New Policy, New Politics? The Effect of Medicaid Expansion on Public Support for the Affordable Care Act*

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Abstract

Can social policy affect public opinion? We leverage state-level variation in policy implementation, more than 220,000 individual responses from 175 polls, and an original nationally representative survey to examine whether the expansion of Medicaid under the Affordable Care Act (ACA) increased public support for the ACA. Using a difference in differences design applied to state and subgroup opinion estimates, we find that the expansion of Medicaid in a state slightly increases support for the ACA by around a fifth of a percentage point. The increase in support is concentrated among the 30% of respondents who are aware the expansion is taking place, and there are not statistically distinguishable differences in impacts by party. We conclude that the political effects of the ACA will likely increase as more citizens are made aware of the policy, even in spite of ongoing intense partisan disagreements.

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The relationship between public opinion and public policy is central to the study of democracy. While conventional models of democratic politics treat public opinion as a possible cause of public policy, an alternative perspective argues the causal relationship may run the other way, and that "new policies create a new politics" (Schattschneider 1935; Pierson 1993). In recent years, many scholars have argued for mass policy feedbacks, instances in which social policies have a causal effect on the attitudes of beneficiaries, and sometimes the public writ large (Campbell 2012). For instance, the Social Security system is thought to have transformed a previously impoverished, politically inert social group into one of the most powerful constituencies in American politics (Campbell 2003). On a somewhat smaller scale, the passage of the GI Bill in 1944 is argued to have inspired higher levels of civic participation among the "greatest generation" (Mettler 2005). These newly mobilized citizens go on to influence future policies, feeding back into the political system.

While theoretically plausible and supported by a good deal of empirical evidence, questions remain regarding the validity and scope of policy feedbacks. While past studies have observed correlations between policy participation and opinion, the difficulty of disentangling selection and policy effects is a well-recognized problem in the feedbacks literature (Campbell 2012). Moreover, do the effects that have been observed for past programs, often passed with large bipartisan majorities, persist in a more polarized era? The GI Bill was nearly unanimously supported in Congress, and Derthick (1979) remarks "it would be misleading to write of opposition to [Social Security]. Not since 1936...has any important public official or private organization urged that the program be ended" (132). Even proposals to reform the public assistance program Aid For Dependent Children in 1962, 1967, 1971, 1981, 1990, and 1996 were passed with bipartisan coalitions. Given that polarization is likely to be the norm in American politics for the foreseeable future, it is important to know whether feedbacks are possible for policies passed over the strident objections of one party's elites.

To probe these issues we explore policy feedbacks associated with the Patient Protection and Affordable Care Act of 2010 (ACA). Perhaps the most significant redistributive policy in decades, the ACA presents a unique opportunity to investigate whether policy feedbacks

occur for exceptionally contentious and complicated policies, because a critical aspect of the ACA – the expansion of Medicaid to increase insurance coverage among those making up to 138% of the federal poverty limit – was implemented in ways that varied across states over time. In contrast to some of the provisions that were binding for all states – e.g., the requirement to cover pre-existing conditions and dependents under the age of 26 – not all states implemented the expansion of the public Medicaid insurance program, variation that resulted from the Supreme Court's 2012 decision in *National Federation of Independent Business v. Sebelius*.

Our design holds two important advantages over previous studies of policy feedbacks. First, the ACA's mandate provision – which compels all citizens to acquire health insurance or face a tax penalty – helps rule out the possibility of selection effects in the states that expanded Medicaid. That is, citizens experiencing Medicaid in the expansion states do so not because they chose to, but because state and federal officials passed laws compelling them to do so. Second, by comparing changes in opinions over time within states, we can rule out the influence of fixed differences in the political or health care environments between expansion and non-expansion states.

Thus we are able to compare changes in public opinion in expansion versus non-expansion states before and after the Medicaid expansions took effect in 2014. To do so, we collect and combine over two-hundred thousand individual responses from dozens of national polls between 2009 and 2015 using multi-level regression and post-stratification, also known as MRP (Park, Gelman, and Bafumi 2004; Gelman and Hill 2007). This allows us to estimate the amount of support for the ACA for each state in each quarter to determine if there was a greater change in public opinion in expansion states than non-expansion states. Using a difference in differences design, we find evidence of a very small increase in ACA support due to the Medicaid expansion – an effect that is concentrated among those that were most likely to benefit from the expansion.

To probe the reasons for the slight effects we identify, we also conduct a nationally representative random digit dialing survey to determine whether partisanship or policy com-

plexity is most likely responsible for the muted effects. The ACA is an extremely complex policy, and its implementation likely amplified confusion over its content. Because health insurance continued to be largely administered by private insurance companies, and because the Medicaid expansions were state-led and sometimes even presented as being unrelated to "Obamacare," there were many opportunities for confusion about what the ACA did and did not do. If citizens could not appreciate the connection between the expansion of Medicaid and the ACA, any impact on public opinion toward the ACA would be limited. A second potential constraint on policy feedback is the vigorous partisan debates that have surrounded the policy since its inception. Lerman and Sadin (2017), for example, show that partisanship can have an important impact on policy uptake and the willingness of individuals to purchase health insurance through state and federal exchanges. Perhaps especially given the enduring partisan debates over the desirability and impact of the ACA, partisanship may anchor opinions in ways that are hard for policy effects to overcome (but see Lerman and McCabe (2017) on how personal experiences with the public health program Medicare mitigates the impact of partisanship on opinions towards the ACA).

Our results suggest that the complexity of the policy and the resulting low-levels of awareness are critically responsible for the limited policy feedback effects we document. Fully three years into the Medicaid expansions and during a time of heightened debate over the ACA's future, just 30% of the respondents in our survey could correctly identify whether or not Medicaid had been expanded in their state. More importantly, the slightly higher levels of support that we identify in expansion states are concentrated almost entirely among those who are aware of the expansion. In contrast, while self-identified partisans differ greatly in their overall approval of the ACA, partisans' opinions do not vary depending on whether their state expands Medicaid or not.

Together, the results demonstrate that while policy feedback is possible for contentious and complex policies, these features appear to limit the extent to which policy feedback occurs. The highly partisan environment in which the ACA was passed, combined with the highly decentralized manner in which health insurance in the United States is provided, led

to a policy that was, at best, opaque to most citizens. While the compromises that led to these complexities were perhaps necessary to pass the ACA (Starr 2013; Brill 2015), our results suggest they also likely impacted the ability of the policy to mobilize a constituency that would be invested in its survival, given the difficulty of knowing exactly what was at stake.

1 Policy Making Politics?

Public opinion has long been recognized as an important influence on public policy (Page and Shapiro 1983, 1992; Erikson, Wright, and McIver 1994; Erikson, Mackuen, and Stimson 2002). More recently, scholars have argued that the reverse relationship also holds – that public policies can also impact mass behaviors and opinions (Pierson 1993,1994; Campbell 2002; Soss 1999; Mettler and Soss 2004; Weaver and Lerman 2010). These impacts, however, appear to vary according to a program's design and beneficiaries. For instance, Campbell (2003) finds that the Social Security program has a positive impact on seniors' political participation and efficacy, but Soss (1999) argues that the means-tested AFDC welfare program has a demobilizing effect due to the negative messages it sends to program recipients, and Vesla and Weaver (2010) show that personal experiences with the carceral state leave an enduring impact on political participation. These types of feedback effects – so-called because the expectation is that mobilization or demobilization of citizens as a consequence of the policy has implications for future policy making, which in turn impacts mobilization, and so on – are important for two reasons. First, they imply that the design of public policies should consider impacts on civic engagement, as well as other impacts (Mettler and Soss 2004). Second, they suggest the success of a policy's non-civic goals depends on its ability to create a supportive constituency (Patashnik 2014).

Although early studies of policy feedback found profound impacts on attitudes (Campbell 2003; Mettler 2002), subsequent studies have been more mixed. In a review of this literature, Campbell (2012) notes there have been "fewer consistent findings" regarding the impact of

policies on attitudes, as opposed to political participation, since the pioneering studies of Social Security and the GI Bill. For instance, in a study of the Medicare Modernization Act of 2003, Morgan and Campbell (2011) find that the introduction of private prescription drug coverage had no impact on seniors' policy attitudes. And in a study examining public attitudes writ large, Soss and Schram (2007) find that the 1996 welfare reform had no impact on opinions toward the Temporary Assistance to Needy Families program (formerly AFDC).

