The Opioid Crisis: America's Longest Running Epidemic (1991-2018)

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Abstract

This paper reviews the governmental response to the Opioid Epidemic. The opioid epidemic is a crisis that has taken hundreds of thousands of American lives. The opioid epidemic is a systemic problem that will not be solved quickly or painlessly. Because of the depth of this crisis, it is crucial to understand what motivates legislators' response. To potentially understand the future behavior of legislators, it is crucial to understand what has motivated their response to the crisis thus far. This paper does this by asking, why has legislative behavior varied in response to the opioid epidemic? It specifically examines the legislative response from the 115th session of the United States House of Representatives. It attempts to analyze legislative behavior on a series of bills to address the epidemic through a data driven approach. It uses data from Opensecrets.org, the National Institutes of Health, and the American Foundation for Aids Research to analyze the effects of variables on legislators' votes. This study hopes to inform future analysis of legislative action and what motivates it.

1. Introduction

The opioid epidemic is a crisis that has been building in the United States for the last several decades. Opioids are defined as a class of drugs that include the street drug heroin as well as the prescription pain relievers oxycodone, hydrocodone, codeine, morphine, fentanyl and others. Opioids react chemically with opioid receptors on nerve cells in the brain and the nervous system to relieve pain, as well as producing pleasurable effects.[1] The opioid epidemic is considered such a crisis because these substances are highly addictive.

Addiction is defined by the American Society of Addiction Medicine as "a primary, chronic and relapsing brain disease characterized by an individual pathologically pursuing reward and/or relief by substance use and other behaviors"[2]. According to the Center for Behavioral Health Statistics and Quality, of the 20.5 million Americans 12 or older that had a substance use disorder in 2015, 2 million had a substance use disorder involving prescription pain relievers and 591,000 had a substance use disorder involving heroin[3]. The Centers for Disease Control and Prevention (CDC) reported in 2017 that, since 2000 more than half a million Americans have died from opioid-related overdoses[4]. Overdose from drug use is the leading cause of accidental death in the United States. In 2015 alone 52,404 individuals died from a drug overdose, 33,091 of those deaths (63 percent) were from either prescription painkillers or heroin[5]. The Centers for Disease Control and Prevention estimates that the total economic costs of prescription opioid misuse alone in the United States are $78.5 billion a year, including the costs of healthcare, lost productivity, addiction treatment, and criminal justice involvement[6]. Furthermore, according to a 2018 report from the CDC, life expectancy in the United States has decreased for 3 years in a row. Life expectancy has decreased from 78.9 years in 2014 to 78.6 years in 2017. This has been largely due to an increase in opioid-related drug overdoses and suicides. The report stated "The age-adjusted death rate for drug overdoses in the United States increased 72 percent between 2006 and 2016, to stand at 19.8 by 2016. It then rose by another 9.6 percent in 2017, and now stands at nearly 22 deaths per 100,000"[7]. While the crisis is widespread geographically, the areas worst affected have been states in the Northeast, the West, and the Midwest[8]. While this crisis has been indiscriminate, the governmental response has been far more sporadic.

When analyzing responses from the federal government it becomes clear that legislators have had incredibly varying responses to the opioid epidemic.

This legislator variation can be examined clearly in two examples from the state of Arizona. Looking at data on the 1st and 4th districts in this state reveal shocking statistics. These two districts have been particularly severely affected by the opioid epidemic over the last several years. According to data from the American Foundation for Aids Research, these two districts experienced far above the average number of deaths from opioid misuse. In 2016 Arizona's 1st district had 1040 deaths, and the 4th district had 1457 deaths. 3.1% of the population of the 1st district reported opioid dependency, and 2.2% of the 4th district's population reported dependency[9]. Despite these similarly severe numbers, the representatives of the 1st and 4th district of Arizona consistently voted in opposition to each other on each piece of legislation related to the opioid epidemic during the 115th session of Congress. Why then is it that these two legislators have voted in opposition to each other? More generally, it must be asked, why has the legislative response to the opioid epidemic varied?

2. Previous Literature

It should correctly be assumed that in a democratic system of government, representatives should be precisely that, representative of their district, that they should respond to their district's needs. A surface analysis would lead one to believe the general needs of their constituency determine legislator's behaviors. Indeed, there is research which supports this idea. Peltzman (1984) argues that the economic interests of constituents are the primary motivators for elected officials. His research is an effort to discredit the notion that legislators are making decisions based on their ideology. As he puts it, "The tendency for legislators to shirk serving their constituents' interests in favor of their preferences (ideology) seems more apparent than real."[10] He explains, based upon an economic model, that liberal and conservative legislators are appealing to systematically different groups of voters. They are appealing to different income, educational, occupational and social groups, which results in their systematically different legislative priorities. Peltzman's economic model of legislative behavior provides an argument that legislators are relying less on ideology when taking votes and are relying more on how their votes will affect the economic security of their constituents. In this case, legislators should be responding to the economic needs of their districts based on the severity of the opioid epidemic.

