

# Explaining Conservative State Medicaid Expansion Decisions

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Repository: <https://github.com/erika-tyagi/medicaid-expansion>

## Introduction & Background

In 2010, Barack Obama signed the Patient Protection and Affordable Care Act (ACA) into law – the most significant restructuring of the U.S. healthcare system since the 1960s. A major component of the ACA was the expansion of Medicaid eligibility, which sought to expand access to health insurance coverage to low-income individuals. Specifically, the original text of the ACA required that states expand Medicaid eligibility to all individuals with incomes up to 138% of the federal poverty line. In 2012, however, the Supreme Court ruled that this provision was unconstitutionally coercive and each state would instead be allowed to decide whether or not to opt into Medicaid expansion beginning in 2014.

Immediately after the Supreme Court's ruling, 26 states and the District of Columbia announced that they intended to expand their Medicaid programs – with partisanship largely driving this divide (i.e., Democratic states tended to expand Medicaid while Republican states tended to reject expansion). Since 2014, however, 10 additional states have taken up Medicaid expansion including deeply conservative states like Louisiana, Idaho, and Indiana.

Our project seeks to explore this variation and contribute to the broader literature seeking to explain the varied success seen by Medicaid expansion campaigns across states. We intend to better understand the features that are relevant in distinguishing states that successfully bucked the partisanship trend – with the implicit goal of informing efforts by national advocacy organizations seeking to allocate scarce resources to states where expansion in the coming years is most possible. Several themes discussed in this course are highly pertinent to this question – e.g., the role of lobbying and fundraising, contributors to effective persuasion campaigns, and techniques in prediction and forecasting.

## Literature Review

Before reviewing the relevant literature, briefly understanding why a state would choose to expand Medicaid – and the policy implications of that decision – is necessary. The most obvious

benefit of expansion is in increasing access to insurance coverage and health care among low-income populations. In one of the most widely-cited studies on the effect of expanding health insurance to low-income populations, Baicker, et al. find that expanding access to coverage leads to higher overall well-being and notable reductions in emotional and financial distress (Baicker et al., 2013). In a recent NBER study, a group of researchers compare mortality rates across states and find that states' refusal to expand Medicaid led to 15,600 additional deaths (Miller, et al., 2019).

Expanding Medicaid is also widely cited to be fiscally beneficial to states (Price and Elbner, 2013). The federal government covers 100% of the cost of expansion (phased down to 90% after 2020) for states that opt in. By comparison, the federal government pays between 50% and 76% for non-expansion states – meaning states are leaving billions of dollars on the table by choosing not to expand (Dorn, McGrath, and Holahan, 2014; Cross-Call, 2018). Health care providers and hospitals are particularly strong advocates of Medicaid expansion as it leads to direct reductions in uncompensated care – or services where neither an insurer nor the patient reimburses providers (Schubel and Broaddus, 2018). Notably, uncompensated care burdens not just providers, but also patients (through medical debt) and state budgets (who cover a portion of these costs for public hospitals and other safety net providers).

A handful of scholars have previously sought to explain variation in whether states expanded their Medicaid programs. At a high level, this body's findings are largely consistent with the broader literature suggesting that partisanship drives decision-making in high-profile and highly politicized issues. In 2014, for example, a set of political scientists found that governor partisanship and the composition of the state legislature have substantive meaningful effects on states' decision to oppose expansion – but that constituency needs and economic conditions are insignificant in this decision (Barrilleaux and Rainey, 2014). Jacobs and Callaghan (2013) treat the dependent variable of expansion not as discrete, but consider a more nuanced outcome specification. They incorporate variation in state progress across a continuum of activities to assign each state a score on a 14-point scale indicating progress towards expansion – and subsequently find that reducing these decisions entirely to partisanship presents an incomplete picture that ignores the effects of economic circumstances, policy trajectories, and administrative capacity.

Another set of scholars focused on the relationship between business associations and conservative networks (Hertel-Fernandez, Skocpol, and Lynch, 2016). They note that Medicaid expansion pits two powerful elite GOP interest groups against one another – business organizations (in this context led by health care businesses for whom Medicaid expansion directly translates into profits) vs. conservative ideological groups (who oppose expansion on principle, e.g., ALEC). They find that while partisanship is the most powerful predictor of expansion decisions, state chambers of commerce and strong right-wing networks also play a statistically significant role. Interestingly, this paper also develops a model to predict the probability of additional states expanding using their approach, and puts this probability at just

5% for Utah and 25% for Alaska – both of which have since expanded, suggesting that even this model omits relevant factors.

