid crisis as more severe. There does not appear to be a significant difference between questions that ask about local, state, or national drug crisis severity.

Finally, there is some evidence that the relationship between state-level context and perceived severity is moderated by national media salience. The relationship was strongest in one of the highest news periods for the opioid crisis, early 2016. More notably, the relationship between context and severity declined to be null by 2019, when news about the opioid crisis had decreased notably from higher levels in 2017. Importantly, the 2019 survey occurred during a time of over a year of lower coverage, and right before a brief spike later in

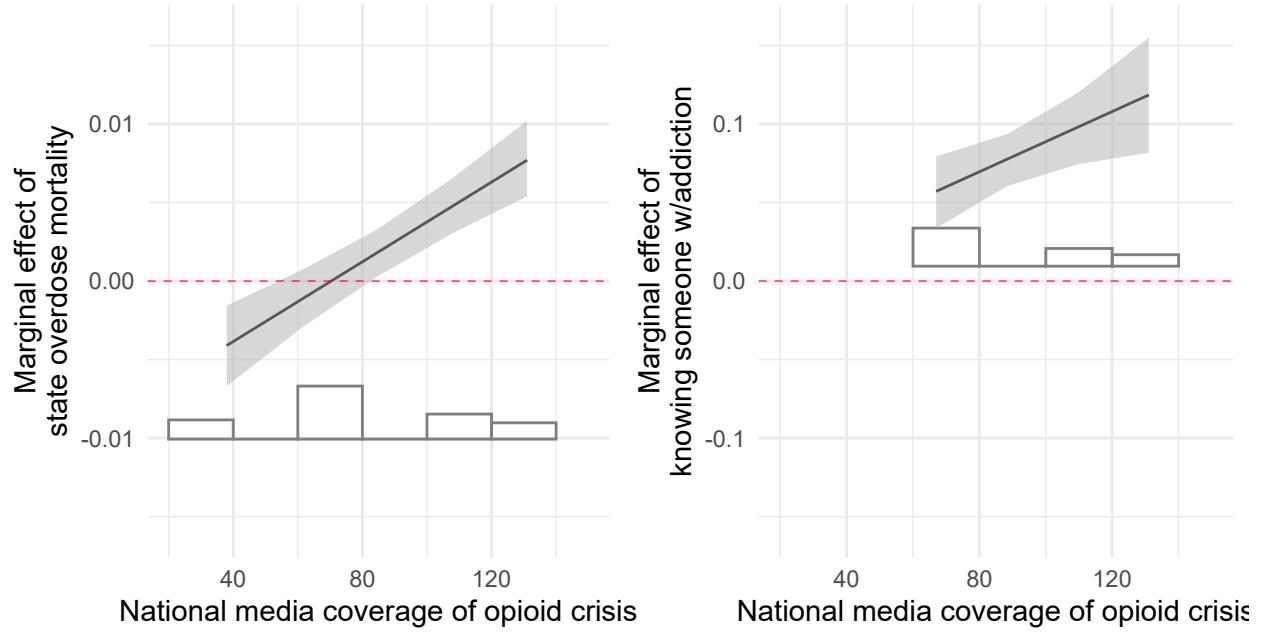
2019. This provides some evidence for the hypothesis that local context is most important when an issue is politically salient. On the other hand, the 2014 survey also showed a correlation between context and salience, even when the news was lower on average, though there appears to be a spike in media attention early that year.

**Table 3:** National Media Coverage Moderates the Relationship Between Experience and Perceived Severity

	<i>Dependent variable:</i>	
	Perceived Severity of Drug Addiction	
	(1)	(2)
Media coverage	-0.001** (0.001)	0.002** (0.001)
State overdose mortality	-0.009** (0.003)	-0.001 (0.003)
Know someone w/addiction		0.008 (0.036)
Media coverage × Overdose mortality rate	0.0001** (0.00003)	0.0001** (0.00003)
Media coverage × Know someone w/addiction		0.001** (0.0004)
Observations	4,563	3,774
Adjusted R <sup>2</sup>	0.053	0.095

*Note:* Results from OLS regressions with standard errors clustered by state. \* indicates  $p < 0.10$  and \*\* $p < 0.05$  (two-tailed tests). Controls for party, race, gender, income, and education are included, as well as contextual controls. Regression results for individual controls are available in Appendix Table A6.

More systematically, Table 3 shows the results from a regression model combining each survey into a single dataset. Here, we can see that there is a positive and statistically significant coefficient for the interaction between national media attention and state overdose mortality, as well as for the interaction between national media attention and knowing someone with addiction. The marginal effects plot in Figure 6 further makes it clear that only in times of high national media coverage do we see a correlation between state context



**Figure 6:** Marginal Effects of Context and Experience on Perceived Severity, by Media Coverage

*Note:* This plot represents the marginal effect of state overdose mortality on perceived severity of the opioid crisis, by levels of national media coverage. State overdose mortality is measured by deaths per 100,000. National media coverage represents is measured by national broadcast stories about drug addiction.

and perceptions of severity of the opioid crisis. The relationship between experience with addiction and perceived severity also increases with national media coverage. It appears that experience always predicts perceptions of severity, while context is more contingent, only predicting severity when media attention is high. It is not clear from the data I have collected, however, whether this is due to a difference in how these constructs operate, or if this is because there is less survey data for the experience questions.<sup>12</sup>

## 5.2 Priority

Next, I conduct the same analyses on questions concerning political priority for the opioid crisis. Figure 7 displays results from each survey, showing coefficients for state mortality rates

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<sup>12</sup>A marginal effects plot for state context using only the surveys with personal experience available shows that state context always predicts perceptions of severity, just more so during times of increased salience.

and, for two surveys, personal experience. The results are labeled by survey and whether the question asks about priority for state government, federal government, political candidates, or voting. Table 4 presents the full regression results from the first six surveys, conducted from 2015-17. The results from the other surveys, conducted from 2018-2019, are reported in Appendix Table A8.<sup>13</sup>

The results show that state overdose mortality is positively correlated with how much priority a respondent gives the opioid crisis for the first five surveys, from 2015 to April 2017, though this relationship is only significant at the  $p < 0.1$  level for two surveys and at the  $p < 0.05$  for one survey.<sup>14</sup> In the following six surveys, from November 2017 through 2019, there is no relationship between state overdose mortality and opioid crisis priority. This pattern of decline in effect over time partially corresponds to patterns in media coverage. 2016 is one of the highest news years and the only year where overdose death rates consistently predict political priority, but the relationship goes to zero by the end of that year and throughout 2017, when media coverage is still high.

At the strongest, the coefficient size for the relationship between state overdose mortality and priority is about equal to the strongest effect on severity, about a 6.8 percentage point increase from the first to third quartile. In other cases when it is positive, this coefficient is smaller in size, however. The relationship between knowing someone with opioid addiction and prioritizing the opioid crisis is also smaller than it is for predicting perceptions of severity, with a 2.8 percentage point increase that is statistically insignificant in 2015, and a 5.5 percentage point increase significant at the  $p < 0.1$  level in November 2017. There are not any

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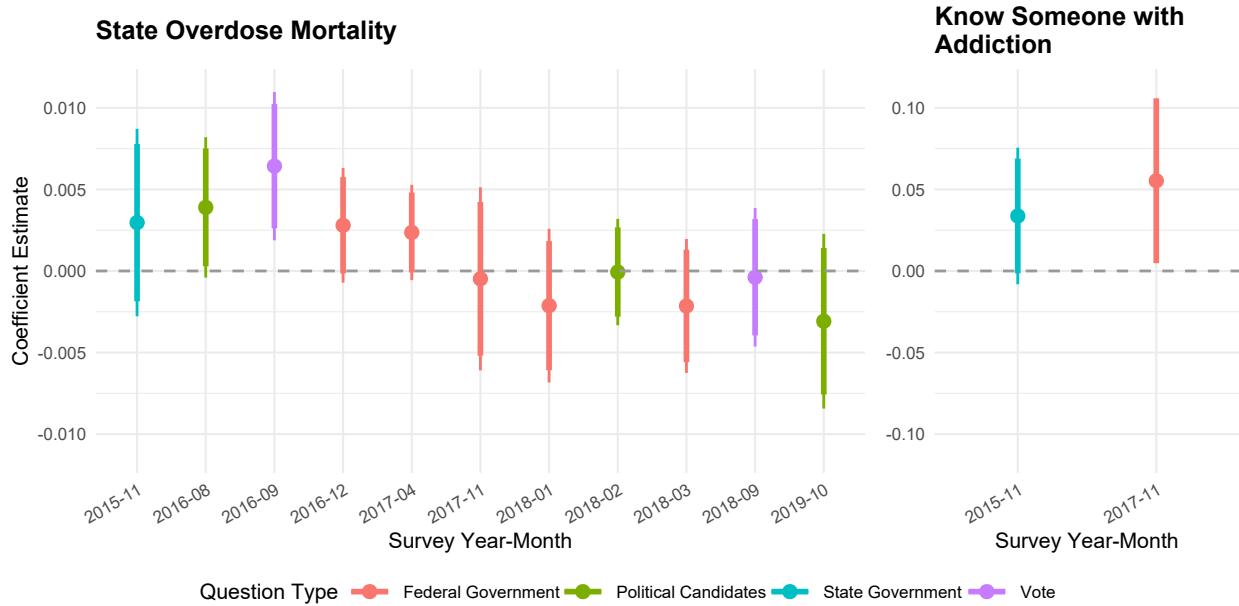
<sup>13</sup>See Appendix Tables A9 and A10 for the same models using opioid prescribing rates.

<sup>14</sup>Results are only available at the state level for Kaiser surveys. I show the results using county-level data in Pew in Table A11. State and county context have similarly null effects.