Other factors may influence the decisions of legislators other than economics. Bartels (2000) argues that the partisanship of voters pushes elected officials to also hold certain views. Further, he argues that the partisanship of elected officials has the potential to push their voters to hold more partisan views[11]. This circular system of deepening partisanship could lead to an ever-strengthening partisan relationship between voters and those they support for office. This cycle is particularly important when comparing it with what Peltzman says about legislators' views on non-economic issues. Specifically, Peltzman states "Only on social policy issues (abortion, school prayer, and so on), where the wealth stakes are unclear, did ideology play a prominent role."[12] The implications of both Bartels' and Peltzman's work indicates that legislators and voters could become fiercely partisan regarding non-economic issues. This could be instrumental when examining the opioid crisis, while it is accurately described as an economic crisis, it is also a social crisis. An article by Drs. Dasgupta, Beletsky, and Ciccarone (2018), indicates that there are many root social causes to the opioid epidemic. They state that "…the crisis is fundamentally fueled by economic and social upheaval, its etiology closely linked to the role of opioids as a refuge from physical and psychological trauma, concentrated disadvantage, isolation, and hopelessness"[13]. Therefore, it will be necessary to examine the political response to this crisis in both an economic and social lens.

Lastly, work by Stratmann (2002) focuses on the influence of special interests on the votes of legislators[14]. The influence of special interests has been especially highlighted in the United States in the wake of the Supreme Court's Citizens United V FEC ruling (2010). The court ruled that outside groups were not limited in their election spending through Political Action Committees (PACs), if they were not directly contributing to a political campaign. A subsequent decision, the US District Court of Appeals in DC ruled in Speechnow.org V FEC (2012), that those individual contributions could not be limited to PACs. These rulings are of interest when considering Stratmann's research, as the amount of outside spending has increased significantly since it was conducted. Stratmann's findings indicate that interest groups use PAC contributions to influence, or "buy," legislators votes. Specifically, he finds that contributions are most effectual at swinging the votes of junior members who have not established a reputation of a clear policy position. This work complements the work by Engstrom and Vanberg (2010), in showing that swing legislators and freshman legislators are particularly vulnerable to outside influences as well as institutional influences. This work is significant in identifying contributions as a financial incentive influencing

legislator behavior[15]. Stratmann's research indicates that when looking at legislation related to the opioid epidemic, legislators' behavior would be particularly affected by contributions from the pharmaceutical industry.

3. Theory

Looking at this past work leads to the construction of several theories to explain the variance in legislator behavior. The first of these revolves around the legislators responding to characteristics held by their district. First, if legislators are representing a district which is severely affected by the opioid epidemic, it is reasonable to expect that they will take measures in Congress to alleviate the severity of the epidemic. Based on the work by Peltzman, we would expect legislators to respond to the opioid epidemic as an economic concern regardless of their ideology. This theory is reinforced by Bartels' work especially when it comes to areas of economic concern. Second, Bartels' indicates that the partisanship of their voters motivates legislators. These findings lead to the following hypothesis concerning legislators' districts.

> *Hypothesis 1: Legislators' votes are motivated by both the partisan characteristics of their district, as well as the severity of the epidemic in their district.*

Based on the work by Bartels and Peltzman we might expect that there are specific characteristics of a legislator that influences how they vote on legislation. These characteristics might be the partisan ideology of the legislator or their partisan identification. If a legislator holds views that are opposed to providing relief for the opioid epidemic, we can infer that they will be less likely to vote for that type of legislation. Secondly, legislators who have been in their position for longer have become more ingrained in their views over time. So, it is useful to examine whether the legislator is a freshman representative or an incumbent.

> *Hypothesis 2: Legislators' votes are motivated by characteristics of the legislator including their partisan identification, their partisan ideologies, and how long they've held elected office.*

Lastly, the work by Stratmann indicates that there are other influences which motivate legislators outside of their districts or their own ideological preferences. If a legislator is receiving a particularly large contribution from the industry, they could be expected to vote against legislation that would harm that industry. This is because their electoral fortunes are enhanced by the contributions of these companies making it easier for them to run and win elections in the future. In the case of the opioid epidemic, legislators will be responding to contributions from the pharmaceutical industry.

> *Hypothesis 3: Legislators' votes on the opioid epidemic are motivated by the contributions of the pharmaceutical industry to their last election campaign.*

4. Dependent Variables

Each of these three hypotheses will be examined by looking at legislators' votes on 4 pieces of legislation during the 115th session of Congress in the US House of Representatives. This process involves the examination of approximately 1700 individual votes on the following pieces of legislation.