The potential impacts on public opinion for a highly charged and complex policy such as the ACA are even less clear. Unlike the policies that have been studied in the past, where there was a bipartisan consensus over the desirability of the policy, bipartisan consensus has never existed for the ACA. The law was enacted without a single Republican vote in Congress, and its repeal has been a campaign promise of Republican candidates in every election since its passage. Given the well-known importance of partisanship for public opinion, it is unclear whether policy can impact attitudes when elite messages are so divided (Zaller 1992; Lupia 1994; Krupnikov et al. 2006; McCabe 2016; Lerman and McCabe 2017).

Another potential constraint on policy feedback in this case is that the highly decentralized nature of the Medicaid program shifted the responsibility to the states for designing, implementing, marketing, and ultimately deciding whether to expand the program. Because of this decentralization, the connection between the ACA and the benefits that citizens received through private insurance companies was perhaps more opaque than many other social policies. Moreover, some state officials intentionally obscured the connection between Medicaid expansion and the ACA. In the words of Steve Beshear, the former Kentucky governor who oversaw the expansion in that state: "We wanted to get as far away from the word *Obamacare* as we could...Polls at the time in Kentucky showed that Obamacare was disapproved of by maybe 60 percent of the people" (Kliff 2016). As a result, the expansion of Medicaid was separately branded and marketed in every state that decided or tried to expand Medicaid. Putting aside the slight differences that may exist due to waivers given to some states, the state exchanged that were used to help promote the expansion of Medicaid was called Kynnect in Kentucky, Arkansas Works in Arkansas, Healthy Indiana Plan (HIP)

in Indiana, and inROADS in West Virginia, to name a few examples. Inconsistent branding and the fact that the policies were sometimes explicitly decoupled from the ACA may create sufficient confusion about the connection between Medicaid expansion and the ACA such that experiences with the former may have only a limited impact on the latter. This elite obfuscation of the connection was no doubt helped along by the public's low baseline levels of knowledge about public policies (Delli Carpini and Keeter 1996; Bartels 2005).

Besides the profound scope and impact that the ACA has had on individuals' health, the health care industry, the US economy, and the relationship between individuals and the state, another important reason to examine the ACA is that it provides a relatively unique opportunity to identify causal effects. As Campbell (2012) notes, a major obstacle to uncovering attitudinal impacts – and a potential explanation for the inconsistent results in the current literature – is that social policies are often correlated with many other factors that might also cause attitudes. Thus researchers might observe a relationship between program participation and program support and infer causality, when participants may have supported the program even if they had not participated.

To overcome this selection problem, it is necessary to examine cases where program participation is assigned in a manner that is independent of program participants' background characteristics. In such a design, which is similar in spirit to a randomized controlled trial, it is possible to compare the behavior of the "treated" and "untreated" units, who are similar in every way except for their program participation. This type of comparison can be elusive for social welfare policies, where program eligibility is often defined in terms of factors such as income or age, and where it is therefore difficult, if not impossible, to compare the opinions of otherwise identical units. Ideally, to identify the effects of a policy, we would randomly assign a policy to individuals, but this is often impossible. Fortunately, from a research design perspective, the implementation of the ACA presents us with a promising natural experiment.

2 Medicaid Expansion in the States

The primary goal of the Patient Protection and Affordable Care Act of 2010 (ACA) was to expand access to heath insurance. To this end, individuals making between 100% and 400% of the federal poverty limit would receive subsidies to purchase private health insurance, while those those making less than 138% of the poverty limit would be eligible for the joint state-federal Medicaid insurance program. Before the ACA, eligibility for Medicaid varied across states. While the federal statute set a minimum level of eligibility, states generally left a significant portion of low-income, childless adults without insurance (Brooks et al. 2015). According to one estimate based on Census data, nearly eight million people became newly eligible for Medicaid as a direct result of the ACA (FamiliesUSA 2015).

While the legislation's authors presumed they could coerce states into expanding Medicaid by threatening to remove crucial federal funds, such coercion was ruled unconstitutional in the Supreme Court's 2012 decision in *National Federation of Independent Business v. Sebelius*. This decision allowed states to decide individually whether they wanted to expand Medicaid or not, and the result was a patchwork pattern of Medicaid expansion across the states. Figure 1 plots the expansion status in the states as of 2015. The shaded states opted to expand Medicaid, with lighter shades indicating later expansions, while the white states did not.[1] Of the expanding states, the majority began their expansions in the first quarter of 2014, as the ACA originally intended; two states (MI and NH) began their expansions later in 2014; and two expanded effective in 2015 (IN and PA).[2]

The patchwork pattern of Medicaid implementation provides us with a nearly ideal opportunity to identify the impact of Medicaid expansion on public opinion towards the ACA, because it allows us to compare the opinions of otherwise identical individuals who expe-

[1]While states choosing to expand Medicaid are more likely to support Democratic politicians at the ballot box, the decision to expand Medicaid was not entirely determined by party; several states voting for the Republican presidential candidate in every election between 2000 and 2012 chose to expand (e.g., North Dakota, New Mexico, Arkansas, West Virginia), several states that have repeatedly voted for the Democratic candidate chose not to expand (e.g., Wisconsin, Maine) and several states won by each party twice decided to expand (e.g., Nevada, Colorado).

[2]Montana also expanded Medicaid, but its expansion was not effective until 2016, after the period we analyze.

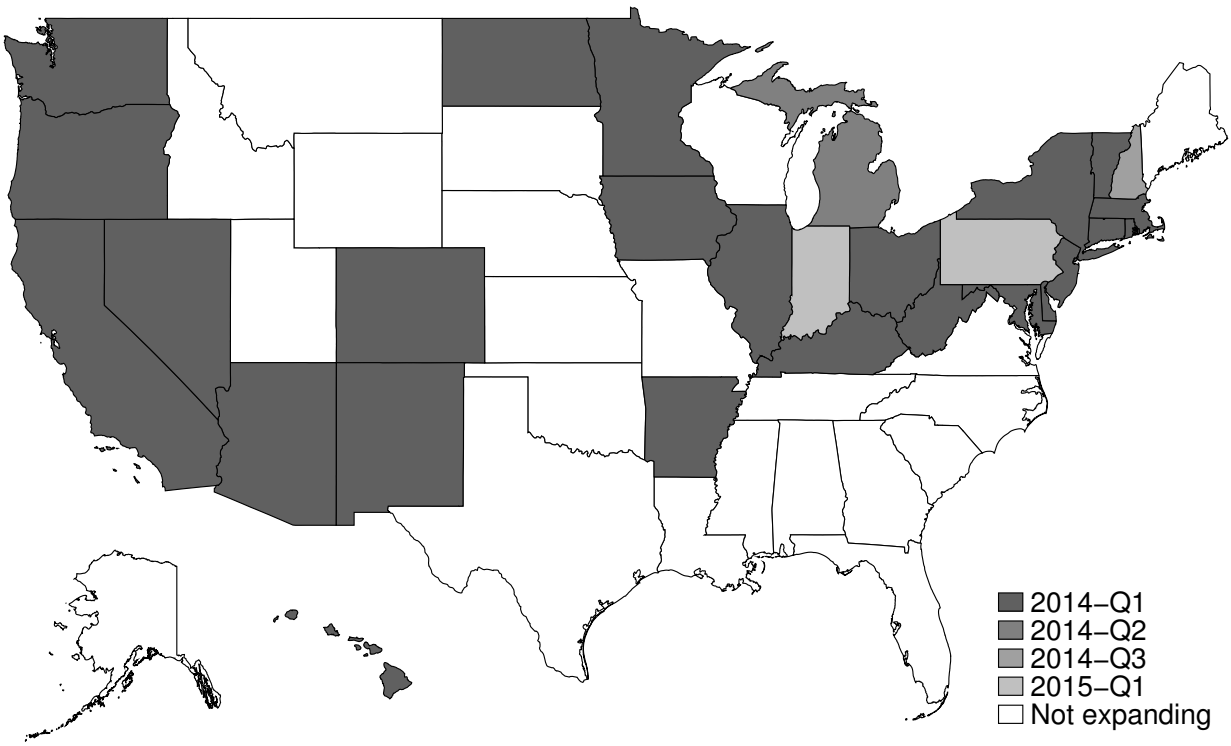

Figure 1: Medicaid expansions under the Affordable Care Act as of 2015.

rience vastly different versions of the ACA depending on whether or not the state decided to expand Medicaid. For example, an individual with no dependents and making less than 138% of the federal poverty limit living in Kentucky was eligible for subsidized Medicaid because of the actions taking by Gov. Beshear to expand Medicaid as of January 1, 2014, but an individual living with identical circumstances across the border in Tennessee was not.