In general, a broad review of the relevant literature suggests that explaining the variation in whether states have expanded Medicaid is complicated. Partisan composition matters – but is hardly sufficient. Incorporating measures of constituency needs and sentiment towards expansion, economic circumstances, and the role of lobbying and fundraising are also relevant considerations. This directly guided both our variable selection process, along with the computational methods we employed as described in detail in the following section.

## Data & Methodology

We manually constructed a dataset capturing whether each of the 50 states and the District of Columbia expanded Medicaid, along with a variety of variables potentially relevant – based on our review of the literature described above – in explaining this outcome. Appendix A contains the descriptions and sources used to collect these data. Where available, we collect these data from 2013 through 2018 to capture the original adopters of expansion, along with the most recent states (i.e., Idaho, Nebraska, and Utah who expanded via ballot initiatives passed during the 2018 elections). Our dataset thus includes 306 observations – where each observation is a unique combination of a state and a year. Our dataset also includes 49 variables including the following –

- Measures of the state's partisan composition across its political bodies
  - Whether the state has a Republican governor
  - The proportion of the state's house seats held by Republicans
  - The proportion of the state's senate seats held by Republicans
- The partisanship breakdown of the state's electorate in federal elections
  - The proportion of the state's vote share for Barack Obama in the 2008 election
  - The proportion of the state's vote share for Barack Obama in the 2012 election
  - The proportion of the state's vote share for Donald Trump in the 2016 election
- Demographic information about each state's population
  - The proportion of the state that is uninsured
  - The proportion of the state that would be eligible for Medicaid through expansion
  - The proportion of the state that is white
  - The proportion of the state that falls below the federal poverty line
  - The proportion of the state living in urban areas
  - The proportion of the state's population with a college degree
  - The proportion of the state identifying as Christian
  - The proportion of the state identifying as Evangelical
  - The number of drug overdoses in that state per 100,000 residents
- Measures of the state's economic health and spending on Medicaid-related costs
  - The state's budget surplus / deficit per capita

- The state's Medicaid multiplier
- State-level lobbying spending (including both the total amount and number of contributions) across relevant industries

We considered several model specifications leveraging penalized regression (or regularization) techniques. Specifically, the sheer volume of relevant – and highly correlated – features made this a particularly useful computational approach over standard ordinary least squares in this setting. At a high level, penalized regression creates a linear regression model that is penalized for having too many variables by adding a constraint that shrinks the coefficient values on the least contributive variables towards zero (Bruce and Bruce, 2017; James, et al., 2014). We specifically use a Lasso regression that shrinks regression coefficients through a penalty term called the L1-norm to exactly zero (i.e., performs variable selection based on an empirical approach, rather than manually ‘cherry-picking’ variables). Mathematically, Lasso regression minimizes the following error term –

$$SSE_{\lambda}(\beta) = \sum_{i=1}^n (Y_i - \sum_{j=1}^{k-1} X_{ij} \beta_j)^2 + \lambda \sum_{j=1}^{k-1} \beta_j^2.$$

By using this approach, rather than our model including all 49 variables, only those variables that yield the most substantive contributive power are included.

Across all of our specifications, the dependent variable is a binary indicating whether the state had adopted Medicaid expansion as of that year (e.g., for a state that expanded in 2015, this variable would take on a value of 0 for 2013 and 2014, and 1 for 2015, 2016, 2017, and 2018).

The four model specifications that we present in the following section are as follows –

- Model 1: All States, All Years (n = 298)  
Here, we run a Lasso regression using the full set of states and include all years between 2013 through 2018.
- Model 2: All States, 2018 (n = 50)  
Here, we run a Lasso regression using the full set of states to explain whether each state has currently expanded Medicaid.
- Model 3: Non-Early Adoption States, All Years (n = 144)  
Here, we run a Lasso regression using only the states that didn't originally expand in 2014 (i.e., compare states that originally opted against expansion and stuck with that to states that originally opted against expansion and since opted in) including all years between 2013 and 2018.

- Model 4: Non-Early Adoption States, 2018 (n = 24)  
Here we run a Lasso regression using the same set of states as in Model 3 to explain whether each state has currently expanded Medicaid.

Figure 1 below shows the binary dependent variable as of 2018 (i.e., for Models 2 and 4, and for the observations corresponding to 2018 in Models 1 and 2).