HR. 5735: This bill reforms the Department of Housing and Urban Development (HUD) to establish low-income rental-assistance vouchers to individuals recovering from an opioid or other substance-use disorder[16]. HR. 5735 passed the House with 230 in favor and 173 opposed, with 23 abstentions.

HR. 6: This bill reforms existing federal health programs to increase the availability of addiction treatment, to combat synthetic opioid trafficking, and improving prevention and recovery initiatives[17]. HR. 6 passed the House with 396 in favor and 14 opposed, with 16 abstentions.

HR. 6 Amendments: The two amendments analyzed in this vote were to add 500 new resident physician slots to hospitals that have developed or are developing training programs in addiction medicine and to allocate an additional $1 billion in funding to the states to deal with the epidemic[18]. The amendments to HR. 6 failed to pass the House with 185 in favor and 226 opposed, with 15 abstentions.

HR. 5797: This bill temporarily allows states to apply to receive federal Medicaid payment for enrollees (aged 21 to 64) with opioid-use disorders. Current law generally prohibits these payments for individuals under the age of 65[19]. HR. 5797 passed the house with 261 in favor and 155 opposed, with 10 abstentions.

While coding the votes for these pieces of legislation, 1 has been coded to indicate a yes vote, 0 has been coded to indicate either a no vote or an abstention. Abstentions have been included in this analysis as a 0 because they are votes that do not help to pass the legislation. Three of these pieces of legislation passed the House, HR. 5735, HR. 6, and HR. 5797. The amendments to HR. 6, which were used to further test the above hypotheses, did not pass the House. The regression analyses of HR. 6, HR. 5797 and the amendments to HR. 6 were excluded from this paper. A visualization of the results of all regressions can be found in table 9.
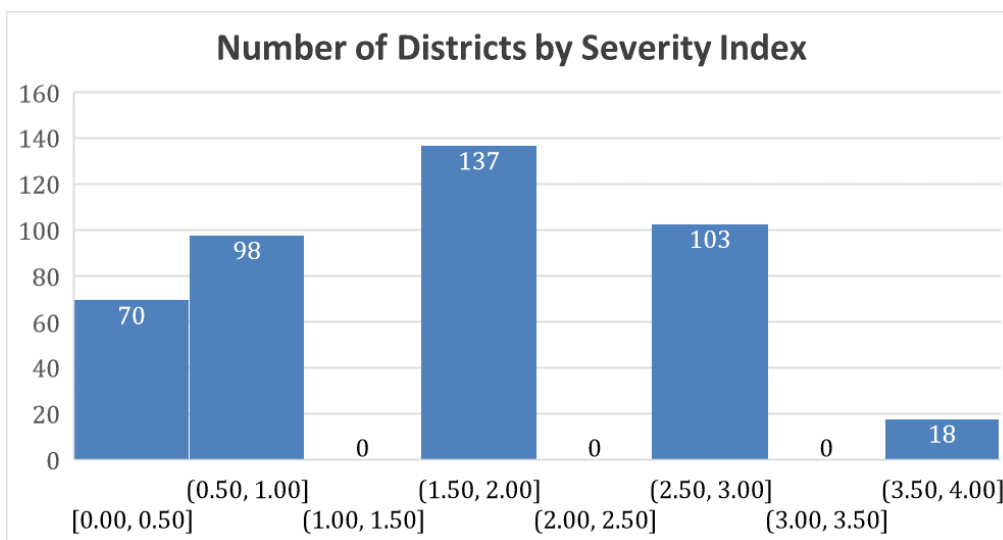
5. Data

The variables for hypothesis 1 focus on characteristics specific to each legislator's district and include the severity of the epidemic in the district and the partisan lean of the district.

> *Hypothesis 1: Legislators' votes are motivated by both the partisan characteristics of their district, as well as the severity of the epidemic in their district.*

The severity of the crisis in each legislator's district is analyzed using a Severity Index, which was created for the purposes of this paper to test this hypothesis. This index uses data from The Foundation for Aids Research to indicate the severity of the crisis[20]. It uses 4 different metrics when measuring severity in each Congressional district, the number of drug deaths in absolute terms, the number of drug deaths per 100,000 persons, the percent of persons over 12 reporting nonmedical use of opioids, and the percent of persons over 12 reporting addiction to opioids. To create this index, the average of each of these measurements was taken across Congressional districts. For the first metric, absolute number of deaths, the average was approximately 380. For deaths per 100,000 persons, the average was approximately 18 per 100,000. For the percentage of persons over 12 reporting nonmedical use of opioids the average