**Table 4:** Relationship between State Context, Experience, and Opioid Crisis Priority, 2015-2017

Survey:	Kaiser 2015-11 State Government	Kaiser 2016-08 Political Candidates	Kaiser 2016-09 Vote	Kaiser 2016-12 Federal Government	Kaiser 2017-04 Federal Government	Kaiser 2017-11 Federal Government
	(1)	(2)	(3)	(4)	(5)	(6)
State overdose mortality	0.003 (0.003)	0.004* (0.002)	0.006** (0.002)	0.003 (0.002)	0.002 (0.001)	-0.0005 (0.003)
Know someone w/addiction	0.034 (0.021)					0.055* (0.031)
Independent/Other party	0.019 (0.029)	-0.001 (0.032)	0.065* (0.039)	-0.045 (0.031)	0.020 (0.030)	0.005 (0.054)
Republican	0.018 (0.028)	-0.089** (0.025)	-0.018 (0.027)	-0.041* (0.024)	-0.036 (0.026)	0.033 (0.047)
Moderate	-0.032 (0.023)	-0.033 (0.024)	-0.030 (0.029)	0.014 (0.022)	0.043* (0.023)	-0.058 (0.045)
Conservative	-0.014 (0.028)	-0.034 (0.025)	-0.031 (0.033)	-0.017 (0.024)	0.032 (0.032)	-0.117** (0.047)
Black	0.091** (0.040)	-0.041 (0.042)	-0.030 (0.036)	0.016 (0.026)	0.002 (0.029)	-0.062 (0.070)
Latinx	0.027 (0.036)	-0.013 (0.028)	0.054 (0.035)	-0.018 (0.027)	-0.123** (0.033)	-0.034 (0.074)
Other race	0.097** (0.041)	-0.138** (0.056)	0.077** (0.035)	0.005 (0.037)	0.004 (0.032)	-0.057 (0.050)
Female	0.031 (0.022)	0.029 (0.020)	0.038 (0.032)	0.005 (0.016)	0.028 (0.020)	0.028 (0.033)
Income: \$50,000-99,999	-0.017 (0.022)	-0.033 (0.030)	-0.045* (0.024)	-0.021 (0.021)	-0.006 (0.022)	-0.042 (0.036)
Income: \$100,000 or more	-0.035 (0.033)	-0.034 (0.031)	-0.080** (0.033)	-0.012 (0.030)	-0.036 (0.029)	-0.053 (0.053)
Some college	-0.031 (0.021)	0.031 (0.021)	-0.082** (0.028)	0.015 (0.032)	-0.043** (0.020)	0.006 (0.040)
Bachelor's or more	-0.112** (0.023)	-0.033 (0.021)	-0.091** (0.033)	-0.023 (0.030)	-0.034 (0.026)	0.054 (0.048)
Age	0.001** (0.001)	0.002** (0.001)	0.002** (0.001)	0.0001 (0.001)	-0.001 (0.001)	0.001 (0.001)
State contextual controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,072	985	1,012	975	1,020	512
Adjusted R <sup>2</sup>	0.054	0.069	0.060	0.007	0.037	0.024

Note: Results from OLS regressions with standard errors clustered by state. \* indicates  $p < 0.10$  and \*\* $p < 0.05$  (two-tailed tests).



**Figure 7:** Relationship between Context, Experience and Opioid Crisis Priority

*Note:* Points are OLS coefficient estimates using state overdose death rates or an indicator for knowing someone with addiction to predict support for questions about prioritizing the opioid crisis. Horizontal lines are 90 and 95% confidence intervals. The dependent variable questions ask how much priority should be given to the opioid crisis by the federal government, political candidates, and state government, as well as how important the opioid crisis or drug addiction is to the respondent's vote.

clear and consistent patterns in demographic support for the different priority questions.<sup>15</sup>

Table 5 shows the results from the model combining each survey into a single dataset.

As with perceptions of severity, there is a positive and statistically significant interaction coefficient for the interaction between state overdose mortality and national media coverage. This is further apparent in the interaction plot in Figure 8. Individuals in states with higher overdose mortality rates are more likely to support giving political priority to the opioid

<sup>15</sup>Interestingly, the strongest relationship between overdose mortality and political priority occurs when respondents are asked how much the opioid crisis will affect their vote in September 2016, just before the 2016 presidential election. In this survey, older respondents and respondents with lower income or no college education are more likely to say the opioid crisis is important for their vote. The timing and demographic patterns call to mind research that argues that county-level overdose death rates were associated with increased support for Donald Trump in 2016 (Monnat, 2016; Goodwin et al., 2018). I find, however, that saying the opioid crisis matters more to one's vote is actually negatively associated with stated support for Trump, though the relationship is not statistically significant ( $p = 0.12$ ). This analysis also finds that state-level overdose death rates are not associated with support for either candidate. See Appendix Table A12 for full results.

crisis when the crisis is a major topic in the national media. Unlike perceived severity, there is not enough data to test the interaction between knowing someone with opioid addiction and priority in a similar way.

**Table 5:** National Media Coverage Moderates the Relationship Between Experience and Priority

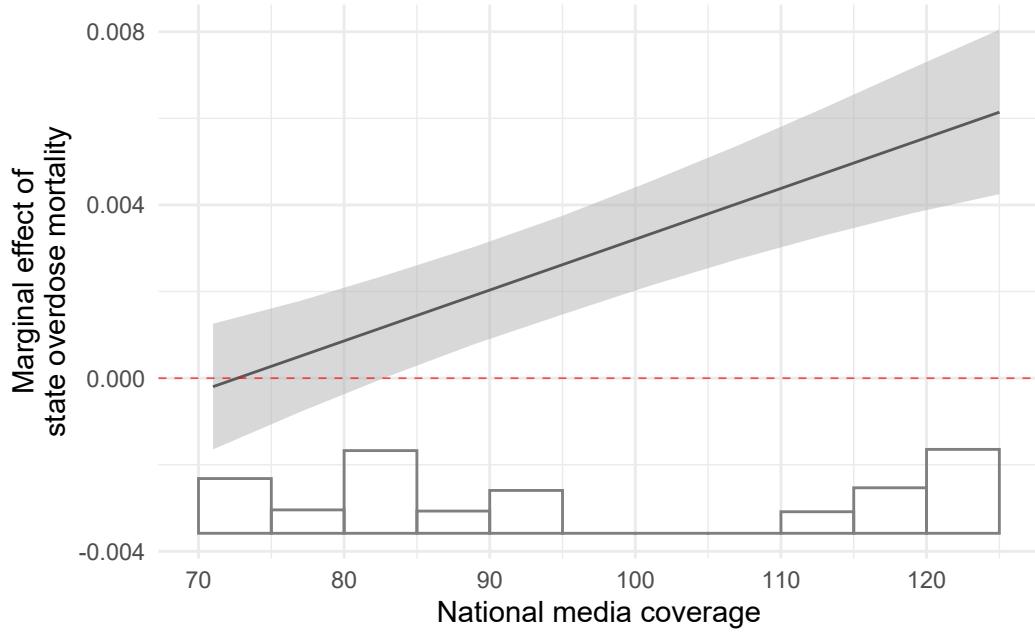
<i>Dependent variable:</i>	
	Priority
Media coverage	-0.003** (0.001)
Overdose mortality rate	-0.008** (0.003)
Know someone w/addiction	0.0001** (0.00003)
Observations	8,970
Adjusted R <sup>2</sup>	0.020

*Note:* Results from OLS regressions with standard errors clustered by state.

\* indicates  $p < 0.10$  and \*\* $p < 0.05$  (two-tailed tests). Controls for party, race, gender, income, and education are included, as well as contextual controls. Regression results for individual controls are available in Appendix Table A13.

### 5.3 Discussion

By exploring data from several surveys, I find evidence that local overdose mortality and personal experience with addiction are related to perceptions of salience. This relationship is somewhat more consistent for believing the opioid crisis is severe than for assigning priority to it, but it persists for each variable. In particular, personal experience with opioid addiction is a much stronger predictor of believing the crisis is serious than believing it deserves political attention. For both severity and priority questions, the correlation between local context and public opinion is strongest when national media attention is also the highest. In general, context and experience can shape public opinion about the severity of a crisis, but here they



**Figure 8:** Marginal Effects of Context and Experience on Perceived Priority, by Media Coverage

*Note:* This plot represents the marginal effect of state overdose mortality on priority for the opioid crisis, by levels of national media coverage. State overdose mortality is measured by deaths per 100,000. National media coverage represents is measured by national broadcast stories about drug addiction.

are somewhat less connected to giving the crisis political priority, suggesting one potential reason for lawmakers being so far unable to substantially reduce overdose deaths nationally.

One way to contextualize the size of the relationship between state overdose mortality and salience is to compare to other work on contextual effects. Hopkins (2010) finds that going from the 5th to 95th percentile in county immigrant influx is associated with a 7.3 percentage point decline in proimmigration attitudes during a period of low salience, and a 15.1 percentage point decline during high media attention to immigration. In this study, when media salience is high, I find that moving from the 5th to 95th percentile in state overdose mortality rates is associated with an increase in perceived severity by 12.3 percentage points and assigned political priority by 13.2 percentage points, while the results are null when national media attention is low. This suggests that the relationship between state context

and attitudes about the opioid crisis is notable, if somewhat smaller and more contingent on national media salience than the impact of immigration.

There are several limitations to consider about this research. First, the survey data presented is cross-sectional, meaning there is no way to easily track change over time in a panel fixed-effects model or some other approach. This makes it difficult to rule out omitted variable bias, where unobserved confounders might influence both overdose mortality or experience with addiction and perceptions of salience. A related possibility is that either being willing to report or having the knowledge that a friend or family member has an opioid addiction could be shaped by other personality traits, knowledge levels, or other variables.

Another possible concern is the level of geography used. Due to survey data availability, most results in this paper use state overdose mortality. This is a very coarse measure of local context; a more appropriate measure might be county, or something smaller like city or neighborhood. Still, state context can be a useful measure here. First, some previous research on wartime casualties uses states to measure contextual effects (Hayes and Myers, 2009). More importantly, states are perhaps the most relevant political unit for public health responses to the opioid crisis, due to state authority over health policy. When I am able to use county data, however, the results look fairly close to state context, suggesting that these differing levels of context may have similar effects.