**Figure 1: Dichotomous Medicaid Expansion Adoption Decisions as of 2018**

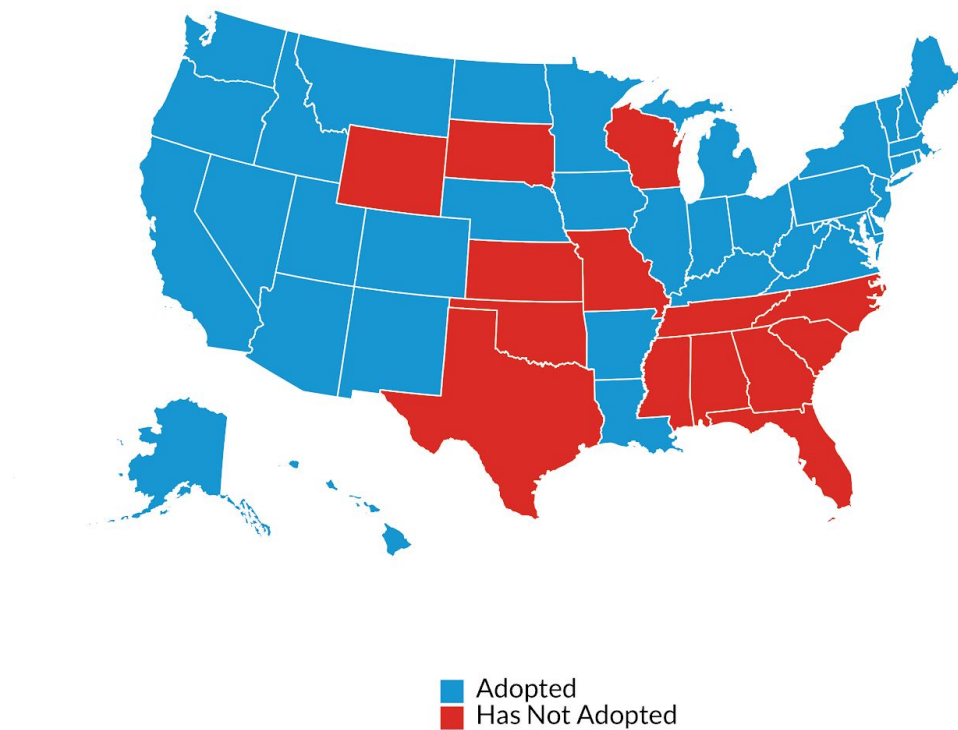
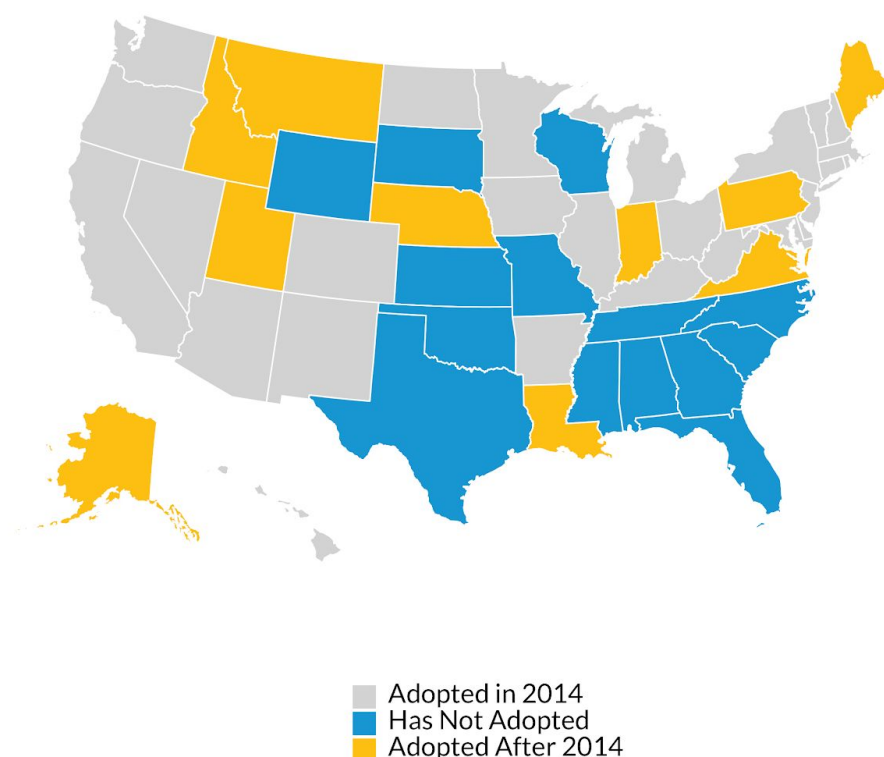


Figure 2 below shows how the sample of states included in Models 1 and 2 differ from those included in Models 3 and 4. Specifically, the latter exclude the greyed states (i.e., those that were early-adopters of Medicaid expansion).