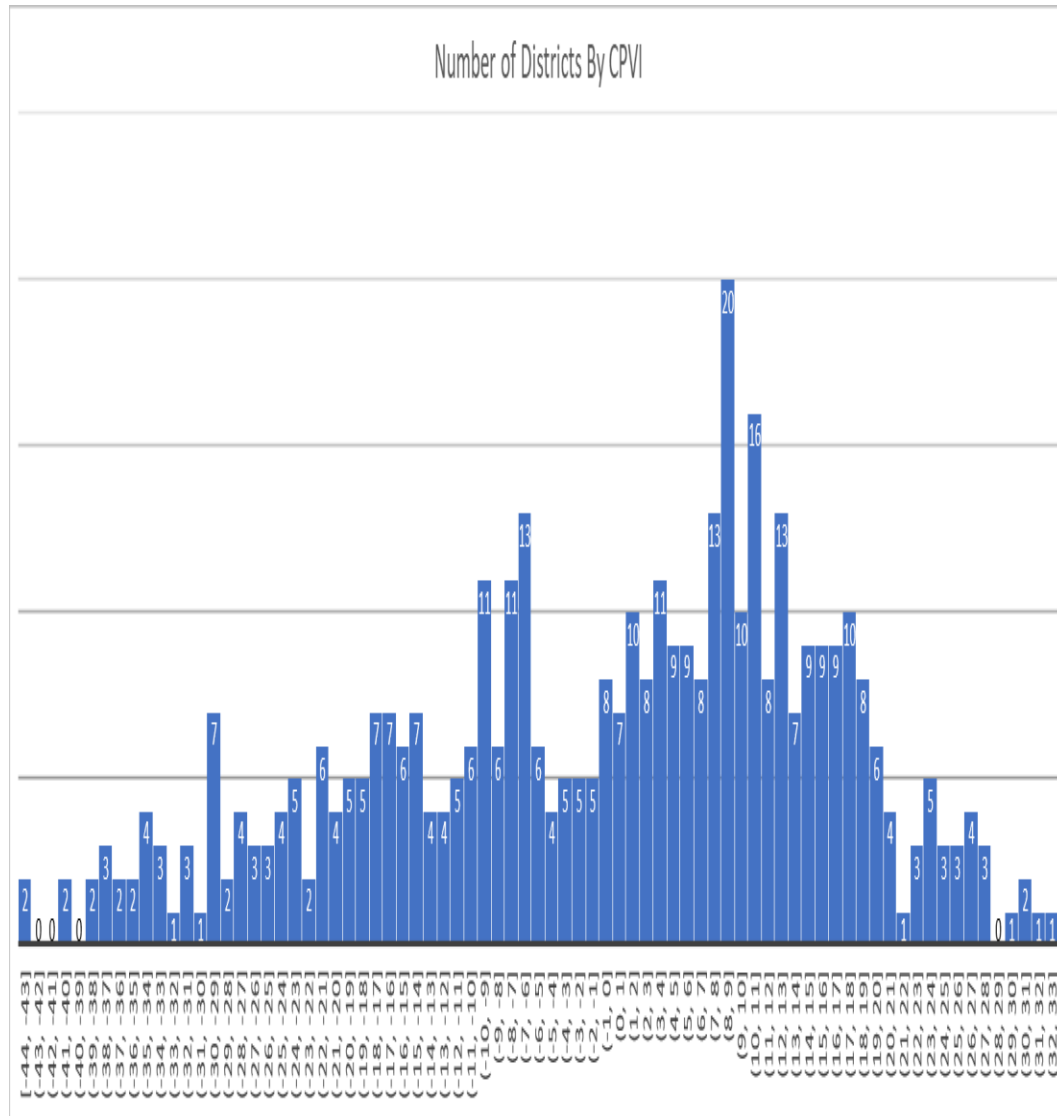Table 1: Congressional districts based on the severity of the opioid epidemic.

was 4.32%. Lastly, for the percentage of persons over 12 reporting addiction to opioids the average was 2.69%. Each district was then given either a 1 or a 0 to code for the severity of the district in these metrics. For a given district, if the number of deaths per 100,000 was over the average, or 18 per 100,000, it was given a score of 1, if the number of deaths was under the average it was given a score of 0. This measurement was applied to each of these metrics for every Congressional district. This means that districts could receive scores between 0 and 4, with 0 indicating a district that was slightly affected, and 4 indicating a district that was severely affected. A visualization of these scores is

presented in table 1. There were 70 districts which had a score of 0 on the severity index, and 18 which had scores of 4 on the severity index.