## 6 Conclusion

In this paper, I test how state and county context and personal experience with addiction predict the political salience of the opioid crisis. I find that both higher overdose mortality

rates and knowing someone with an opioid addiction are associated with greater perceptions of the seriousness of the opioid crisis and an increase in preferences for addiction to be a political priority. The findings for local context are strongest in 2016 and, for the seriousness of the crisis, 2017, when the most national attention was focused on the issue.

These findings speak to debates about the impact of local context on political behavior. The relationships between state and county overdose mortality and public opinion provide support for the notion that local context is recognized by individuals and shapes salience, a key variable connecting context to additional outcomes like policy opinion and voting behavior. The findings also provide some additional evidence for the role of national media attention in activating local contexts and personal experiences to shape political beliefs (Mutz, 1994; Hopkins, 2018). The differences between perceptions of seriousness and political priority, however, suggest that more research is needed not just on whether local context generates the salience of an issue, but whether the increased attention translates to political priorities.

In a similar vein, the findings potentially have some important lessons for the opioid crisis and other public health emergencies. With fairly strong regional and local variation in the levels of overdose mortality, the hardest hit areas of the country are only more likely to rate the opioid crisis as severe when national media is attentive to the problem. This may suggest that a nationalized media landscape prevents areas most hard hit by a public health crisis from recognizing its severity. This problem is especially important for the United States, where health care and policy is often decided and administered at the state and local levels. The lack of a relationship between context and priority after 2016 suggests that these state and local policymakers may have no more political incentive in the worst-affected states than

the least-affected states, perhaps inhibiting them from pursuing more aggressive, costly, and controversial policies that could reduce overdoses. Similarly, experience with addiction is a more powerful predictor of perceptions of the severity of the crisis than wanting to prioritize it. Nationalized media and politics might encourage all states to adopt programs such as prescription drug monitoring that are widely popular, but the relatively small local effects might keep bolder policies from being adopted.

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# Appendix

## 1 Survey Information

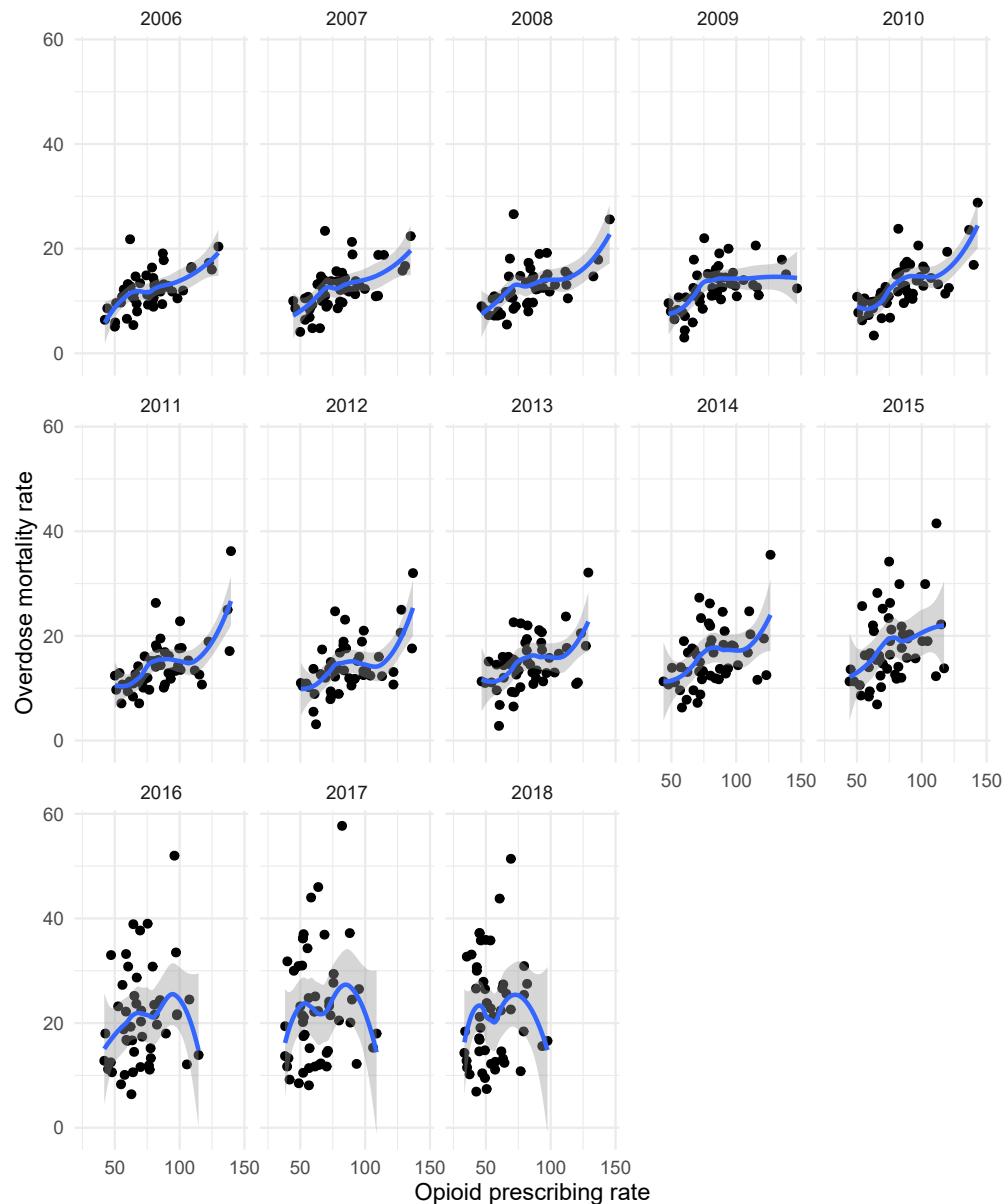
**Table A1:** Survey Information

Survey	Study Dates	Geography	Sample	N
AP/NORC 2018-03	March 14, 2018 - March 19, 2018	United States	National adult	1054
AP/NORC 2019-04	April 11, 2019 - April 14, 2019	United States	National adult	1108
Kaiser 2015-11	November 10, 2015 - November 17, 2015	United States	National adult	1352
Kaiser 2016-04	April 12, 2016 - April 19, 2016	United States	National adult	1201
Kaiser 2016-06	June 15, 2016 - June 21, 2016	United States	National adult	1201
Kaiser 2016-08	August 18, 2016 - August 24, 2016	United States	National adult	1211
Kaiser 2016-09	September 14, 2016 - September 20, 2016	United States	National adult	1204
Kaiser 2016-12	December 13, 2016 - December 19, 2016	United States	National adult	1204
Kaiser 2017-04	April 17, 2017 - April 23, 2017	United States	National adult	1171
Kaiser 2017-11	November 8, 2017 - November 13, 2017	United States	National adult	1201
Kaiser 2018-01	January 16, 2018 - January 21, 2018	United States	National adult	1215
Kaiser 2018-02	February 15, 2018 - February 20, 2018	United States	National adult	1193
Kaiser 2018-03	March 8, 2018 - March 13, 2018	United States	National adult	1212
Kaiser 2018-09	September 19, 2018 - October 2, 2018	United States	National adults ages 18+, including an oversample of 223 prepaid (pay-as-you-go) telephone numbers	1201

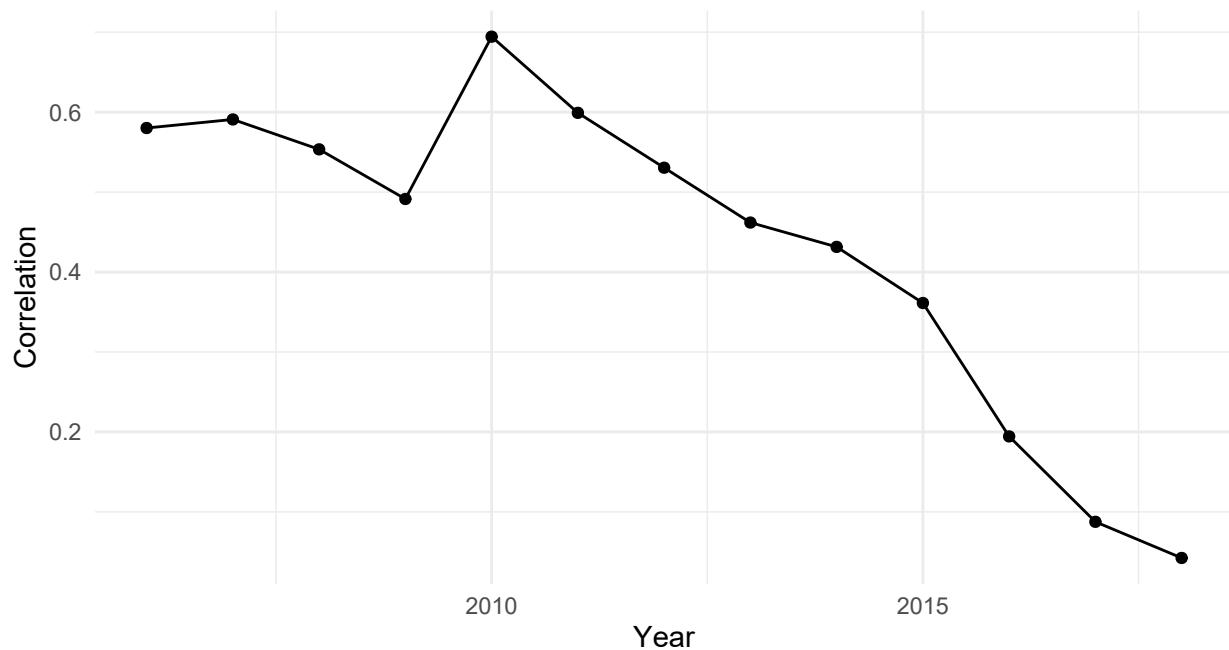
**Table A1:** Survey Information (Continued)