**Figure 2: Trichotomous Medicaid Expansion Adoption Decisions as of 2018**



## Results

In our first two models created using all states, our proxies for economic health, partisanship, and religion were the most explanatory of Medicaid expansion. In our first model including all states and all years, 17 coefficients remained non-zero, with the largest being the percentage of the state's population below the federal poverty line. The other large non-zero explanatory variables, in order of absolute magnitude, were the state's vote share for Obama in 2008, whether the governor was Republican, the percentage of the population living in urban areas, and whether a state had a ballot initiative process. Seven variables describing lobbying spending across various industry sectors also remained non-zero. Interestingly – relative to the results from the second model – none of the variables describing the religious composition of the state were non-zero in the first model.

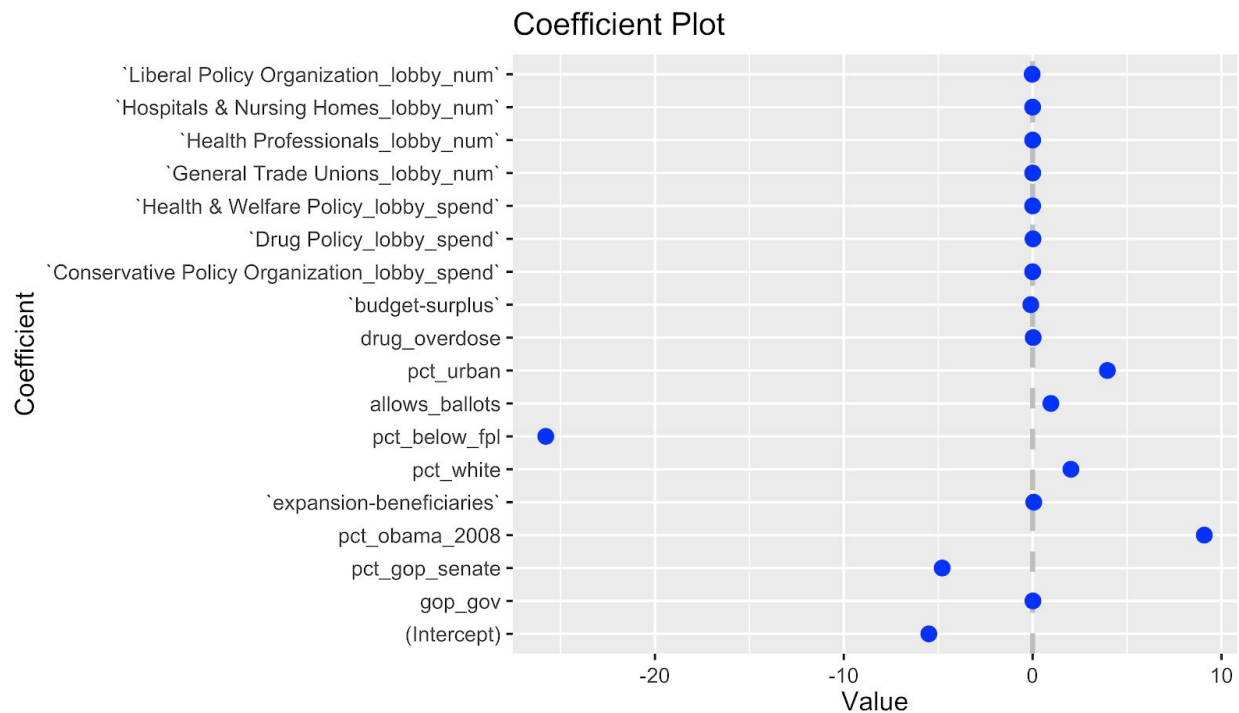
In the second model using all states to predicted expansion as of 2018, the proportion of the state identifying as Evangelical and as Christian were the most explanatory variables, and, unsurprisingly, negatively correlated with Medicaid expansion. The vote share for Trump in 2016 was the third largest coefficient and the most significant proxy for partisanship in the model.

The third and fourth models included only states that originally chose not to expand Medicaid. In the third model using all years, the percentage of the state below the poverty line was highly negatively correlated with Medicaid expansion, and the percent graduating from college was positively correlated. The other non-zero, but much less explanatory variables, include the percent of Republicans in the state's Senate, and spending from lobbying groups.