The second metric used to test hypothesis 1 will be the partisan lean of the district. This is measured by using the Cook Partisan Voter Index (CPVI). The CPVI is calculated by comparing a congressional district's average Democratic or Republican Party share of the two-party presidential vote in the past two presidential elections to the national average share for those elections. The CPVI used for this analysis looks at the two-party share in each district based on the 2012 and 2016 presidential elections[21]. This scale has been edited for the purposes of this analysis, with negative numbers indicating a Democratic lean and positive numbers indicating a Republican lean.

Districts with a CPVI of 0 do not lean in one direction or another. The CPVI scores of the 115th Congress is displayed in table 2. These two metrics will be used to test hypothesis 1.
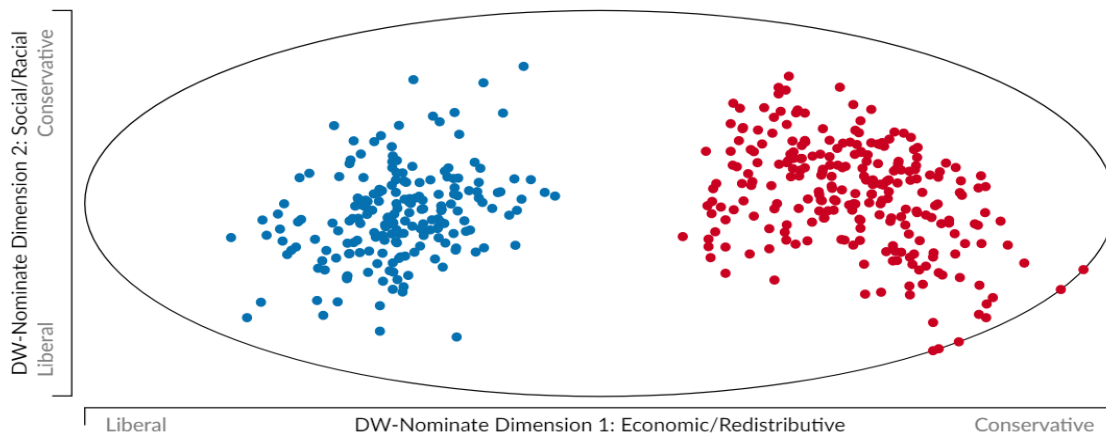
Table 2: Districts by CPVI

To test hypothesis 2, this analysis uses 4 different variables. These variables are characteristics which are specific to each individual legislator.

Hypothesis 2: Legislators' votes are motivated by characteristics of the legislator including their partisan identification, their partisan ideologies, and how long they've held elected office.

The first 2 of these 4 variables are the DW-Nominate scores of each legislator. DW-Nominate stands for dynamic weighted nominal three-step estimation. This is a multidimensional scaling application, which began development in the 1980s, designed by political scientists Keith T. Poole and Howard Rosenthal to analyze the ideology of legislators by looking at legislative roll-call voting behavior. The DW-Nominate scores used in this analysis come from voteview.com. This is a website that is hosted and maintained by the UCLA departments of Political Science and Social Science Computing.[19] DW-Nominate scores run from -1 to 1, with -1 being the most liberal, and 1 being the most conservative. A one-point increase on this scale from -1 to 0 represents a shift from a totally liberal to a completely moderate ideology, an increase from 0 to 1 represents a shift from moderate to totally conservative ideology. There are two scores in the DW-Nominate system, one score is for social ideology, the second is for economic ideology. Legislators are then placed on an x-y axis to represent these ideologies visually. The DW-Nominate scores for each legislator in the 115th House of Representatives have been represented in table 3. Blue dots here indicate Democratic legislators and red dots indicate Republican legislators. These scores were used to test legislator's individual partisan ideologies rather than just their partisan ideology based on party affiliation. The second metric used to test hypothesis 2 is legislators partisan ideology based on their party identification. This is coded as a dummy variable with 0 indicating a Republican Legislator and 1 indicating a Democratic legislator. At the time of this analysis of the 115th session of Congress there were 233 Republican legislators and 193 Democratic legislators, for a total population of 426 legislators. These two measurements of partisanship were not used in running tests of this hypothesis at the same time as they were determined to have strong covariation. However, these variables have been included in separate regressions as just using one metric was not adequate to represent the complexity of legislator's partisan ideologies. The last variable used to test hypothesis 2 is a variable which measures legislators' freshman or incumbent status. This is also coded as a dummy variable from 0 to 1, with 0 indicating incumbency status, and 1 indicating freshman status. This variable has been included to determine whether a legislator's incumbency status influenced their vote. Typically, longer-serving representatives can rely