Despite the fact that the Affordable Care Act is one of the most polled-about policies ever enacted, few studies have taken advantage of the large number of polls to estimate its support across both states and time. More common is to analyze support in a single survey. For example, Brodie et al. (2010) note that while polls consistently show a majority of Americans opposed to the reform, some of the individual components of the law – such as tax credits for small businesses – receive overwhelming support. Grande, Gollust, and Asch (2011) show that even subtle question wordings can greatly affect expressed support – 59% of the public supported the so-called "public option" when told that a public plan would "compete with" private insurers, while only 47% expressed support when told the public

plan would "compete against" or "compete directly with" private insurers.

While some of the variation in support for the ACA may be due to differences in question wording, others argue that approval varies according to respondent characteristics. Henderson and Hillygus (2011) find that high-income respondents are less likely to support universal health insurance relative to low-income respondents, a finding confirmed by both Holahan et al. (2014) and Kriner and Reeves (2014). Tesler (2012) finds that respondents with high levels of racial resentment – implicit bias against blacks – are also less likely to support the ACA, while Brodie, Deane, and Cho (2011) and Holahan et al. (2014) examine how support varies by geography.

More relevant for our purposes is recent work by scholars who have begun to examine whether personal experiences with the ACA affects support for the ACA as would predicted by a policy feedback perspective. McCabe (2016) finds that those who lost insurance after implementation decrease their approval, that those who gain insurance increase support, and that these attitude changes are also conditioned by partisanship. Hopkins and Parish (2016) use a panel from the Kaiser Family Foundation to track changes in opinion over time and show that approval increases among low-income respondents in expansion states, and Lerman and McCabe (2017) use age-based eligibility for the public health Medicare program to argue that personal experiences are able to overcome partisan messaging by showing that Republicans receiving Medicare are more supportive of the ACA than Republicans of a similar age who do not. While not directly measuring attitudes, both Haselswerdt (2016) and Clinton and Sances (2016) find evidence that the ACA led to increased voter turnout in expansion states.

3 Measuring ACA Support in the States Across Time

Until relatively recently, social scientists interested in studying state-level opinions toward policy had few options for overcoming the lack of state-level polls. In one of the first attempts at generating state-level estimates, Erikson, Wright, and McIver (1993) introduce the method

of disaggregation. In this method, the analyst combines responses from a large number of national polls, and then simply calculates average opinions by state. The chief drawback to this method is that it requires a large number of polls to ensure that each state has a sufficient sample size. Even when a large number of polls are available, it may still not be possible to accurately estimate averages for subgroups, such as those most likely to be impacted by a particular policy.

Park, Gelman, and Bafumi (2004) present multilevel regression and poststratification – or MRP – specifically for situations where a large number of polls are not available, but where we are interested in the estimates at smaller levels of geography. MRP has been widely used in political science to generate state (and in some cases, even substate) estimates of public opinion. Lax and Phillips (2009) use MRP to measure state-level support for same-sex marriage, and the relationship between state-level policies and state-level opinion. Pacheco (2012) generates state-level estimates of support for bans on smoking in public places, and Pacheco (2011) and Enns and Koch (2013) estimate measures of general policy liberalism among state publics. Elmendorf and Spencer (2014) use MRP to estimate state- and county-level estimates of anti-black prejudice, arguing that these estimates are relevant for which jurisdictions should be subject to the Voting Rights Act's pre-clearance provisions, and Zhang et al. (2014) use MRP to measure health outcomes in small geographic areas.

MRP generates state-level estimates from national polls using a multi-stage strategy. The first step is to estimate a multilevel (also called hierarchical) model of individual attitudes. In this step, individual opinion is regressed on indicator variables for demographic and geographic categories. An advantage of using multilevel regression in this stage is that group-level average support is estimated as a weighted average of full-sample support and subgroup support, with the weights related to the size of the sample in each group. Thus, the more responses in each category, the less reliance on the full sample average; yet when little data is available for a particular group – say, respondents from Kentucky, which has on average twenty respondents in each of the surveys we have collected – the estimated average for this group relies more on the full sample mean.

After the group-level estimates are calculated, the second step is poststratification, sometimes called reweighting. To continue with our example from above, after the first step we will have a less noisy estimate of Kentucky opinion, but one that will still be biased due to its reliance on those twenty possibly unrepresentative respondents. To account for this, we then reweight this estimate by population figures obtained from the Census. For instance, in the first stage we will obtain estimates for each possible permutation of age, sex, and education in Kentucky, or $\hat{Y}_1, ..., \hat{Y}_J$ for the J possible age-sex-education groupings. In the second stage, we calculate overall support in Kentucky by multiplying each Y_j estimate by the known proportion of each group in the state, P_j. That is, we compute $\hat{Y} = \hat{Y}_1 * P_1 + ... + \hat{Y}_J * P_J = \sum_{j=1}^{J} \hat{Y}_j * P_j$.

Implementing MRP requires the collection of multiple surveys, as well as Census counts of the population categories of interest. For our study, we obtain population counts from the 2010 Census, and we obtain surveys from the Roper Center's iPOLL databank, housed at Cornell University and accessible online. We attempted to obtain individual-level data for every archived survey that asked about the approval of the Affordable Care Act, dating back to when the legislation was first being discussed in the second half of 2009. Our search terms included "affordable care act", "health care reform", "ObamaCare", and "health". Using this search strategy, we identified 175 unique surveys – fielded by seven different polling houses – asking about the ACA between mid-2009 and mid-2015. Polling houses include ABC, CBS, CNN, Gallup, Kaiser, NBC, and Pew, and the total number of respondents in our merged survey is about 221,000. We summarize the number of polls by survey organization and by year in Table 1, where cell entries are the number of unique respondents per survey organization and year and parentheses denote the number of unique polls.

While the question being asked sometimes differs across the 175 polls we collect, the modal question wording in our results is, "Given what you know about the health reform law, do you have a generally favorable or generally unfavorable opinion of it?" Nearly all our questions ask about support or approval directly, often with a follow-up question about strength of support or opposition. We standardize responses by coding a response as equal

House	2009	2010	2011	2012	2013	2014	2015	Total
ABC	4,405	3,524	874	3,102	4,006	2,998	0	18,909
	(5)	(4)	(1)	(3)	(4)	(3)	(0)	(20)
CBS	2,851	5,931	4,083	6,041	6,164	3,065	0	28,135
	(3)	(6)	(4)	(6)	(7)	(3)	(0)	(29)
CNN	8,408	6,088	3,051	3,038	4,426	1,807	0	26,818
	(8)	(6)	(3)	(3)	(5)	(2)	(0)	(27)
Gallup	1,513	1,017	0	0	4,581	7,104	2,036	16,251
	(1)	(1)	(0)	(0)	(4)	(5)	(1)	(12)
Kaiser	0	14,162	14,730	15,570	12,025	16,502	6,005	78,994
	(0)	(11)	(12)	(11)	(9)	(9)	(4)	(56)
NBC	801	2,815	1,996	0	0	0	0	5,612
	(1)	(3)	(2)	(0)	(0)	(0)	(0)	(6)
Pew	10,007	11,877	1,501	9,972	5,000	7,850	0	46,207
	(5)	(7)	(1)	(4)	(3)	(5)	(0)	(25)
Total	27,985	45,414	26,235	37,723	36,202	39,326	8,041	220,926
	(23)	(38)	(23)	(27)	(32)	(27)	(5)	(175)

Table 1: Number of unique responses and polls by organization and by year. Cell entries denote number of respondents, with the number of polls in parentheses.

to one if a respondent approves or strongly approves of the health care reform, and zero if they oppose, strongly oppose, or do not offer an opinion.