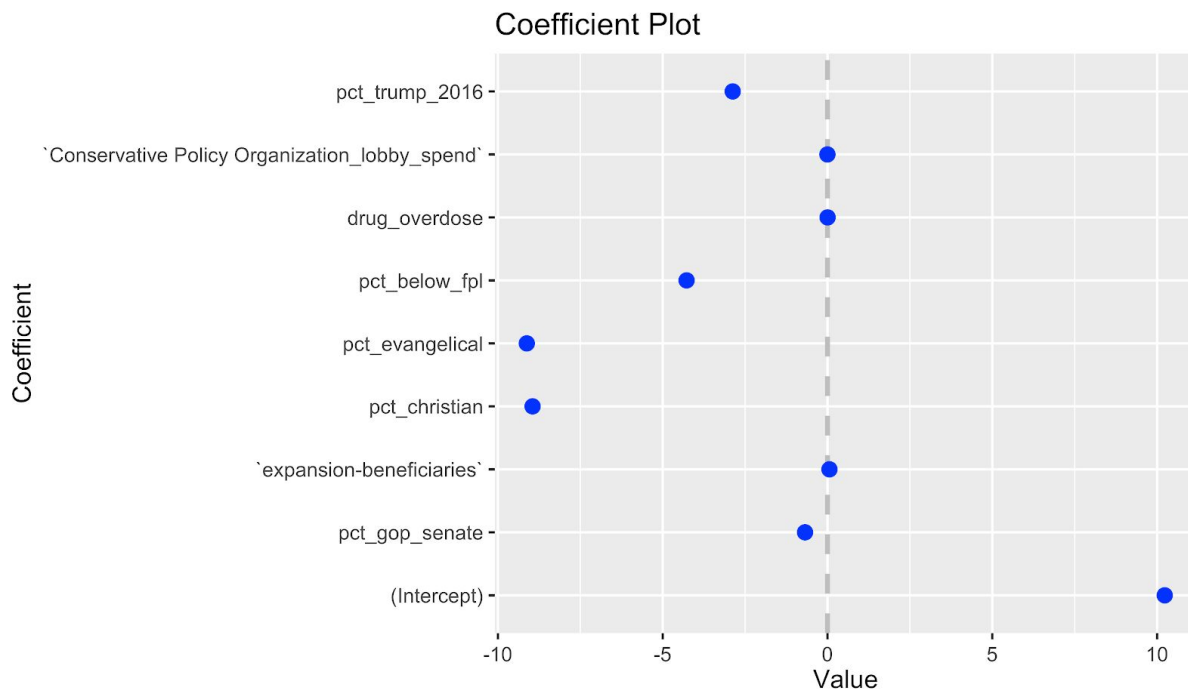
Model 4 using only 2018 expansion status for states that originally opposed expansion only has three non-zero variables describing the percentage of the population identifying as Evangelical or Christian and the number of potential beneficiaries of expansion.

Figures 3 through 6 display the magnitudes of the non-zero coefficients for the models.

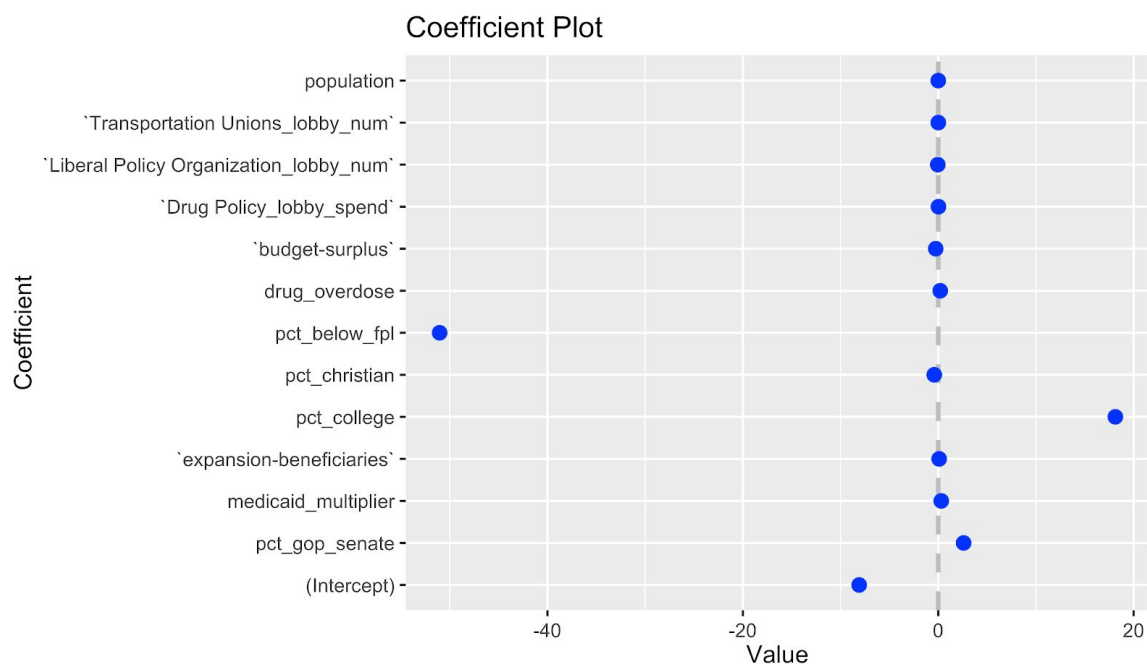
**Figure 3: Coefficient Plot of Model 1 – Lasso Regression on All States and All Years**