Table 3: DW-Nominate Scores of the 115th Session of the House of Representatives Blue indicates Democratic Legislators; Red indicates Republican Legislators. Source: Voteview.com

more on their name recognition to get re-elected, freshman legislators on the other hand are more eager to be seen serving their district's needs to improve their future electoral success.
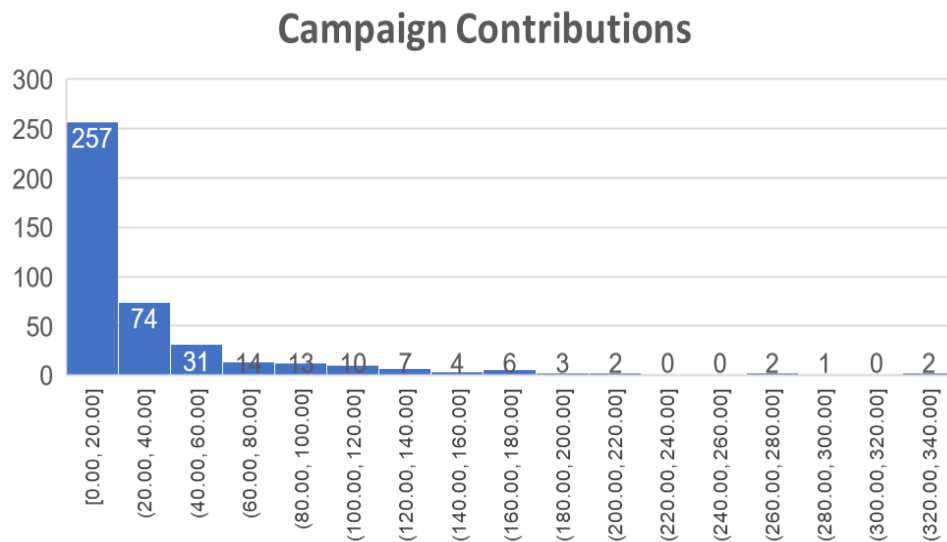
Hypothesis 3 examines to what extent outside industrial contributions affect legislator's votes.
Hypothesis 3: Legislators' votes on the opioid epidemic are motivated by the contributions of the pharmaceutical industry to their last election campaign.

The variable used to test this hypothesis is the contributions that legislators received from the pharmaceutical industry during the 2016 election cycle. This information was collected from Opensecrets.org. The average contribution to a legislator was approximately $32,000. However, there were 33 legislators who received $0 in campaign contributions, and 36 legislators who received over $100,000 in campaign contributions.[20] To prevent either of these two extremes from pulling the results in one direction or another, regressions were performed both including and excluding them. Table 4 represents legislators based on how much they received in campaign contributions. The bins in this table represent donations in $20,000 segments. As stated above this table shows that most legislators fell on the lower end of this measurement. During the analysis portion of this paper donations were calculated in thousands of dollars, a one-point increase for this variable represents a $1000 contribution to the legislator.

To recap, the variables used to test hypothesis 1 are the severity index and the CPVI of the legislator's district. The variables used to test hypothesis 2 are the legislators' DW-Nominate scores, both economic and social, their party identification, and their freshman vs incumbent status. Lastly, to test hypothesis 3, pharmaceutical industry contributions measured in thousands of dollars will be used.

Table 4: Legislators by campaign contributions in thousands of US dollars

6. Results

To test the 3 hypotheses presented in this paper, four sets of regressions were performed on legislators' votes on each of the four pieces of legislation. These regressions can be broken up into pairs. The first pair is a set of regressions including campaign contribution outliers, those legislators who received either $0 in contributions or those who received over $100,000 in contributions. For each pair of regressions there was one run including the DW-Nominate scores of legislators, and one run including the party identification of legislators. The second pair of regressions were run excluding the contribution outliers listed above. This led to a total of 4 regressions, a DW-Nominate regression including outliers, a DW-Nominate regression excluding outliers, a party identification regression including outliers, and a party identification regression excluding outliers. For the purposes of this analysis, only one bill's regression results will be discussed numerically, a visualization of the results from the other 3 pieces of legislation are included in table 9. Listed below are the numerical results of four of these regressions on legislators' votes on one of the pieces of legislation, HR. 5735. Again, this bill reforms the Department of Housing and Urban Development (HUD) to establish low-income rental-assistance vouchers to individuals recovering from an opioid or other substance-use disorder.