Kaiser 2019-10	October 3, 2019 - October 8, 2019	United States	National adult, including an oversample of 219 prepaid (pay-as-you-go) telephone numbers	1205
Monmouth 2017-08	August 10, 2017 - August 14, 2017	United States	National adult	805
Monmouth 2018-04	April 6, 2018 - April 10, 2018	New Jersey	Adult residents of New Jersey	703
Pew 2014-02	February 14, 2014 - February 23, 2014	United States	National adult including an oversample of 18-33 year olds	1821
Pew 2018-09	September 18, 2018 - September 24, 2018	United States	National adult	1754

## 2 Opioid Prescribing Rates

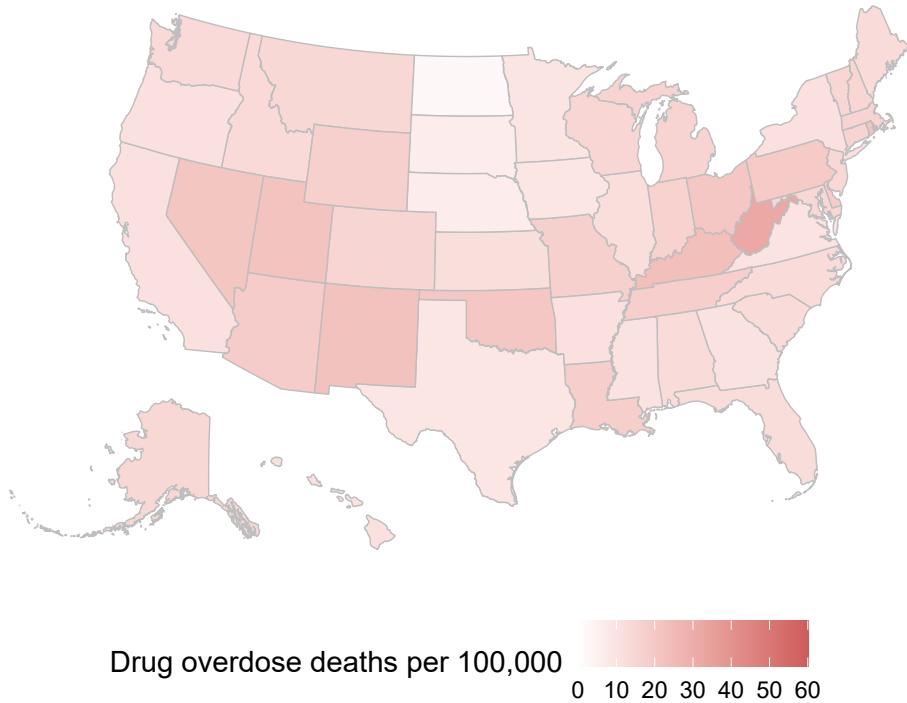


**Figure A1:** Correlation Between State Opioid Prescribing and Overdose Mortality Rates Over Time

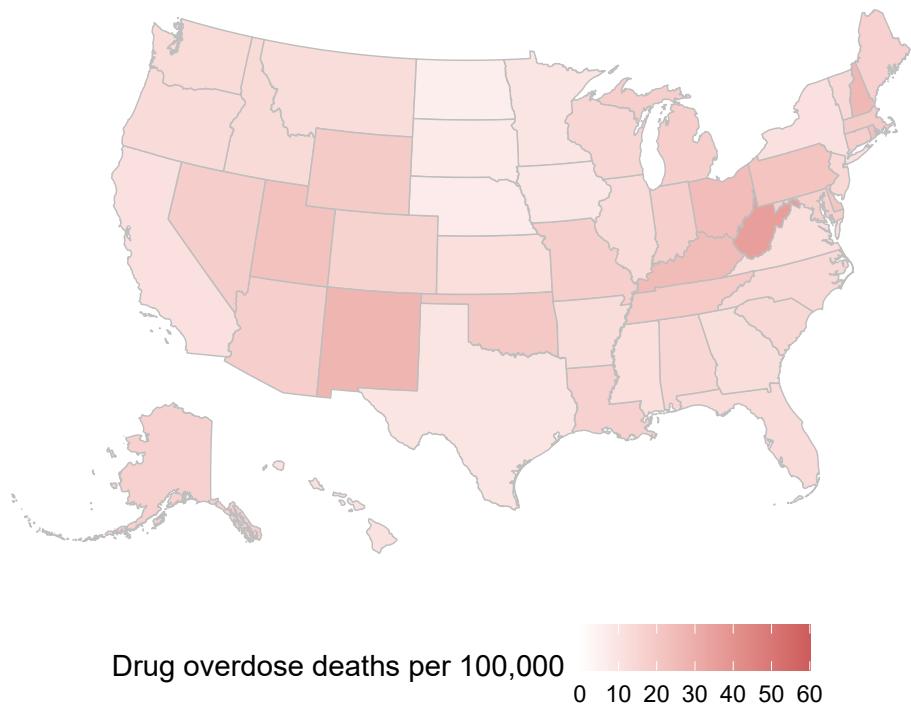


**Figure A2:** Correlation Between State Opioid Prescribing and Overdose Mortality Rates Over Time

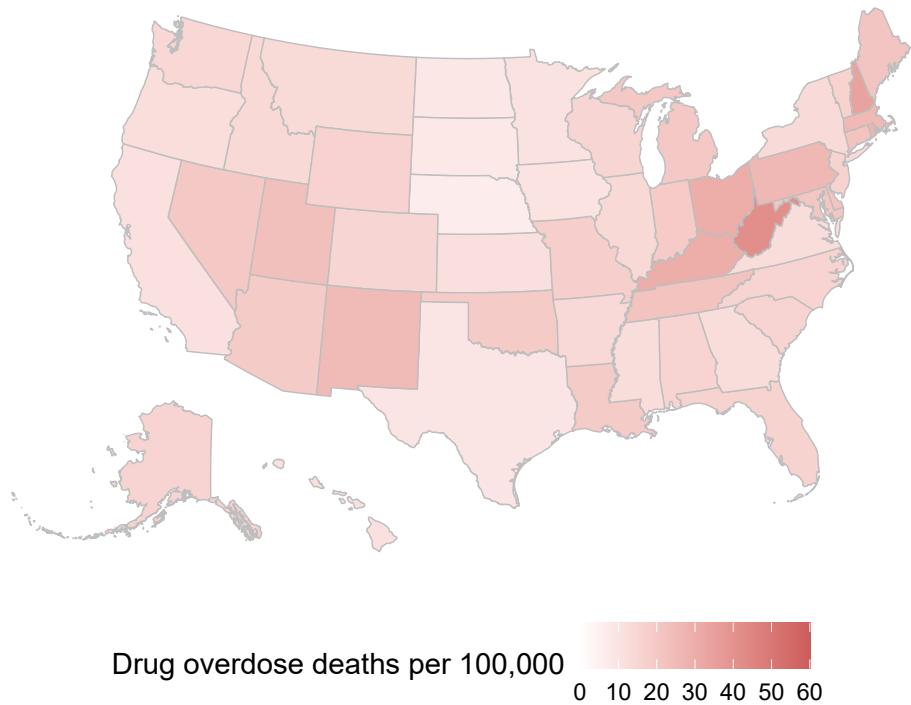
### 3 Overdose Mortality Maps



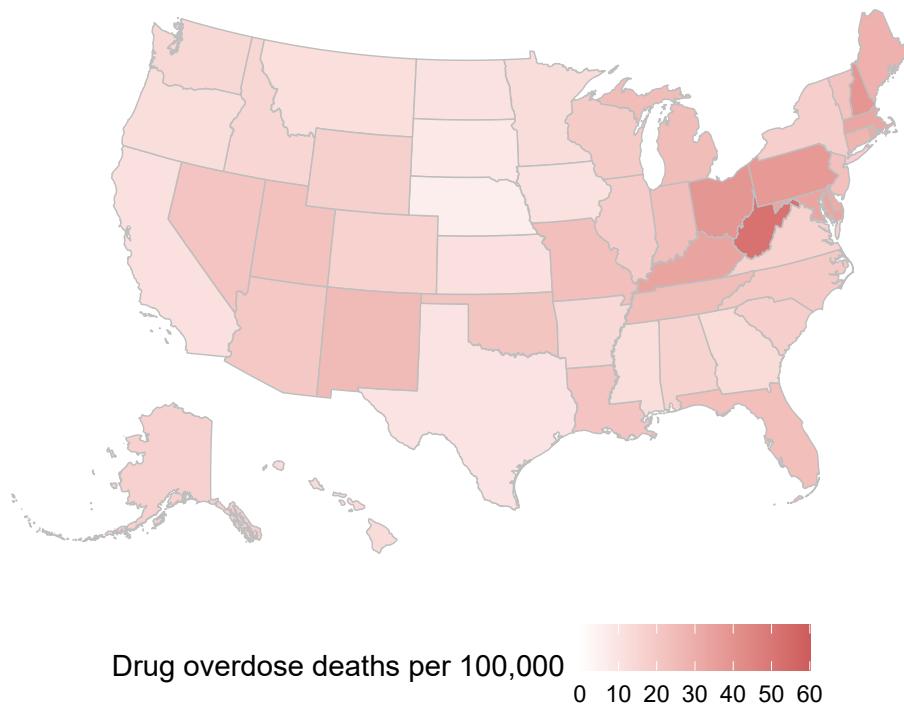
**Figure A3:** Overdose Death Rates by State, 2013