**Figure 4: Coefficient Plot of Model 2 – Lasso Regression on All States in 2018**

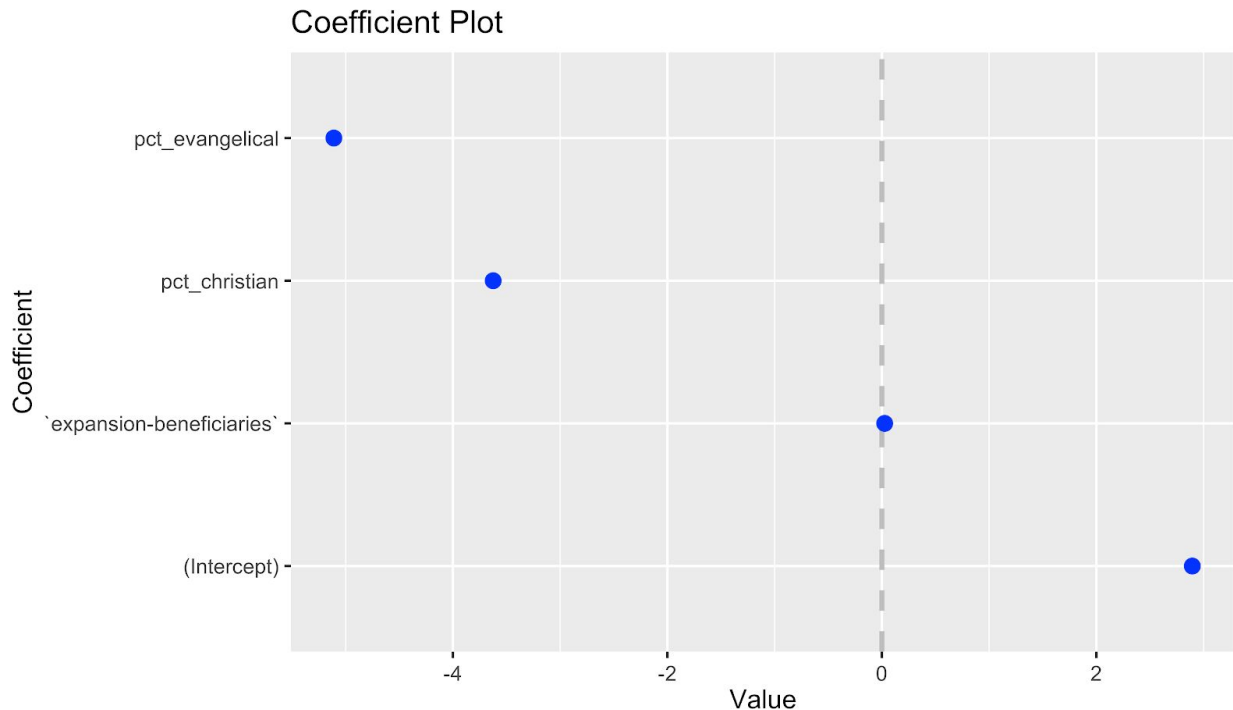


**Figure 5: Coefficient Plot of Model 3 – Lasso Regression on Non-Early Adoption States, All Years**





**Figure 6: Coefficient Plot of Model 4 – Lasso Regression on Non-Early Adoption States, 2018**



## Discussion & Conclusion

As suggested by the literature – and particularly the literature that sought to capture expansion decisions in more nuanced ways – partisanship is relevant in explaining Medicaid expansion decisions, but is one of many relevant factors. Specifically, while partisanship was a relevant contributing variable across several of our model specifications, other features were more relevant. Notably, support for Trump in the 2016 election was particularly relevant, suggesting that the role of partisanship in the ‘Trump era’ deserves further consideration.