The results shown in table 5 indicate that legislators were slightly influenced by campaign contributions. For every one-point increase in this variable, which is again in thousands of dollars, there was a 0.0008% increase in likelihood that a legislator would support HR. 5735. However, these results are vastly overshadowed by the effects of the two

DW-Nominate variables. For every one-point increase in a legislator's Nominate Economic score, from -1 to 0 or 0 to 1, or liberal to moderate and moderate to conservative, there was a 90% increase in their likelihood to support HR. 5735. For legislators Nominate Social score, for every one-point increase there was a 30% increase in likelihood of their support for HR. 5735. These results are both statistically significant and substantively significant, indicating that legislators' votes on HR. 5735 were determined almost exclusively by their partisan ideology, and that legislator's economic ideology had a greater influence. This runs contrary to what Peltzman (1984) argues "Only on social policy issues (abortion, school prayer, and so on), where the wealth stakes are unclear, did ideology play a prominent role (210)." Because there were clear economic stakes to this legislation, we would expect legislators to rely less on their ideology, and particularly less on their economic ideology when voting for this legislation. These results indicate that legislators were not motivated by the characteristics of their district, but rather their own ideology and, to a lesser

Table 5: Results using DW-Nominate Scores, including contribution outliers

HR. 5735	Coefficients	Standard Error	P-value
Intercept	0.4118	0.0262	0
Contributions 2016 Cycle	0.0008	0.0003	<0.05
Severity	0.0061	0.0115	0.6001
Freshman	0.0524	0.0386	0.1752
Nominate Economic Spectrum	0.9054	0.0554	<0.05
Nominate Social Spectrum	0.3036	0.0505	<0.05
CPVI	-0.0003	0.0016	0.8447
Observations = 426			

extent, contributions from the pharmaceutical industry. The other variables included here, severity, CPVI, and freshman did not have statistical significance. They can thus be ruled out as having influence on legislators' decision making. Table 6 shows the results of a regression run on legislators' votes on HR. 5735 using party identification as a variable rather than DW-Nominate scores, these results again include contribution outliers. These results indicate that contributions, freshman status, CPVI and partisanship had a statistically significant impact on legislators' decisions. Once again, the variables which showed both statistical and substantive significance were characteristics of the legislator. A one-point increase in the freshman variable, from 0 to 1, or from incumbency status to freshman status resulted in an 8% increase in likelihood for legislators supporting this legislation. While all the variables but severity had statistical significance, they are again vastly overshadowed by the variable measuring partisanship of the legislator.

Table 6: Results using Party identification, including contribution outliers

HR. 5735	Coefficients	Standard Error	P-value
Intercept	0.8370	0.0299	0
Contributions 2016 Cycle	0.0007	0.0002	<0.05
Severity	0.0116	0.0110	0.2906
Freshman	0.0821	0.0368	<0.05
CPVI	0.0038	0.0012	<0.05
Partisanship	-0.7704	0.0415	<0.05
Observations = 426			

For a one-point increase in this variable, from 0 to 1, or from Republican to Democrat, there was a -77% decrease in likelihood of the legislator supporting this legislation. These two regressions show that when including either of these two measures of ideology they have incredibly strong effects on a legislator's decisions.

The next two tables represent regression results like the first two, however, these two regression tests excluded legislators who had outlying campaign contributions. The results shown in table 7 show that once again, legislators

Table 7: Results using DW-Nominate Scores, excluding contribution outliers

HR. 5735	Coefficients	Standard Error	P-value
Intercept	0.3940	0.0306	0
Contributions 2016 Cycle	0.0012	0.0006	0.0701
Severity	0.0053	0.0130	0.6852
Freshman	0.0989	0.0432	<0.05
Nominate Economic Spectrum	0.9174	0.0607	<0.05
Nominate Social Spectrum	0.3516	0.0557	<0.05
CPVI	-0.0014	0.0017	0.4107
Observations = 356			

DW-Nominate scores had both the strongest statistical significance and substantive significance. However, when excluding contribution outliers, these two variables had an even greater effect. The Nominate Economic score increased from a 90% increase to a 92% increase in likelihood for legislators supporting this legislation. The Nominate Social score increased from a 30% increase to a 35% increase in likelihood. The biggest difference between these two regressions was that the freshman/incumbent variable went from having a p-value of 0.17 to having a p-value of 0.02, with a resulting 9.8% increase in legislator's likelihood for supporting HR. 5735. As might be expected, when excluding those 36 legislators who received contributions in excess of $100,000, campaign contributions had even less influence on legislator support for HR. 5735. Once again, neither the severity of the epidemic in legislators' districts nor the partisanship of the voters had a statistically significant effect on their decision. This again shows that legislators were responding less to the needs of their district when voting on HR. 5735 and were more influenced by their partisan ideology.