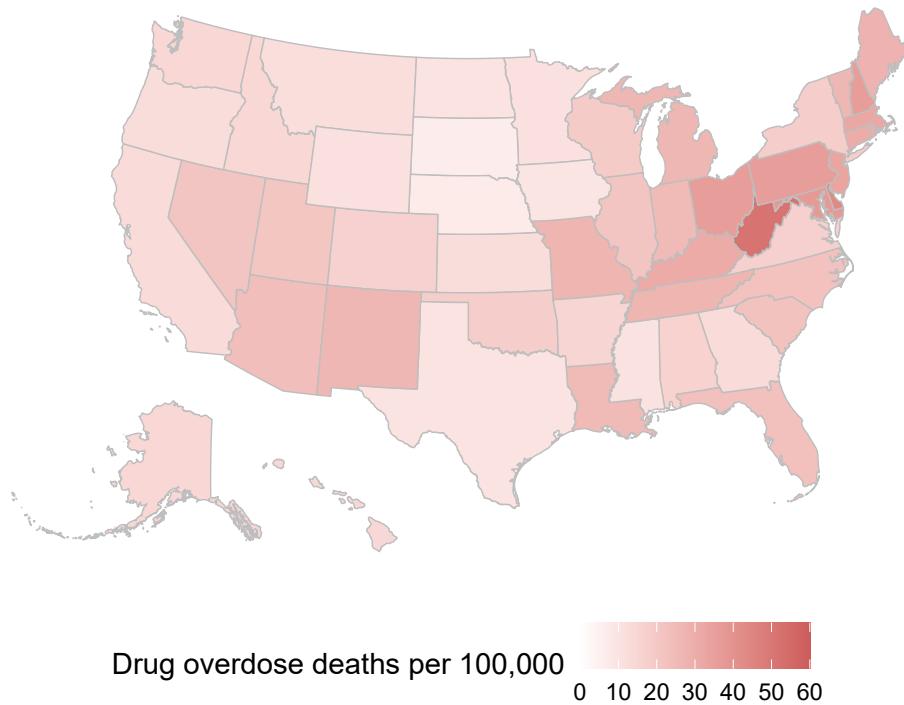
**Figure A4:** Overdose Death Rates by State, 2014



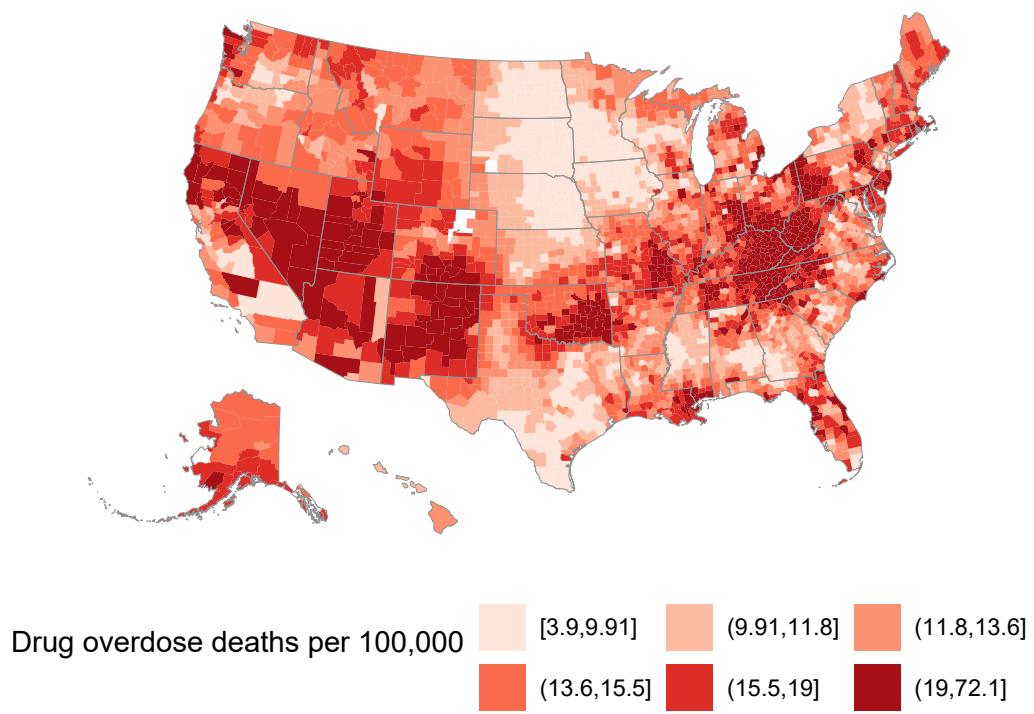
**Figure A5:** Overdose Death Rates by State, 2015



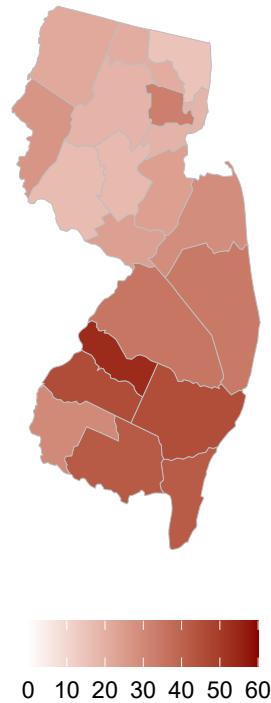
**Figure A6:** Overdose Death Rates by State, 2016



**Figure A7:** Overdose Death Rates by State, 2018



**Figure A8:** Overdose Death Rates by County, 2013



**Figure A9:** Overdose Death Rates by County, New Jersey, 2017

## 4 Question Text and Alternate Measures

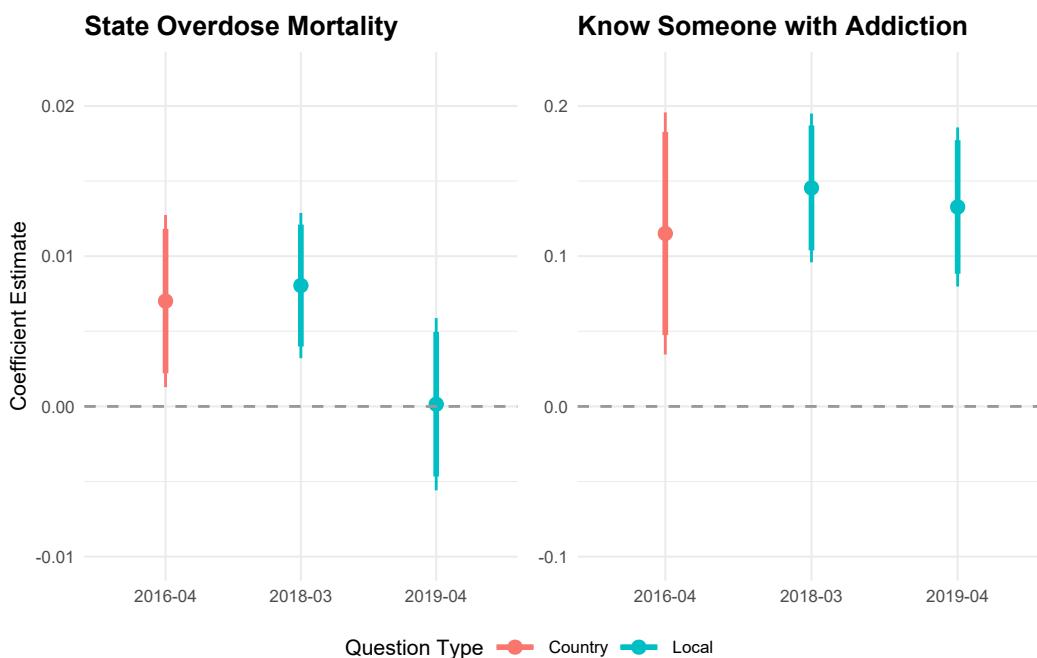
### 4.1 Severity

**Table A2:** Severity Question Text

Survey	Substance Geography Question Text		
Pew 2014-02	Drug	Country	Next, I have some questions about drug policy. How would you describe the problem of drug abuse across the country? Would you say it is a crisis, a serious problem, a minor problem, or not a problem?
Pew 2014-02	Drug	Local	Next, I have some questions about drug policy. How would you describe the problem of drug abuse in your neighborhood, including the local schools? Would you say it is a crisis, a serious problem, a minor problem, or not a problem?
Kaiser 2016-04	Heroin	Country	(For each health issue I name, please tell me how serious a problem you think it is in this country—extremely serious, very serious, somewhat serious, or less serious than that.)...Heroin abuse
Kaiser 2016-04	Opioid	Country	(For each health issue I name, please tell me how serious a problem you think it is in this country—extremely serious, very serious, somewhat serious, or less serious than that.)...Abuse of strong prescription painkillers, sometimes called opioids, such as Percocet, OxyContin or Vicodin
Monmouth 2017-08	Opioid	State	(Now, I'd like to ask you some questions about opioids, which include pain medications like Vicodin and OxyContin as well as street drugs like heroin and fentanyl.)...Is opioid addiction a very serious, somewhat serious, not too serious, or not at all serious problem in the state where you live?
AP/NORC 2018-03	Heroin	Local	In your community, how serious of a problem is...heroin use?
AP/NORC 2018-03	Prescrip	Local	In your community, how serious of a problem is...the use of prescription pain relievers such as Oxycontin, Percocet or Vicodin?
Monmouth 2018-04	Opioid	Country	Is opioid [OH-pee-oid] addiction a very serious, somewhat serious, not too serious, or not at all serious problem in the United States?

**Table A2:** Severity Question Text (Continued)

Monmouth	Opioid	State	Do you think opioid [OH-pe-oid] addiction is a bigger problem in New Jersey than it is in most other parts of the country, is a bigger problem in most other parts of the country than it is in New Jersey, or is about the same in New Jersey as in most other parts of the country?
AP/NORC	Heroin	Local	In your community, how serious of a problem is...heroin and illicit fentanyl use?...Not at all serious, not too serious, moderately serious, very serious, extremely serious
AP/NORC	Prescrip	Local	In your community, how serious of a problem is...the use of prescription pain relievers such as Oxycontin, Percocet or Vicodin?...Not at all serious, not too serious, moderately serious, very serious, extremely serious

**Figure A10:** Relationship between Context, Experience and Perceptions of Heroin Crisis Severity

*Note:* Points are OLS coefficient estimates using state overdose death rates and an indicator for knowing someone with addiction to predict perceptions of heroin crisis severity. Horizontal lines are 90 and 95% confidence intervals. The dependent variable questions ask how serious the heroin crisis is at the state, or local levels. The different levels of geography referred to in each question is marked by color.