Additionally, a key question we sought to explore was the role of lobbying spending in affecting Medicaid expansion decisions. We knew that several interest groups – most notably the healthcare industry and conservative ideology groups – were highly invested in states’ decisions to expand Medicaid. As shown in Models 1 and 2, these variables were non-trivial (i.e., they were included after the Lasso), but weren’t as contributing as we may have suspected.

A few natural limitations inherent to our process emerge. First, the data that we were able to collect largely served as proxies for the actual information that sought to incorporate into our models. For example, we suspected that governors with strong agency in their states or state with strong grassroots coalitions around healthcare accessibility may be relevant – however,

quantifying these through meaningful indicators is inherently challenging. Additionally, interactions among variables are likely highly relevant, but a linear model likely fails to fully capture this nuance.

More broadly, as the number of states yet to expand Medicaid shrinks (i.e., only 14 as of 2018), the role of regression-based approaches may be more exploratory, rather than confirmatory. Specifically, several states that have expanded recently have done so through unique circumstances (e.g., ballot initiatives during unique elections or other particular circumstances). Thus, while these quantitative approaches are still useful in understanding the types of factors that distinguish states, supplementary case study approaches on particular states or unsupervised clustering analysis to identify natural groupings of states may be valuable. The analyses presented here suggest that looking further into the relationship between lobbying, interest groups, and coalition-building may be particularly interesting.

In sum, states' decisions on whether or not to take up Medicaid expansion bears tremendous consequences, and work to better understand the factors that guide these decisions is extremely important. Applying computational methods like penalized regression can be useful in better understanding the complexity inherent in these models, and future work to better understand the nuances across states applying a variety of methods should be pursued.

# References

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# Appendix

## Appendix A: Variable Descriptions & Sources

Variable	Description	Notes
expanded_medicaid	Binary outcome	<a href="https://www.advisory.com/daily-briefing/resources/primers/medicaidmap">https://www.advisory.com/daily-briefing/resources/primers/medicaidmap</a>
gop_gov	Binary	<a href="http://www.ncsl.org/documents/statevote/LegisControl_2013.pdf">http://www.ncsl.org/documents/statevote/LegisControl_2013.pdf</a>
pct_gop_house	Percent GOP in state house	<a href="http://www.ncsl.org/research/about-state-legislatures/partisan-composition.aspx">http://www.ncsl.org/research/about-state-legislatures/partisan-composition.aspx</a>
pct_gop_senate	Percent GOP in state senate	<a href="http://www.ncsl.org/research/about-state-legislatures/partisan-composition.aspx">http://www.ncsl.org/research/about-state-legislatures/partisan-composition.aspx</a>
pct_trump_2016	Vote share for Trump in 2016	<a href="https://en.wikipedia.org/wiki/2016_United_States_presidential_election">https://en.wikipedia.org/wiki/2016_United_States_presidential_election</a>
pct_obama_2008	Vote share for Obama in 2012	<a href="https://en.wikipedia.org/wiki/2008_United_States_presidential_election">https://en.wikipedia.org/wiki/2008_United_States_presidential_election</a>
pct_obama_2012	Vote share for Obama in 2008	<a href="https://en.wikipedia.org/wiki/2012_United_States_presidential_election">https://en.wikipedia.org/wiki/2012_United_States_presidential_election</a>
medicaid_multiplier	Federal medical assistance percentage	<a href="https://www.kff.org/medicaid/state-indicator/federal-matching-rate-and-multiplier/?currentTimeframe=2&amp;sortModel=%7B%22collid%22:%22Location%22,%22sort%22:%22asc%22%7D">https://www.kff.org/medicaid/state-indicator/federal-matching-rate-and-multiplier/?currentTimeframe=2&amp;sortModel=%7B%22collid%22:%22Location%22,%22sort%22:%22asc%22%7D</a>
allows_ballots	Binary for states that have a ballot initiative process	<a href="https://ballotpedia.org/States_with_initiative_or_referendum">https://ballotpedia.org/States_with_initiative_or_referendum</a>
expansion-beneficiaries	Number of people who would directly benefit from expansion	<a href="https://www.kff.org/medicaid/issue-brief/the-coverage-gap-uninsured-poor-adults-in-states-that-do-not-expand-medicaid/">https://www.kff.org/medicaid/issue-brief/the-coverage-gap-uninsured-poor-adults-in-states-that-do-not-expand-medicaid/</a> <a href="https://www.kff.org/other/state-indicator/total-residents/?currentTimeframe=1&amp;sortModel=%7B%22collid%22:%22Location%22,%22sort%22:%22asc%22%7D">https://www.kff.org/other/state-indicator/total-residents/?currentTimeframe=1&amp;sortModel=%7B%22collid%22:%22Location%22,%22sort%22:%22asc%22%7D</a>
pct_college	Percentage with college degrees	<a href="https://www.census.gov/cps/data/cpstablcreator.html">https://www.census.gov/cps/data/cpstablcreator.html</a>
pct_christian	Percentage identifying as Christian	<a href="https://www.pewforum.org/religious-landscape-study/state/">https://www.pewforum.org/religious-landscape-study/state/</a>
pct_evangelical	Percentage identifying as Evangelical	<a href="https://www.pewforum.org/religious-landscape-study/state/">https://www.pewforum.org/religious-landscape-study/state/</a>