To turn these nationally representative polls into representative estimates of state-level opinion, we analyze the responses using MRP. We first fit a multilevel regression for individual-level support in the full sample of respondents:

$$\begin{aligned}\Pr(y_i = 1) \quad &= \text{logit}^{-1} \quad \big(\beta^0 + \alpha^{race}_{r[i]} + \alpha^{sex}_{s[i]} + \alpha^{edu}_{e[i]} + \alpha^{house}_{h[i]} + \\ &\qquad\qquad \alpha^{state}_{s[i]} + \alpha^{yq}_{y[i]} + \alpha^{state.yq}_{s[i],y[i]}\big)\end{aligned}$$

where y_i is an indicator equal to one if respondent i expresses approval of the ACA, and zero otherwise. In addition to a global intercept β_0, the model includes indicators for the response categories for race, sex, education, pollster, state, quarter (yq), and state-by-quarter.[3]

Our specification is partially determined by our desire to estimate support by state, time,

[3]Following convention, we write the model such that there are, for instance, R coefficients for the racial categories – α^{race}_{white}, α^{race}_{black}, etc. – but we need only pay attention to the r category and α coefficient relevant to respondent i, $\alpha^{race}_{r[i]}$).

and education category, but we are limited in the groups we can include by the cells that are available in Census data. Recall that in the second stage, we will need to multiply the group estimates by their known population proportions. In the Census data that we use, we will only know counts for race-sex-education groupings, and no other categories. Our categories for race include: "White," "Black," and "Other"; our categories for education are: "Less than high school," "High school only," "Some college," and "College."[4] Note that including coefficients for state $\alpha_{s[i]}^{state}$ and quarter $\alpha_{y[i]}^{yq}$ fixed effects, as well as the interaction $\alpha_{s[i],y[i]}^{state.yq}$ allows state-level opinion to change over time in ways that vary between states.[5] In terms of measuring the change in opinion over time and across states, the coefficient $\alpha_{s[i],y[i]}^{state.yq}$ captures the change in a states' opinion over time relative to other states.

To further probe the impact of the ACA on public opinion and whether some groups change their opinion more than others, we also estimate the average support for subgroups that are most likely to be impacted by the law (Ghitza and Gelman 2015). Because the Medicaid expansions were targeted toward those making less than a certain income, we would ideally compare individuals above and below 138% of the poverty limit for the respondent's household size. Unfortunately, not all our surveys ask about household size and codings for income are inconsistent, and so we use educational attainment as a proxy for economic class.[6] To measure support by subgroup, we add an interaction to the first stage of our MRP

[4]While the original surveys sometimes include more refined categories of race and education, we consolidate the original responses to follow the groupings recorded by the Census and for which we have the state-level population numbers for.

[5]Note that these are not "fixed effects" in the sense used in most of the political science and econometrics literature – and in the sense that we will use them when estimate our difference in differences regressions – which typically seeks to control for group-level averages rather than estimate them.

[6]In our nationally representative survey, the results of which we report later in the paper, education and Medicaid status are related: having a high school diploma or less is associated with a 7.7 percentage point increase in the probability of being on Medicaid (standard error of 1.6), relative to those with more than a high school diploma.

model, estimating:

$$\begin{aligned}\Pr(y_i = 1) \quad &= \text{logit}^{-1} \quad \big(\beta^0 + \alpha^{race}_{r[i]} + \alpha^{sex}_{s[i]} + \alpha^{edu}_{e[i]} + \alpha^{house}_{h[i]} + \\ &\qquad \alpha^{state}_{s[i]} + \alpha^{yq}_{y[i]} + \alpha^{state.educ}_{s[i],e[i]} + \alpha^{yq.educ}_{y[i],e[i]} \\ &\qquad \alpha^{state.yq}_{s[i],y[i]} + \alpha^{state.yq.educ}_{s[i],y[i],e[i]}\big)\end{aligned}$$

To calculate state-level opinion for every quarter, we use the coefficients resulting from the above equations applied to the 220,000 individual-level observations to compute the predicted opinion given the demographic composition of the state. That is, for each unique grouping of demographic characteristics, of which there are $j = 1, ..., J$ unique combinations for every state s at time t, we calculate the predicted opinion: $\hat{Y}_{st} = \sum_j^J w_{js} \times \hat{Y}_{jst}$ where $\hat{Y}_{jst}$ is the predicted opinion of individuals with demographic characteristics j in state s at time t based on the equations above, and w_{js} is the number of individuals in state s with characteristics j according to the 2010 Census.

Figure 2 compares the raw data aggregated by state against the MRP-based estimates of state-level support for the law, by quarter. The top panels in Figure 2 present the raw average support for states not expanding Medicaid (left panel) and states expanding Medicaid (right panel). The gray thin lines represent averages for individual states, and the thick black lines represent the average across all states within an expansion status category. Together, these figures show the difficulty of estimating quarterly state-level opinion using raw data, even when thousands of responses are available. The estimates for each state are extremely noisy, exhibiting wide swings, and it is impossible to visually distinguish any two states because of this variation.

The bottom panels, in contrast, show much clearer patterns using the MRP estimates. Modeling each state intercept separately allows each state to have its own baseline level of support in the first quarter, after which we see a small secular increase in support for all states. Using the MRP estimates, it is also easier to see that many of the expansion states had higher levels of support for the law even prior to the law's implementation in 2014. In

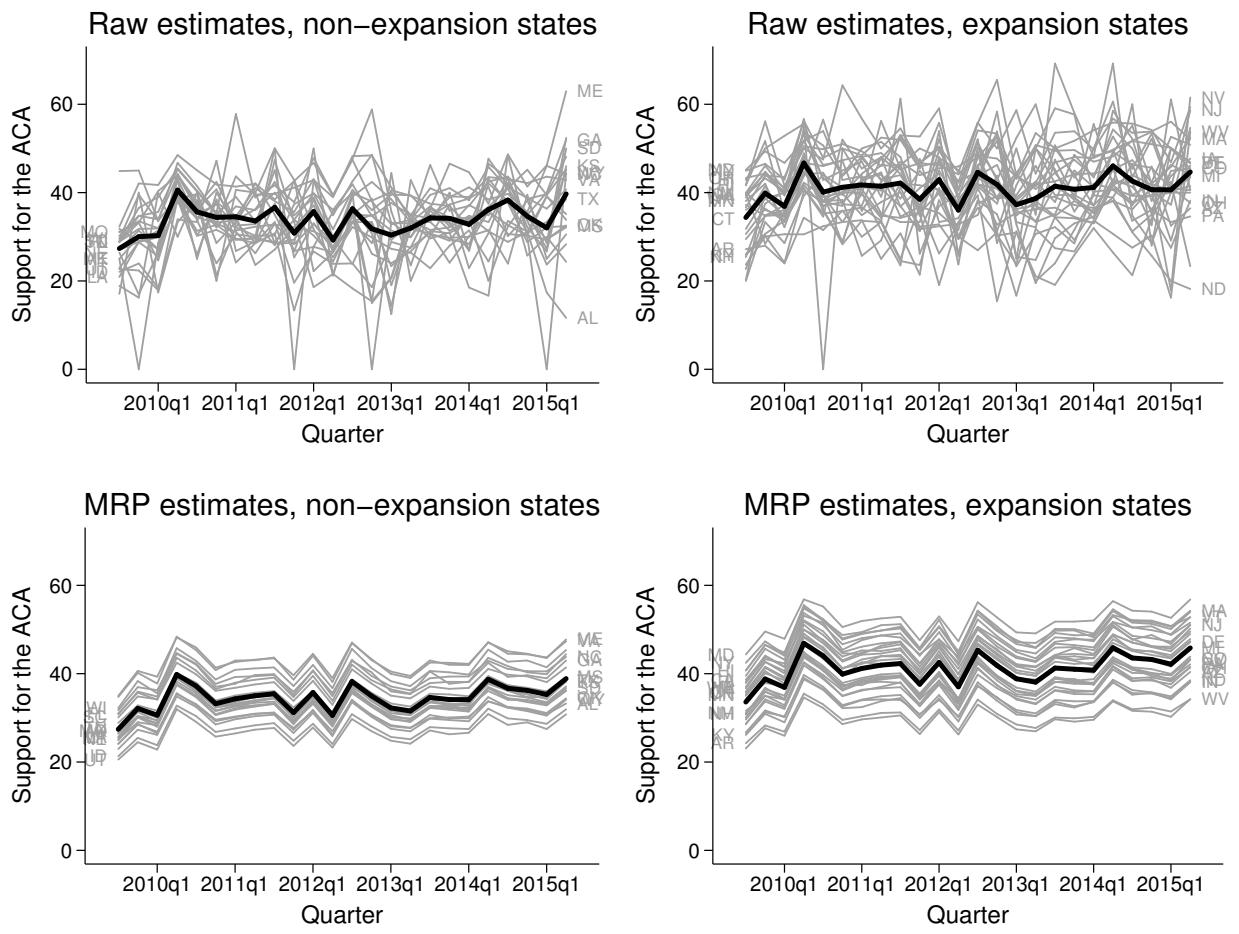

Figure 2: Trends in ACA support: comparing raw and MRP state-level estimates.