**Table A3:** Relationship between State Context, Experience and Perceptions of Heroin Crisis Severity

Survey:	Kaiser	AP/NORC	AP/NORC
Survey year-month:	2016-04	2018-03	2019-04
Question type:	Country	Local	Local
	(1)	(2)	(3)
State overdose mortality	0.007** (0.003)	0.008** (0.002)	0.0001 (0.003)
Know someone w/addiction	0.115** (0.041)	0.145** (0.025)	0.133** (0.027)
Independent/Other party	-0.072 (0.046)	0.002 (0.036)	-0.080** (0.039)
Republican	-0.032 (0.043)	0.009 (0.030)	-0.012 (0.033)
Moderate	0.020 (0.051)		-0.041 (0.039)
Conservative	0.088* (0.052)		0.007 (0.040)
Black	0.082 (0.054)	-0.005 (0.035)	-0.048 (0.060)
Latinx	0.077 (0.066)	0.002 (0.040)	0.011 (0.038)
Other race	0.128* (0.069)	-0.002 (0.049)	-0.039 (0.047)
Female	0.093** (0.033)	0.011 (0.026)	0.041 (0.026)
Income: \$50,000-99,999	-0.033 (0.046)	-0.014 (0.033)	-0.006 (0.030)
Income: \$100,000 or more	-0.056 (0.053)	0.049 (0.039)	0.015 (0.033)
Some college/Associate's degree	-0.003 (0.040)	-0.035 (0.030)	-0.023 (0.032)
Bachelor's degree or more	-0.073 (0.053)	-0.047 (0.031)	-0.025 (0.031)
Age	0.001 (0.001)		
Age: 30-39		-0.047 (0.060)	0.020 (0.040)
Age: 40-59		-0.040 (0.043)	-0.016 (0.027)
Age: 60-64		-0.068 (0.064)	0.091** (0.041)
Age: 65+		0.001 (0.041)	0.006 (0.032)
State contextual controls	Yes	Yes	Yes
Observations	480	1,037	1,054
Adjusted R <sup>2</sup>	0.100	0.088	0.069

*Note:* Results from OLS regressions with standard errors clustered by state. \* indicates  $p < 0.10$  and \*\* $p < 0.05$  (two-tailed tests).

**Table A4:** Relationship between State Opioid Prescribing Rates and Perceptions of Drug Crisis Severity

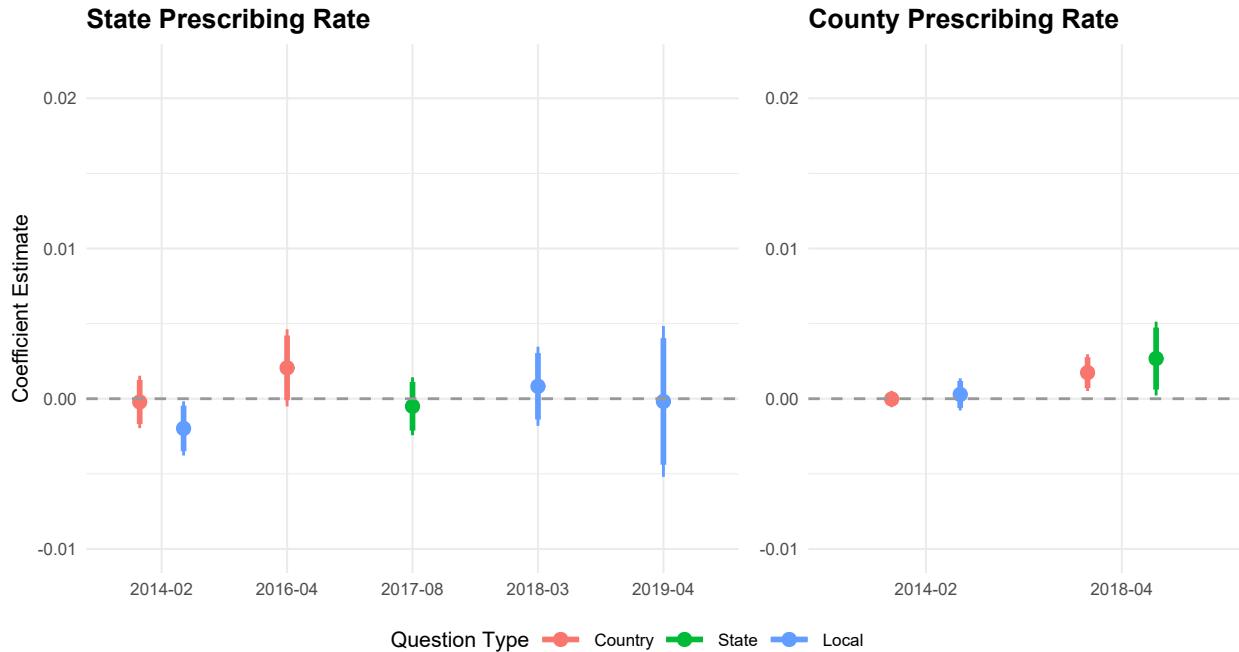
Survey:	Pew 2014-02 Country	Pew 2014-02 Local	Kaiser 2016-04 Country	Monmouth 2017-08 State	AP/NORC 2018-03 Local	AP/NORC 2019-04 Local
	(1)	(2)	(3)	(4)	(5)	(6)
State opioid prescribing rate	-0.0002 (0.001)	-0.002** (0.001)	0.002 (0.001)	-0.001 (0.001)	0.001 (0.001)	-0.0002 (0.003)
Independent/Other party	0.033 (0.033)	-0.012 (0.050)	-0.051 (0.034)	0.059 (0.045)	-0.002 (0.037)	-0.101** (0.048)
Republican	0.014 (0.022)	0.002 (0.028)	-0.027 (0.028)	0.063* (0.033)	0.004 (0.028)	-0.050 (0.043)
Moderate	-0.009 (0.026)	-0.024 (0.030)	-0.004 (0.027)	-0.054 (0.034)		-0.023 (0.035)
Conservative	0.049 (0.030)	-0.020 (0.035)	-0.012 (0.037)	-0.047 (0.039)		-0.015 (0.040)
Black	0.050 (0.031)	0.025 (0.031)	0.054 (0.037)	-0.016 (0.044)	-0.024 (0.040)	-0.146** (0.046)
Latinx	0.043* (0.025)	0.051 (0.043)	0.015 (0.032)	-0.030 (0.041)	-0.021 (0.037)	-0.010 (0.039)
Other race	0.023 (0.037)	-0.019 (0.043)	-0.037 (0.048)	-0.053 (0.037)	-0.085* (0.044)	-0.002 (0.042)
Female	0.035 (0.023)	0.018 (0.025)	0.035** (0.017)	0.030 (0.022)	0.056* (0.033)	0.069** (0.026)
Income: \$50,000-99,999	0.047** (0.023)	-0.029 (0.028)	-0.015 (0.028)	0.008 (0.033)	0.030 (0.035)	-0.002 (0.027)
Income: \$100,000 or more	0.012 (0.029)	-0.061* (0.033)	-0.028 (0.029)	0.021 (0.029)	0.064 (0.044)	-0.023 (0.031)
Some college	-0.006 (0.023)	-0.075** (0.036)	-0.011 (0.028)	0.041 (0.033)	-0.034 (0.027)	-0.024 (0.029)
Bachelor's degree or more	-0.033 (0.021)	-0.044 (0.030)	-0.038 (0.028)	0.035 (0.038)	-0.040 (0.034)	-0.025 (0.037)
Age	0.003** (0.001)	0.002** (0.001)	0.001** (0.0005)	0.002** (0.001)		
Age: 30-39					-0.063 (0.062)	-0.027 (0.038)
Age: 40-59					-0.030 (0.044)	-0.045 (0.038)
Age: 60-64					-0.076 (0.054)	0.013 (0.046)
Age: 65+					-0.003 (0.042)	-0.063* (0.034)
State contextual controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	733	747	959	590	1,051	1,056
Adjusted R <sup>2</sup>	0.057	0.040	0.024	0.045	0.022	0.059

*Note:* Results from OLS regressions with standard errors clustered by state. \* indicates  $p < 0.10$  and \*\* $p < 0.05$  (two-tailed tests).

**Table A5:** Relationship between County Opioid Prescribing Rates and Perceptions of Drug Crisis Severity

	Pew 2014-02 Country	Pew 2014-02 Local	Monmouth 2018-04 Country	Monmouth 2018-04 State
	(1)	(2)	(3)	(4)
County opioid prescribing rate	-0.00002 (0.0003)	0.0003 (0.001)	0.002** (0.001)	0.003** (0.001)
Independent/Other party	0.037 (0.030)	0.007 (0.043)	-0.005 (0.015)	0.065* (0.034)
Republican	0.018 (0.024)	0.009 (0.030)	0.025 (0.018)	0.046 (0.046)
Moderate	-0.020 (0.024)	-0.031 (0.029)		
Conservative	0.048 (0.030)	-0.033 (0.034)		
Black	0.061** (0.031)	-0.0004 (0.043)	-0.002 (0.013)	-0.040 (0.051)
Latinx	0.041 (0.028)	0.030 (0.046)		
Other race	0.029 (0.037)	-0.028 (0.050)	0.001 (0.017)	0.062 (0.061)
Female	0.043** (0.020)	0.012 (0.024)	0.029* (0.018)	0.002 (0.034)
Income: \$50,000-99,999	0.038 (0.024)	-0.035 (0.028)	0.038 (0.030)	0.048 (0.039)
Income: \$100,000 or more	0.011 (0.025)	-0.067** (0.033)	0.037 (0.024)	0.033 (0.037)
Some college/Associate's degree	-0.010 (0.023)	-0.085** (0.032)	-0.013 (0.021)	-0.012 (0.049)
Bachelor's degree or more	-0.036 (0.023)	-0.045 (0.031)	-0.0003 (0.012)	0.011 (0.052)
Age	0.003** (0.001)	0.002** (0.001)	-0.0004* (0.0002)	-0.0004 (0.001)
County contextual controls	Yes	Yes	Yes	Yes
Observations	758	758	541	541
Adjusted R <sup>2</sup>	0.070	0.042	0.033	0.006

*Note:* Results from OLS regressions with standard errors clustered by state. \* indicates  $p < 0.10$  and \*\* $p < 0.05$  (two-tailed tests).