pct_white	Percentage white	<a href="https://www.census.gov/cps/data/cpstablcreator.html">https://www.census.gov/cps/data/cpstablcreator.html</a>
pct_below_fpl	Percent below the federal poverty line	<a href="https://www.kff.org/other/state-indicator/population-above-and-below-100-fpl/?currentTimeframe=2&amp;sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D">https://www.kff.org/other/state-indicator/population-above-and-below-100-fpl/?currentTimeframe=2&amp;sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D</a>
region	Census code for region	<a href="https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf">https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf</a>
pct_urban	Percentage living in urban areas	<a href="https://www.icip.iastate.edu/tables/population/urban-pct-states">https://www.icip.iastate.edu/tables/population/urban-pct-states</a>
drug_overdose	Drug overdoses per 100,000 people	<a href="https://www.cdc.gov/nchs/pressroom/sosmap/drug_poisoning_mortality/drug_poisoning.htm">https://www.cdc.gov/nchs/pressroom/sosmap/drug_poisoning_mortality/drug_poisoning.htm</a>
budget-surplus	Budget surplus per capita	<a href="https://www.mercatus.org/publications/urban-economics/state-fiscal-rankings">https://www.mercatus.org/publications/urban-economics/state-fiscal-rankings</a>
Business Services_lobby_spend	Lobbying spend by industry sector per capita	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
Conservative Policy Organization_lobby_spend	Lobbying spend by industry sector per capita	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
Drug Policy_lobby_spend	Lobbying spend by industry sector per capita	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
General Trade Unions_lobby_spend	Lobbying spend by industry sector per capita	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
Health & Welfare Policy_lobby_spend	Lobbying spend by industry sector per capita	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
Health Professionals_lobby_spend	Lobbying spend by industry sector per capita	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
Health Services_lobby_spend	Lobbying spend by industry sector per capita	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
Health Professionals_lobby_spend	Lobbying spend by industry sector per capita	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
Liberal Policy Organization_lobby_spend	Lobbying spend by industry sector per capita	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
Hospitals & Nursing Homes_lobby_spend	Lobbying spend by industry sector per capita	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
Liberal Policy Organization_lobby_spend	Lobbying spend by industry sector per capita	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
Miscellaneous Health_lobby_spend	Lobbying spend by industry sector per capita	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>

Pharmaceuticals & Health Products_lobby_spend	Lobbying spend by industry sector per capita	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
Public Sector Unions_lobby_spend	Lobbying spend by industry sector per capita	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
Transportation Unions_lobby_spend	Lobbying spend by industry sector per capita	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
Business Services_lobby_num	Number of lobbying transactions by industry	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
Conservative Policy Organization_lobby_num	Number of lobbying transactions by industry	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
Drug Policy_lobby_num	Number of lobbying transactions by industry	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
General Trade Unions_lobby_num	Number of lobbying transactions by industry	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
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Liberal Policy Organization_lobby_num	Number of lobbying transactions by industry	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
Miscellaneous Health_lobby_num	Number of lobbying transactions by industry	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
Pharmaceuticals & Health Products_lobby_num	Number of lobbying transactions by industry	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
Public Sector Unions_lobby_num	Number of lobbying transactions by industry	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>
Transportation Unions_lobby_num	Number of lobbying transactions by industry	<a href="https://www.followthemoney.org/r">https://www.followthemoney.org/r</a>