fact, this higher level of pre-existing support is likely partially responsible for the expansion of Medicaid in the state.[7]

4 The Effect of Medicaid Expansion on ACA Support

To estimate the causal effect of the expansion on state-level opinion, we use the state-level MRP opinion estimates plotted in Figure 2 as an outcome variable in a difference in differences analysis (Angrist and Pischke 2009). That is, we compare changes in support before and after the law's implementation in each state, between states that did and did not

[7]While the MRP estimates greatly reduce the amount of overtime fluctuation evident in the state averages, the MRP estimates correlate highly with the group-level raw averages – the correlation is about 0.9 between the group-level MRP and raw time series.

expand Medicaid. As a regression, this comparison may be written:

$$\hat{Y}_{s,yq} = \alpha + \beta * \text{Expanded Medicaid}_{s,yq} + \text{State}_s + \text{Quarter}_{yq} + \epsilon_{s,yq}$$

where $\hat{Y}_{s,yq}$ is the MRP estimate of state support in state s at quarter yq, *Expanded Medicaid* is equal to one the state s has expanded Medicaid as of quarter yq, *State* and *Quarter* are fixed effects for state and time respectively, and ϵ is random error. We cluster standard errors at the state level to account for within-state dependence over time.

In this regression, β represents the difference in differences – how opinion changed in states that expanded Medicaid relative to states that did not, before and after the expansions occurred.[8] While the states differ tremendously in their demographic and political composition – as well as in their health care infrastructure (e.g., the extent to which state services and health insurance already existed for low income residents) – these differences cannot confound our estimates because we compare opinion change over time within states.

The results for all respondents are reported in column (1) of Table 2. The coefficient on *Expanded Medicaid* indicates that, compared to non-expansion states, expansion states increased their approval of the ACA by roughly 0.2 percentage points (standard error of 0.07 percentage points), or about one fifth of one percentage point on a zero to one hundred scale. The expansion of Medicaid in a state is therefore associated with a slight increase in the average support for the Affordable Care Act.

To help determine whether this increase is a result of policy feedback, the remaining columns of Table 2 examine if the opinion change is concentrated among those most likely to benefit from the expansion of Medicaid. As previously discussed, because we lack consistent information on demographics that are more closely connected to eligibility status across

[8]In this section, we use "fixed effects" in the classical sense of dummy variables meant to absorb any fixed differences across states or years, rather than as parameters of interest. Because such fixed effects are known to exacerbate classical measurement error, and the raw state-level estimates of opinion in Figure 2 exhibit a good deal of noise, a difference in differences regression using the raw state averages would be biased. It is likely for this reason that when we replicate the results using the raw averages that the results are exceptionally imprecise and hard to interpret – the effect for the full sample is -0.08 with a clustered-standard error of 0.806.

	All	Less than HS	High school	Some college	College
	(1)	(2)	(3)	(4)	(5)
Expanded Medicaid	0.22**	0.08	0.14**	0.21**	0.14
	(0.07)	(0.05)	(0.05)	(0.06)	(0.08)
Quarter fixed effects	Yes	Yes	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes	Yes
Number of states	50	50	50	50	50
Number of quarters	24	24	24	24	24
Sample size	1,200	1,100	1,185	1,200	1,198
Respondents	220,926	17,622	53,785	59,761	86,984

Table 2: The effect of Medicaid expansion on ACA support. Standard errors in parentheses, clustered by state. * p<0.05, ** p<0.01, *** p<0.001. Respondents denotes the number of responses used to construct the state-by-quarter estimates. The sample size is sometimes less than 1200 (50 states × 24 quarters) because of a lack of respondents in a weighting cell.

all 175 surveys (e.g., income, parent status), we rely on education levels to conduct this investigation. Estimating the baseline regression separately by educational subgroup reveals that the effect is most salient for respondents with only a high school degree (estimate = 0.14, standard error = 0.05) or some college education (estimate = 0.21, standard error = 0.06). In contrast, the estimates for those with less than a high school degree, or with a college degree or higher, are also positive, but not significantly different from zero. While the lack of an impact among those with less than a high school degree is potentially surprising, our estimates may be affected by the relatively smaller number of individual responses from this category: as shown in the footer to Table 2, we have just under 18,000 responses in this category - far fewer than in any other grouping. It is also difficult to completely rank order the relative expected effects we might predict because Medicaid expansion only affected those who were previously ineligible. If voters with lower education levels were already more likely to receive Medicaid, for example, this may mute the impact of the further expansion of Medicaid under the ACA among that group. If so, the individuals who are most likely to be impacted may be those individuals who were not previously covered by Medicaid (and who may also have slightly higher education levels).

The results of Table 2 show that support for the ACA increased in expansion states

– perhaps especially among those that were most likely eligible – but this does not reveal whether the increased approval is a consequence of the ACA or a result of pre-existing trends in the opinion in the states that expanded Medicaid. On this point, it is well-known that difference in differences designs rely on the assumption of parallel trends – i.e., that the control states act as a suitable comparison group to the treated states in that they would have experienced the same trend in support had they chosen to also expand Medicaid. We argue that time-varying confounding is unlikely to be an issue in this particular case because it would mean that state officials decided to expand Medicaid based on anticipated changes in support for the ACA in their state that would have occurred regardless of their actions. This seems unlikely to us as there is no evidence that Gov. Mike Pence of Indiana or Gov. Asa Hutchinson in Arkansas decided to expand Medicaid realizing that approval was going to increase in their Republican states even had they not done so. The baseline level of support in a state almost certainly affected the decision of whether or not to expand Medicaid, but because we include state fixed effects to effectively control for the level of pre-existing support for the ACA in each state and compare changes in opinions within a state, baseline differences cannot impact the changes in opinion we estimate.

Nonetheless, we can also leverage the panel nature of our data to test for possible violations of the parallel trends assumption by determining whether treated states were already trending in a more pro-ACA direction prior to the expansions of Medicaid. To do so, we use the following specification:

$$\begin{aligned}\hat{Y}_{s,yq} &= \alpha + \beta_{-3} * (\text{3 quarters prior})_{s,yq} + \beta_{-2} * (\text{2 quarters prior})_{s,yq} + \\ &\quad \beta_{-1} * (\text{1 quarter prior})_{s,yq} + \beta_0 * (\text{Quarter of expansion})_{s,yq} + \\ &\quad \beta_1 * (\text{1 quarter after})_{s,yq} + \beta_2 * (\text{2 quarters after})_{s,yq} \\ &\quad \beta_3 * (\geq \text{3 quarters after})_{s,yq} + \text{State}_s + \text{Quarter}_{yq} + \epsilon_{s,yq}\end{aligned}$$

If, for example, the estimate for β_{-3} is greater than zero, this suggests that expansion states were already trending in a more pro-ACA direction three quarters prior to the expansion

of Medicaid (i.e., the "treatment). If true, this would cast doubt on the interpretation of the estimates in Table 2 as causal effects. Relatedly, if β_3 is greater than zero this would suggest that approval in expansion states is higher than it was in those states relative to the difference in non-expansion states three quarters after the expansion. Evidence of an enduring policy feedback effect of Medicaid expansion would therefore be consistent with null (or negative) effects for β_{-3},β_{-2}, and β_{-1} and positive effects for β_1, β_2, and β_3.