**Figure A11:** Relationship between Prescribing Rates and Perceptions of Drug Crisis Severity

*Note:* Points are OLS coefficient estimates using state or county opioid prescribing rates to predict perceptions of drug crisis severity. Horizontal lines are 90 and 95% confidence intervals. The dependent variable questions ask how serious the drug, prescription painkiller, or opioid addiction crises are at the national, state, or local levels. The different levels of geography referred to in each question is marked by color.

**Table A6:** National Media Coverage Moderates the Relationship Between Experience and Perceived Severity (Full Regression with Controls)

	<i>Dependent variable:</i>	
	Perceived Severity of Drug Addiction	
	(1)	(2)
Media coverage	-0.001** (0.001)	0.002** (0.001)
State overdose mortality	-0.009** (0.003)	-0.001 (0.003)
Know someone w/addiction		0.008 (0.036)
Independent/Other party	-0.022 (0.015)	-0.025 (0.018)
Republican	-0.007 (0.012)	-0.017 (0.014)
Black	0.007 (0.021)	0.014 (0.023)
Latinx	-0.003 (0.016)	0.012 (0.022)
Other race	-0.039* (0.023)	-0.039 (0.030)
Female	0.041** (0.009)	0.046** (0.011)
Income: \$50,000-99,999	0.012 (0.014)	0.001 (0.014)
Income: \$100,000 or more	0.002 (0.014)	0.003 (0.017)
Some college/Associate's degree	-0.013 (0.015)	-0.017 (0.018)
Bachelor's degree or more	-0.037** (0.015)	-0.031* (0.018)
Media coverage × Overdose mortality rate	0.0001** (0.00003)	0.0001** (0.00003)
Media coverage × Know someone w/addiction		0.001** (0.0004)
Observations	4,563	3,774
Adjusted R <sup>2</sup>	0.053	0.095

*Note:* Results from OLS regressions with standard errors clustered by state. \* indicates  $p < 0.10$  and \*\* $p < 0.05$  (two-tailed tests). Contextual controls included.

## 4.2 Priority

**Table A7:** Priority Question Text

Survey	Question Type	Question Text
Kaiser 2015-11	State government	...First, -Reducing the number of people abusing prescription painkillers or heroin- should that be a top priority, important but a lower priority, not too important or should it not be done?
Kaiser 2016-08	Political candidates	Now I'd like to ask you about possible health issues that the (2016) presidential candidates could be talking about during the 2016 presidential campaign. Do you think each of the following should be a top priority, an important but not a top priority, not too important, or not at all important for the candidates to be talking about? How about...the ongoing heroin and prescription painkiller addiction epidemic in the US?
Kaiser 2016-09	Vote	Thinking about the many issues that might affect your vote for president in 2016, would you say a candidate's plan to address...the ongoing heroin and prescription painkiller addiction epidemic in the US will be very important to your vote, somewhat important, not too important, or not at all important?
Kaiser 2016-12	Federal government	I'm going to read you some different things Donald Trump and the next Congress might do when it comes to health care....Dealing with the prescription painkiller addiction epidemic—should that be a top priority, or important but not a top priority, or not too important, or should it not be done?
Kaiser 2017-04	Federal government	I'm going to read you some different things President Trump and Congress might do when it comes to health care...Dealing with the prescription painkiller addiction epidemic...should that be a top priority, or important but not a top priority, or not too important, or should it not be done?
Kaiser 2017-11	Federal government	I'm going to read you some different things President (Donald) Trump and Congress might try to do in the coming months....Addressing the prescription painkiller addiction epidemic...Should that be a top priority, important but not a top priority, not too important, or should it not be done?

**Table A7:** Priority Question Text (Continued)

Kaiser 2018-01	Federal government	govern-	I'm going to read you some different things President (Donald) Trump and Congress might try to do in the coming months....Addressing the prescription painkiller addiction epidemic—should that be a top priority, important but not a top priority, not too important, or should it not be done?
Kaiser 2018-02	Political candidates	candi-	(Thinking about the many health care issues that candidates can talk about during their campaigns, how important would you say it is for 2018 candidates to talk about)...the ongoing heroin and prescription painkiller addiction epidemic in the US? Is it very important, somewhat important, not too important, or not at all important for the 2018 candidates to talk about?
Kaiser 2018-03	Federal government	govern-	I'm going to read you some different things President (Donald) Trump and Congress might try to do in the coming months....Addressing the prescription painkiller addiction epidemic—should that be a top priority, important but not a top priority, not too important, or should it not be done?
Kaiser 2019-10	Political candidates	candi-	Overall, do you think the (2020) Democratic candidates for president are spending too much time, too little time, or about the right amount of time talking about the heroin and prescription painkiller addiction epidemic

**Table A8:** Relationship between State Context, Experience, and Opioid Crisis Priority, 2018-2019

	Kaiser Survey: Survey year-month: Question type: Government	Kaiser 2018-01 Federal Political Candidates	Kaiser 2018-02 Political Candidates	Pew 2018-09 Vote Government	Kaiser 2019-10 Political Candidates
	(1)	(2)	(3)	(4)	(5)
State overdose mortality	-0.002 (0.002)	-0.0001 (0.002)	-0.002 (0.002)	-0.0004 (0.002)	-0.003 (0.003)
Independent/Other party	-0.040 (0.072)	-0.059 (0.046)	0.011 (0.054)	-0.024 (0.044)	0.115* (0.060)
Republican	-0.023 (0.046)	-0.069** (0.035)	-0.030 (0.029)	0.005 (0.030)	
Moderate	-0.034 (0.036)	0.025 (0.034)	-0.055 (0.040)	0.031 (0.034)	-0.001 (0.039)
Conservative	-0.017 (0.048)	0.044 (0.044)	-0.076 (0.047)	0.005 (0.039)	0.063 (0.055)
Black	0.001 (0.057)	-0.049 (0.033)	-0.046 (0.035)	0.109** (0.049)	0.047 (0.056)
Latinx	-0.037 (0.065)	-0.008 (0.025)	-0.064 (0.044)	0.090* (0.049)	0.086 (0.068)
Other race	-0.028 (0.059)	-0.032 (0.040)	-0.069 (0.071)	0.021 (0.051)	0.098 (0.077)
Female	0.013 (0.030)	0.041** (0.021)	0.079** (0.027)	0.053* (0.028)	0.039 (0.042)
Income: \$50k-99k	-0.024 (0.040)	0.025 (0.021)	-0.003 (0.033)	-0.150** (0.038)	-0.003 (0.049)
Income: >\$100k	-0.023 (0.031)	-0.049** (0.024)	0.047 (0.036)	-0.180** (0.033)	0.029 (0.043)
Some college	0.028 (0.027)	-0.032 (0.027)	0.026 (0.038)	0.036 (0.032)	0.006 (0.047)
Bachelor's or more	0.001 (0.027)	-0.008 (0.021)	-0.006 (0.030)	0.039 (0.037)	0.050 (0.048)
Age	0.0001 (0.001)	0.0002 (0.0005)	0.002** (0.001)	0.002** (0.001)	0.003** (0.001)
State contextual controls	Yes	Yes	Yes	Yes	Yes
Observations	529	993	531	772	557
Adjusted R <sup>2</sup>	0.019	0.036	0.058	0.097	0.021

Note: Results from OLS regressions with standard errors clustered by state. \* indicates  $p < 0.10$  and \*\*  $p < 0.05$  (two-tailed tests). The Kaiser 2019-10 question was only asked of Democratic primary voters.