The regression results in table 8 show similar results to those in table 6. While contributions had a statistically significant influence on legislator's behavior, it lacked the substantive significance that the variable measuring

Table 8: Results using Party identification, excluding contribution outliers

HR. 5735	Coefficients	Standard Error	P-value
Intercept	0.8307	0.0344	0.0000
Contributions 2016 Cycle	0.0013	0.0006	<0.05
Severity	0.0079	0.0123	0.5232
Freshman	0.1186	0.0412	<0.05
CPVI	0.0026	0.0014	<0.05
Partisanship	-0.7971	0.0463	<0.05
Observations = 356			

partisanship had. The freshman variable once again had a statistically significant influence and had a slightly stronger substantive significance, increasing from an 8% increase in legislator support to a nearly 12% increase in legislator support. Once again though, all the other variables in these results had very small influences compared to the variable measuring partisanship. A one-point increase in partisanship, from Republican to Democrat, led to a -79% decrease in likelihood that legislators would support HR. 5735, this was a further decrease in likelihood from table 6.

The results of these regressions held across all 4 pieces of legislation. Table 9 is a visual representation of these results when including outliers. Table 9 indicates those variables which had statistical significance with check marks. Those that did not have statistical significance are represented with an X. An asterisk indicates that the variable had

both statistical significance and substantive significance. In only one case was the severity of the epidemic a statistically significant variable, HR. 6. But in this case, it was once again overshadowed by a variable measuring partisan ideology, the DW-Nominate social scores of legislators. None of the variables measuring district characteristics, the severity index and CPVI, had a substantively significant effect on legislator behavior. The same was true with campaign contributions, the variable measuring outside influences. However, across each of the 4 pieces of legislation at least one of the variables measuring partisanship had both a statistically significant effect and a substantively significant effect. These results resoundingly show that legislators are relying on their own partisan ideology to inform their votes, rather than the needs of their district, or the demands of outside influences. These variables had the strongest influence across all four pieces of legislation across every regression. When these same

Table 9: Results over all 4 pieces of legislation, including contribution outliers

Variables	HR 5735	HR 6	HR 6 Amendments	HR 5797
District Characteristics, 1. Severity 2. CPVI	X -X	✓ -X	X ✓	X ✓
Legislator Characteristics 1. Legislator Party 2. Nominate Social 3. Nominate Economic 4. Freshman	-✓* ✓* ✓* ✓	-X ✓* -X -X	✓* -✓* -✓ X	-✓* ✓* ✓* X
Contributions 2016	✓	X	-X	X

✓ indicates a P-Value < 0.05
X indicates a P-Value > 0.05
* indicates a Coefficient Value > 0.25
- indicates that the variable had a negative effect

roll call votes were tested excluding legislators with contributions of $0 or greater than $100,000, the same results held. In the regressions performed on these votes, those using DW-Nominate exclusively, those using partisanship exclusively, those including contribution outliers, and those excluding contribution outliers, legislator characteristics had the most frequent statistical and substantive significance.

7. Conclusion

The results of this paper show resoundingly that legislators cast their votes on these 4 pieces of legislation based on their partisan ideology. While occasionally legislators were influenced by the needs of their districts or outside influences, they are dwarfed by the influence that legislators own partisan preferences had. This paper shows that even something as indiscriminate as the accidental deaths of Americans has the potential to become a purely partisan or political issue. This paper began as an attempt to examine why legislators' responses to the opioid epidemic have varied. The results that it found were a far cry from the initial results expected. This paper show that even for legislators which represent districts which scored the highest on the severity index, meaning that the epidemic was incredibly bad, they were casting their votes based on their ideology. Further, they show that legislators were often not influenced by the contributions of the very industry that these pieces of legislation would regulate. Legislators were not influenced by the severity of the epidemic, neither the number of people who died from overdoses nor the percentage of people who reported addiction influenced how they were casting their votes.

Because legislator characteristics are the only set of variables to show statistical and substantive significance, this shows that hypothesis 1 and 3 cannot be shown to hold true. However, the results of this paper show that hypothesis 2 overwhelmingly holds true.

> *Hypothesis 2: Legislators' votes are motivated by characteristics of the legislator including their partisan identification, their partisan ideologies, and how long they've held elected office.*

Particularly the first two parts of this hypothesis hold the strongest, with legislators being significantly affected by at least one of these variables when casting their votes on every piece of legislation examined. To return to the example given previously of the Arizona 1st and 4th districts. These two districts both scored a 4 on the severity index. The representatives of both these districts received approximately the same amount in contributions from the pharmaceutical industry, approximately $3,000. Both districts had a slightly Republican lean as well. The significant difference between these districts was the letter posted after the name of their representative, either a D or an R. The results of this paper show that legislators are largely unmotivated by external influences, including from contributions. More troubling however, is that legislators are by and large not motivated by the needs and views of their constituents, rather they are motivated by their own partisan preferences. These results are very damaging to the ideal of representative democracy. In a representative democracy it is expected that legislators represent the needs and desires of their constituents, if legislators are taking neither of these factors into consideration, then legislators are failing to be representative.

8. Acknowledgements

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