Figure 3 presents the results by plotting the coefficients and 95% confidence intervals for the estimated β coefficients. As before, we first present results for the state-quarter estimates, and then for the state-education-quarter estimates. In the first (upper-left) panel, we see there was no difference in ACA support between expansion and non-expansion states prior to the expansions when using all respondents. The estimates only become significantly different from zero in the post-expansion period, during which time they rise to as much as 0.3 percentage points. Thus, there is no evidence of diverging opinions on the approval of the ACA between expansion and non-expansion states prior to the expansion of Medicaid. However, after the expansion, expansion states did become relatively more approving than non-expansion states.

The remaining panels in Figure 3 replicate the analysis for respondents of varying education levels and they reveal a pattern consistent with Table 2: the effects are significantly different from zero in the post period for the middle two education categories, and are positive but insignificant for the less than high school and college or higher. Moreover, for all categories but college, we see little or no evidence of differences in the pre-period.[9]

[9]The exception is for college-educated opinion, where we see evidence of an impact one quarter prior to the actual expansion. This may be because highly educated respondents changed their minds due to anticipation of the expansion, whereas lower education respondents changed their minds only after experiencing the expansion.

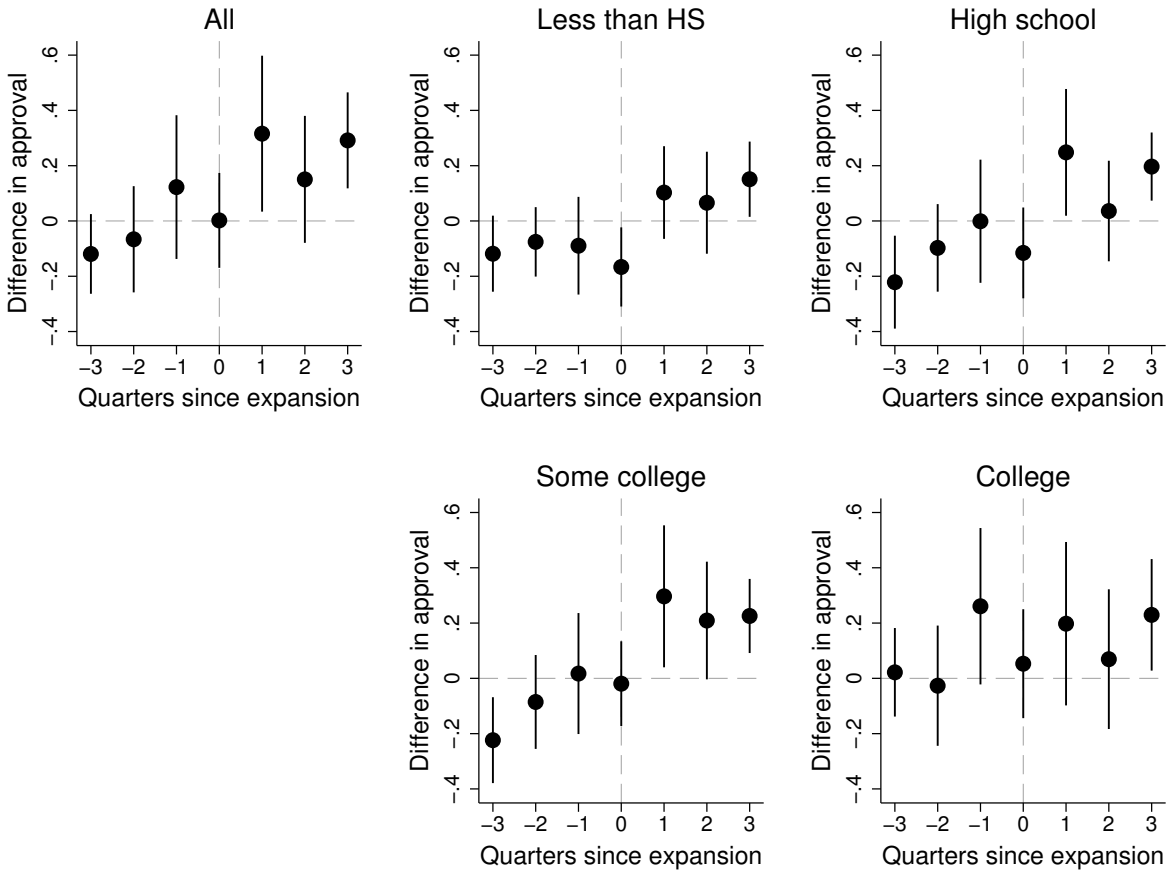

Figure 3: Testing for differential trends in ACA support prior to expansions. Points represent the difference in ACA support between treated and control states, net of state and time effects. Lines span 95% confidence intervals.

5 Explaining the Minimal Feedback Effects of Expansion

The results thus far provide evidence that public opinion towards the Affordable Care Act increased more among individuals living in states expanding Medicaid, all else equal, and the effect was larger among those who were most likely to benefit from that expansion. Even so, the effects are small, between a fifth and a third of a percentage point. Our use of aggregate data prevents us from determining the cause of these limited effects, but two interpretations seem reasonable.

First, the vigorous partisan debate surrounding the issue may have politicized the policy

so much that many voters minds may already be made up prior to their experience with the law. If so, the impact of expansion may be limited to those without a pre-existing framework for interpreting the effects of Medicaid expansion. While theoretically possible, we have only a limited ability to evaluate this possibility. If we observe a change in opinion regardless of partisanship that differs from the change that is observed in non-expansion states, the suggestive interpretation is that partisanship did not mitigate the policy feedback. But conclusions from other relationships are more ambiguous. If the opinion of Republicans does not vary by expansion status, is that evidence that partisanship mitigated the policy feedback effect? Unfortunately, comparing Republicans in expansion states to Republicans in non-expansion states does not identify the the critical mediating variable because we do not know what the impact would be if the policy were less politicized. Put differently, while it is important to consider whether opinion varies by partisanship, it is difficult to interpret what differences – or the lack of difference – in the opinion change within partisan groups by expansion status implies about the impact of partisanship on policy feedback.[10]

A second explanation for the limited effects is that voters may be unaware of the expansion, or unaware of the link between the expansion and the ACA. Due in part to the partisan conflict over the law, several governors either implemented or defended the Medicaid expansion by arguing that their expansion of Medicaid was either unrelated to the ACA, or substantially different. For example, the Arkansas Works program that was proposed by Governor Asa Hutchinson was defended at a press conference in which the Governor reaffirmed his personal and strident opposition to the ACA (Evans 2016). More broadly, the complexity of the joint-state federal Medicaid program, as well as its existence long before the adoption of the ACA, may have obscured the link in voters' minds. As Gov. Besehar of Kentucky explains "We called our state-based exchange Kynect, obviously a take on 'Kentucky' and 'connection.' It was to connect our people with the marketplace, to be able to

[10]For example, even among self-identified independents the expectations are unclear. Does a greater change among independents in expansion states indicate that the partisan debate did not impact policy feedback because the opinions of independents changed despite the partisan debate? Or might we wonder whether the impacts would be even greater in the absence of such a partisan debate and the effects among independents would therefore indicate a lower-bound on the effects that we would expect for a less-contentious policy?

get health insurance or to see if you qualified for Medicaid...Obviously another reason we named it Kynect is because we wanted to get as far away from the word 'Obamacare' as we could....Polls at that time in Kentucky showed that Obamacare was disapproved of by maybe 60 percent of the people. Kynect was disapproved by only, like, 20 percent. Of course it was the same thing" (Kliff 2017).

To be clear, these explanations are not mutually exclusive, and both may affect the amount of policy feedback that is possible. Moreover, it is impossible to conclusively identify the impact of each, because we are evaluating opinion change as it relates to a single policy in which the partisan and policy environment is largely fixed. Put differently, our investigation of the minimal effects is necessarily suggestive – we have no ability to vary the level of partisan disagreement or policy complexity as would be required to identify how each affects policy feedback. Instead, our goal in this section is to explore the correlates of opinion change to identify patterns that would provide suggestive evidence of the importance of each.