**Table A9:** Relationship between State Prescribing Rates, Experience, and Opioid Crisis Priority, 2015-2017

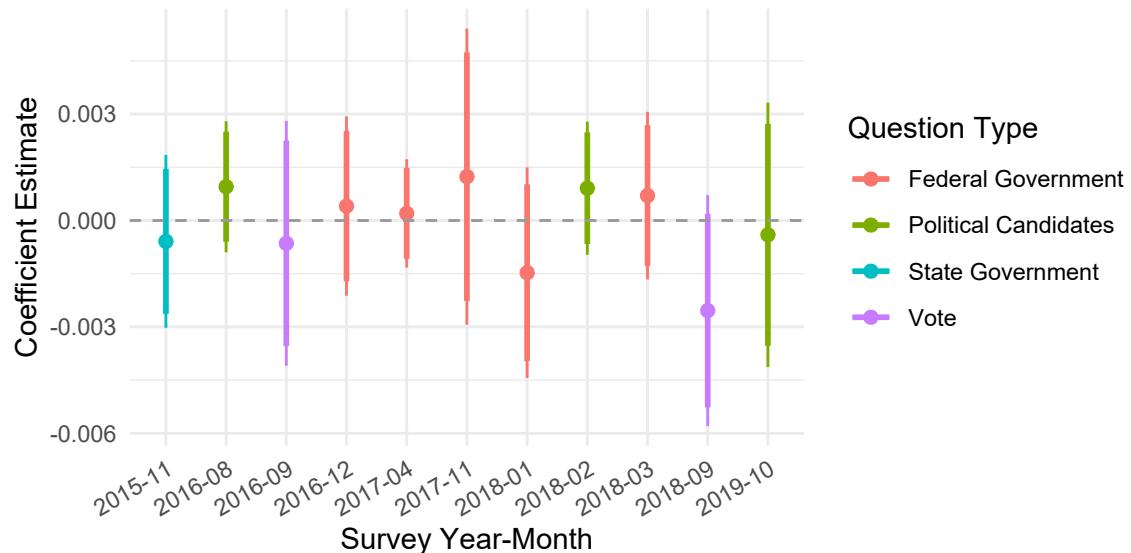
	Kaiser Survey: Survey year-month: Question type: (1)	Kaiser 2015-11 State Government (2)	Kaiser 2016-08 Political Candidates (3)	Kaiser 2016-09 Vote (4)	Kaiser 2016-12 Federal Government (5)	Kaiser 2017-04 Federal Government (6)
Opioid prescr. rate	-0.001 (0.001)	0.001 (0.001)	-0.001 (0.002)	0.0004 (0.001)	0.0002 (0.001)	0.001 (0.002)
Indep/Other party	0.027 (0.029)	-0.0005 (0.031)	0.066* (0.039)	-0.046 (0.032)	0.019 (0.030)	0.011 (0.053)
Republican	0.016 (0.030)	-0.087** (0.026)	-0.025 (0.027)	-0.042* (0.024)	-0.040 (0.026)	0.041 (0.046)
Moderate	-0.039* (0.023)	-0.033 (0.024)	-0.030 (0.029)	0.019 (0.022)	0.044* (0.023)	-0.052 (0.043)
Conservative	-0.020 (0.028)	-0.037 (0.025)	-0.033 (0.033)	-0.017 (0.025)	0.036 (0.032)	-0.114** (0.047)
Black	0.069* (0.041)	-0.044 (0.043)	-0.027 (0.037)	0.009 (0.026)	0.009 (0.029)	-0.071 (0.071)
Latinx	0.013 (0.037)	-0.007 (0.028)	0.057 (0.036)	-0.016 (0.027)	-0.121** (0.034)	-0.046 (0.071)
Other race	0.088** (0.040)	-0.136** (0.057)	0.084** (0.034)	0.010 (0.038)	0.004 (0.033)	-0.067 (0.051)
Female	0.030 (0.023)	0.030 (0.020)	0.040 (0.031)	0.007 (0.016)	0.028 (0.020)	0.030 (0.032)
Income: \$50k-99k	-0.014 (0.021)	-0.035 (0.030)	-0.048** (0.024)	-0.017 (0.021)	-0.008 (0.023)	-0.043 (0.037)
Income: >\$100k	-0.030 (0.034)	-0.031 (0.030)	-0.077** (0.033)	-0.011 (0.030)	-0.039 (0.029)	-0.056 (0.054)
Some college	-0.033 (0.022)	0.033 (0.021)	-0.081** (0.029)	0.012 (0.033)	-0.045** (0.021)	0.025 (0.042)
Bachelor's or more	-0.109** (0.024)	-0.033 (0.021)	-0.092** (0.034)	-0.028 (0.030)	-0.035 (0.027)	0.068 (0.048)
Age	0.001** (0.001)	0.002** (0.001)	0.002** (0.001)	0.0001 (0.001)	-0.001 (0.001)	0.001 (0.001)
State contextual controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,066	981	998	968	1,007	506
Adjusted R <sup>2</sup>	0.042	0.063	0.053	0.005	0.035	0.021

Note: Results from OLS regressions with standard errors clustered by state. \* indicates  $p < 0.10$  and \*\* $p < 0.05$  (two-tailed tests).

**Table A10:** Relationship between State Prescribing Rates, Experience, and Opioid Crisis Priority, 2015-2017

Survey:	Kaiser Government	Kaiser Candidates	Kaiser Government	Pew Vote	Kaiser Political Candidates
	(1)	(2)	(3)	(4)	(5)
Opioid prescribing rate	-0.001 (0.002)	0.001 (0.001)	0.001 (0.001)	-0.003 (0.002)	-0.0004 (0.002)
Independent/Other party	-0.038 (0.072)	-0.061 (0.045)	0.010 (0.054)	-0.024 (0.044)	0.112* (0.060)
Republican	-0.017 (0.045)	-0.070** (0.034)	-0.028 (0.029)	0.007 (0.030)	
Moderate	-0.034 (0.037)	0.025 (0.034)	-0.052 (0.040)	0.035 (0.035)	0.0003 (0.039)
Conservative	-0.018 (0.049)	0.044 (0.043)	-0.077* (0.046)	0.010 (0.040)	0.063 (0.055)
Black	0.007 (0.057)	-0.050 (0.033)	-0.044 (0.035)	0.109** (0.049)	0.049 (0.057)
Latinx	-0.038 (0.066)	-0.008 (0.025)	-0.068 (0.044)	0.085* (0.047)	0.087 (0.067)
Other race	-0.025 (0.059)	-0.031 (0.040)	-0.068 (0.070)	0.018 (0.050)	0.094 (0.078)
Female	0.013 (0.030)	0.041** (0.021)	0.079** (0.028)	0.052* (0.028)	0.039 (0.042)
Income: \$50,000-99,999	-0.026 (0.040)	0.027 (0.021)	-0.003 (0.033)	-0.154** (0.038)	-0.006 (0.048)
Income: \$100,000 or more	-0.029 (0.030)	-0.049** (0.023)	0.046 (0.035)	-0.185** (0.032)	0.029 (0.043)
Some college	0.029 (0.027)	-0.033 (0.027)	0.026 (0.038)	0.038 (0.031)	0.009 (0.047)
Bachelor's or more	0.006 (0.028)	-0.009 (0.021)	-0.007 (0.030)	0.039 (0.036)	0.051 (0.048)
Age	0.0001 (0.001)	0.0003 (0.0005)	0.002** (0.001)	0.002** (0.001)	0.003** (0.001)
State contextual controls	Yes	Yes	Yes	Yes	Yes
Observations	529	993	531	772	557
Adjusted R <sup>2</sup>	0.018	0.037	0.057	0.101	0.019

Note: Results from OLS regressions with standard errors clustered by state. \* indicates  $p < 0.10$  and \*\* $p < 0.05$  (two-tailed tests). The Kaiser 2019-10 question was only asked of Democratic primary voters.



**Figure A12:** Relationship between Prescribing Rates and Priority Given to Opioid Crisis

*Note:* Points are OLS coefficient estimates using state opioid prescribing rates to predict support for questions about prioritizing the opioid crisis. Horizontal lines are 90 and 95% confidence intervals. The dependent variable questions ask how much priority should be given to the opioid crisis by the federal government, political candidates, and state government, as well as how important the opioid crisis or drug addiction is to the respondent's vote.

**Table A11:** Relationship between County Context, Experience, and Opioid Crisis Priority

<i>Dependent variable:</i>	
	Priority
County overdose mortality	-0.001 (0.001)
Independent/Other party	0.004 (0.030)
Republican	-0.036 (0.049)
Moderate	0.008 (0.034)
Conservative	0.036 (0.028)
Black	0.142** (0.039)
Latinx	0.107** (0.036)
Other race	0.029 (0.040)
Female	0.042* (0.023)
Income: \$50,000-99,999	-0.142** (0.029)
Income: \$100,000 or more	-0.175** (0.031)
Some college	0.035 (0.029)
Bachelor's or more	0.042 (0.032)
Age	0.002** (0.001)
Observations	769
County contextual controls	Yes
Adjusted R <sup>2</sup>	0.104

*Note:* Results from OLS regression with standard errors clustered by county.

\* indicates  $p < 0.10$  and \*\* $p < 0.05$  (two-tailed tests).

**Table A12:** Relationship between Opioid Crisis Priority and Support for Trump, 2016

	<i>Dependent variable:</i>	
	Intended support for Trump	
	(1)	(2)
Opioid crisis vote priority	-0.040 (0.026)	-0.039 (0.025)
State overdose mortality		0.001 (0.002)
Independent/Other party	0.362** (0.042)	0.362** (0.078)
Republican	0.770** (0.024)	0.753** (0.042)
Moderate	0.045* (0.024)	0.049** (0.024)
Conservative	0.147** (0.028)	0.153** (0.040)
Black	-0.086** (0.028)	-0.096** (0.029)
Latinx	-0.084** (0.030)	-0.091** (0.039)
Other race	0.010 (0.040)	0.009 (0.068)
Female	-0.058** (0.018)	-0.061** (0.021)
Income: \$50,000-99,999	0.060** (0.022)	0.061** (0.021)
Income: \$100,000 or more	0.024 (0.025)	0.026 (0.026)
Some college/Associate's degree	0.024 (0.022)	0.031 (0.032)
Bachelor's degree or more	0.007 (0.024)	0.011 (0.021)
Age	0.001 (0.001)	0.001 (0.001)
Observations	743	730
State contextual controls	No	Yes
Adjusted R <sup>2</sup>	0.774	0.771

*Note:* Results from an OLS regression with standard errors clustered by state. Overdose death rates, opioid prescribing rates, and other contextual variables are measured at the state level. \* indicates  $p < 0.10$  and \*\* $p < 0.05$  (two-tailed tests).

**Table A13:** National Media Coverage Moderates the Relationship Between Experience and Priority (Full Regression)

	<i>Dependent variable:</i>
	Priority
Media coverage	−0.003** (0.001)
State overdose mortality	−0.008** (0.003)
Independent/Other party	0.019 (0.017)
Republican	0.025** (0.012)
Black	0.004 (0.017)
Latinx	−0.011 (0.014)
Other race	0.001 (0.016)
Female	0.034** (0.012)
Income: \$50,000-99,999	−0.028** (0.008)
Income: \$100,000 or more	−0.045** (0.010)
Some college/Associate's degree	−0.008 (0.010)
Bachelor's degree or more	−0.022** (0.009)
Media coverage × State overdose mortality	0.0001** (0.00003)
Observations	8,970
Adjusted R <sup>2</sup>	0.020

*Note:* Results from OLS regressions with standard errors clustered by state.

\* indicates  $p < 0.10$  and \*\* $p < 0.05$  (two-tailed tests). Contextual controls included.