To probe the extent to which partisanship and policy complexity may have affected the amount of policy feedback produced by the expansion of Medicaid under the ACA, we commissioned a random digit dial survey of 1,000 respondents in February of 2017 using Princeton Survey Research Associates International.[11] It was necessary to collect new data for this analysis, as none of the surveys we used to construct our state-level data estimates asked about policy awareness. In contrast, our survey asked whether people knew whether Medicaid had been expanded in their state, allowing us to determine what people know, as well as whether ACA approval varies depending on this knowledge.

To begin, we asked whether respondents were aware of whether or not their state had expanded Medicaid under the ACA.[12] As shown in the top panel of Figure 4, most were

[11]The PSRAI February 2017 Omnibus Week 1 obtained telephone interviews with a nationally representative sample of 1,000 adults living in the continental United States. Telephone interviews were conducted by landline (500) and cell phone (500, including 281 without a landline phone). The survey was conducted by Princeton Survey Research Associates International (PSRAI). Interviews were done in English and Spanish by Princeton Data Source from February 2-5, 2017.

[12]To control for possible differences in awareness depending on whether the policy was known as the Affordable Care Act or Obamacare, we asked the question two ways: 1) "As you may know, some states have expanded Medicaid to low-income adults under the Affordable Care Act. Do you happen to know whether your state has opted to receive federal money to expand Medicaid, or not?"; 2) "As you may know,

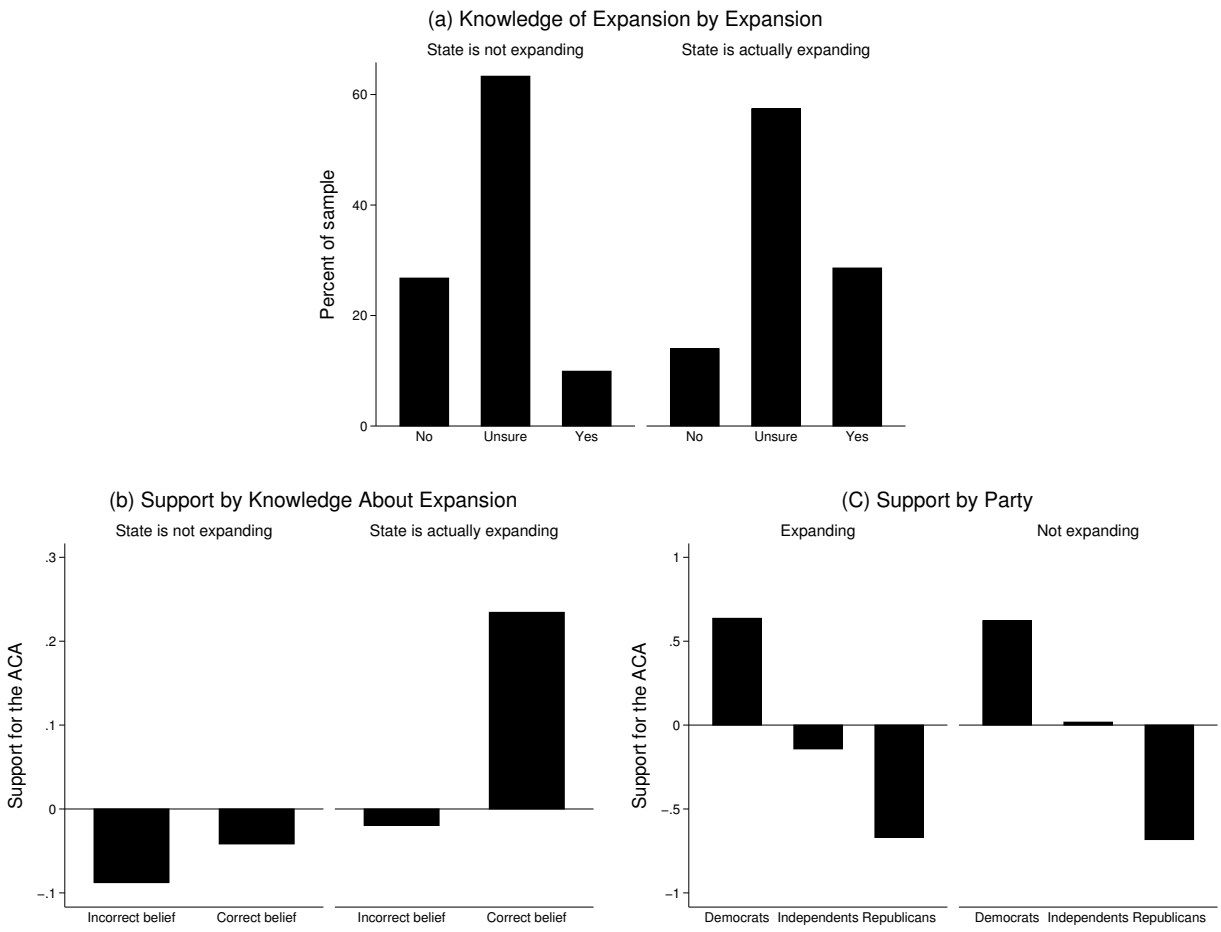

Figure 4: Testing whether higher support in expansion states is concentrated among those who are aware of the expansion and among partisan subgroups. Percentages in panel (a) are calculated using survey weights.

either uncertain, or had incorrect beliefs: nearly 60% volunteered that they did not know if their state had expanded Medicaid. In states expanding Medicaid, 14% incorrectly said the expansions were not taking place and in states not expanding Medicaid, 10% incorrectly said that they were. Overall, 73% of respondents in non-expansion states and 71% of respondents in expansion states could not correctly identify whether Medicaid had been expanded in their state because of the ACA. That so few knew whether their state had expanded Medicaid puts an obvious ceiling on the policy feedback effect that the expansion could have on public support for the ACA.

some states have expanded Medicaid to low-income adults under Obamacare. Do you happen to know whether your state has opted to receive federal money to expand Medicaid, or not?" The responses were nearly identical for these two questions.

Beyond providing an ability to examine whether policy complexity affects the magnitude of policy feedback, our original survey also provides us with an ability to confirm that the effects we have identified can be attributed to policy feedback effects. Because voters must be aware of a policy for policy feedback to occur, voters must be aware that their state has expanded Medicaid in order for experiences with Medicaid expansion to feed back into increasing support for the ACA. The results of the prior section are unable to determine whether this condition is satisfied, but our original survey provides us with the required leverage. If the support for the the ACA is concentrated among those with incorrect beliefs about Medicaid expansion in their state, or if support does not vary based on policy awareness, then it seems difficult to conclude the effects we have identified can be are due to policy feedback.

As an initial test of whether the impact of the expansion on support for the ACA is concentrated among those who were aware of the expansion, the bottom-left panel of Figure 4 shows the average support for the ACA by beliefs about the expansion.[13] Respondents in non-expansion states are generally less favorable toward the ACA, with net support of -0.09 among those whose beliefs about the expansion are incorrect, and -0.04 among those who correctly know their state is not expanding, on a scale ranging from $-1 to 1$. In expansion states, net support is also negative, but only among those with false beliefs, at about -0.02. Among those in expansion states who are aware the expansion is taking place in their state, net support is +0.23.

Two points are worth emphasizing about the pattern evident in panel (b) in Table 3. First, the only group that becomes more favorably disposed towards the ACA is those who reside in expansion states and who are also aware of the expansion. Second, comparing the overall support for the ACA between expansion and non-expansion states suggests a slightly positive relationship between expansion and the ACA, but subsetting the responses

[13]To measure support, we asked: "Given what you know about the [Affordable Care Act/the health care law also known as Obamacare] that passed in 2010, do you have a generally favorable or generally unfavorable view of it, or have you not heard enough about it to form an opinion?" We code responses of "Generally favorable" as +1, responses of "Generally unfavorable" as -1, and responses of "Haven't heard enough about it" as 0.

by knowledge reveals that the positive relationship is concentrated solely among the roughly 30% of respondents who were aware that the expansion took place. The fact that the positive overall effect in expansion states is concentrated entirely among those who are aware of the expansion reassuringly suggests that the positive effects we find in earlier analyses (in which we cannot determine policy awareness) also also likely concentrated among those who were aware of the expansion in the state.

Panel (c) in Figure 3 repeats allows the relationship between ACA approval and Medicaid expansion to vary by partisanship. It is difficult to fully interpret the effects for the reasons noted above, but if partisanship is muting the impact of policy feedback we might expect differences in approval by expansion status among independents, as opposed to Republicans and Democrats. Indeed, we do see that independents shift from a net support of -0.14 in non-expansion states to a net +0.017 in expansion states. Average support among Democrats and Republicans, in contrast, does not differ depending on whether they live in an expansion state or not.

To test these relationships more formally, we estimate a regression of ACA support (on a three-point scale from -1, 0, to +1) on whether a state is actually expanding Medicaid, a respondent's beliefs about the expansion of Medicaid in their state, and a set of demographic and political covariates.[14] Because the expansions happen at the state level, we cluster standard errors accordingly.

Table 3 presents the results by focusing on the main coefficients of interest – expansion and knowledge – as well as selected covariates, omitting the full set of covariates for presentational purposes. In the first two columns, we present results from regressions without an interaction between actual expansion and knowledge of expansion. Consistent with the aggregate results

[14]These covariates include: an indicator for question wording (whether the respondent was asked about the ACA or "Obamacare"); indicator for Hispanic; indicator for Black; indicator for female; indicators for Democrat and Republican, with independents the reference category; indicators for receiving insurance from Medicare, Medicaid, spouse's insurance, and insurance purchased on the individual market, with uninsured the reference category; indicators for rural and urban, with suburban the reference category; an indicator for having children under 18 living at home; indicators for high school degree and college degree or more, with less than high school as the reference category; indicators for income less than 40,000 and above 100,000, with incomes between 40,000 and 100,000 as the reference category; indicators for full-time and part-time employment, with unemployed the reference; and indicators for age less than 26 and age over 65.

	(1)	(2)	(3)	(4)
State expanded Medicaid	0.14*	0.07	0.07	0.02
	(0.06)	(0.04)	(0.08)	(0.05)
Aware expanded			0.05	-0.02
			(0.06)	(0.05)
State expanded X Aware			0.21*	0.16*
			(0.09)	(0.08)
ACA wording		0.05		0.05
		(0.05)		(0.05)
Republican		-0.58***		-0.58***
		(0.05)		(0.05)
Democrat		0.63***		0.62***
		(0.05)		(0.05)
Medicare		0.07		0.07
		(0.06)		(0.06)
Medicaid		0.08		0.08
		(0.09)		(0.09)
Individual insurance		0.07		0.06
		(0.08)		(0.07)
Additional controls	No	Yes	No	Yes
Sample size	981	960	981	960
R-squared	0.01	0.37	0.02	0.37

Table 3: Testing whether higher support in expansion states is concentrated among those aware of the expansion. Standard errors in parentheses, clustered by state. Additional controls include indicators for race and ethnicity, gender, source of health insurance, education, income, employment, and age category. * p<0.05, ** p<0.01, *** p<0.001.

shown earlier, living in an expansion state is associated with more favorable views of the ACA: in the specification without covariates the estimated effect is 0.14, with a standard error of 0.06. Also consistent with our aggregate results, the overall impact of the expansions is small and can be hard to detect: when we include covariates, it is still positive, but falls just short of conventional levels of statistical significance (the estimate is 0.07, with a standard error of 0.04).

The third and fourth columns add knowledge of the expansion, and an interaction between actual expansion and knowledge. Consistent with Figure 4, there is little or no impact of the expansion among those who are unaware it is happening: without controls, the estimated

coefficient for expansion is 0.07 with a standard error of 0.08; with controls, the estimate is 0.02 with a standard error of 0.05. Thus, among the roughly 70% who are unaware that the expansion was taking place, the expansion failed to shift attitudes one way or the other. Similarly, knowledge of the expansion in itself is not associated one way or the other with ACA approval. Without controls, the estimated coefficient for knowledge is 0.05, with a standard error of 0.06; with controls, the estimate is -0.02, with a standard error of 0.05. Taken together, the results reassuringly reveal that support for the ACA does not vary by Medicaid expansion status for those who are unaware of the expansion, and that awareness of the expansion itself has no direct relationship with ACA approval.

In contrast, the interactions between knowledge and actual expansion are positive and larger in magnitude than the full-sample effect estimates shown in the first two columns. Without controls, the interaction effect is 0.21, with a standard error of 0.09; with controls, the effect is 0.16 with a standard error of 0.08. Relative to those who were unaware of the expansion, the effect of the expansion was between 0.16 and 0.21 higher on a three point scale among those who actually knew the expansion was happening. Summing the relative coefficients yields an estimated expansion effect of 0.32 (0.16 with controls) among those who knew the expansion was taking place (standard error of 0.06 without controls, and 0.05 with controls). Comparing this to the effects of the expansion among those without this knowledge (the estimates in the first row of the table), we can conclude that to the extent the expansions increased ACA support and the increase was entirely concentrated among those who were aware that the expansion was happening.

We also show estimates from certain other covariates in Table 3 (the second and fourth columns include more covariates, but we omit the full set for presentational purposes). We can see that question wording – whether respondents were asked about "the ACA" versus "Obamacare" – has little impact on ACA support when we control for expansion and knowledge. Neither did insurance status – relative to those without insurance, those receiving insurance from Medicare, Medicaid, or the individual market were not more likely to ap-

prove of the ACA.[15] Instead, the most important predictor of support is party: relative to independents, Republicans supported the ACA about 0.6 points less, and Democrats about 0.6 points more. That the effects roughly cancel one other out suggests that partisan conflict is less likely to explain the muted impacts seen in the aggregate data. Moreover, given the well-known partisan divide on the ACA, the magnitude of the partisanship coefficient estimates help put our feedback effect estimates in context. In other words, among relatively knowledgeable respondents, the impact of the Medicaid expansions resulted in an increase in ACA support that was about a third of the size of the partisan divide.

Is there also evidence of a partisan divide in the expansion's impact? To explore this possibility, we first allow the impact of expansion to vary by partisanship in expansion and non-expansion states regardless of policy awareness. Table 4 reports the results. In the first column, we see that only independents show a positive impact of expansions: the coefficient on expansion is 0.16 (standard error of 0.07), reflecting the relative increase in support for independents (the omitted partisan category) in expansion states. The interactions between party and expansion, however, reveal no impact for Democrats or Republicans: these interactions are both negative, and both around -0.17, or enough to cancel out the "main effect" of expansions on support. While we can not confidently reject the null hypothesis that both party interactions are jointly significantly different from the effect of expansions for independents – the p-values reported in the footer to the table are 0.12 without controls and 0.29 with controls – it seems difficult to argue that Democrats and Republicans were as affected, if affected at all, by the expansion of Medicaid as were independents.

Thus, while perhaps not reaching conventional levels of statistical significance, the fact that only independents were meaningfully impacted by the expansion of Medicaid provides some support for the claim that partisanship may have muted the impact of the policy. However, our two explanations need not be mutually exclusive. If awareness is, as we have shown, generally low, then the simple interaction between party and expansion will measure

[15]While Lerman and McCabe (2017) show that the impact of personal experience can be a powerful determinant, we lack the statistical power to detect and interactions between expansion and actual Medicaid receipt: only 61 of our respondents reported receiving insurance from Medicaid.

	(1)	(2)	(3)	(4)
State expanded Medicaid	0.16*	0.15*	0.11	0.11
	(0.07)	(0.07)	(0.09)	(0.08)
Republican	-0.49***	-0.49***	-0.45***	-0.45***
	(0.07)	(0.08)	(0.09)	(0.09)
Democrat	0.81***	0.72***	0.75***	0.65***
	(0.08)	(0.09)	(0.10)	(0.10)
Aware expanded	0.08	0.08	-0.06	-0.04
	(0.05)	(0.04)	(0.11)	(0.10)
Rep X Expanded	-0.17	-0.14	-0.21*	-0.19
	(0.10)	(0.10)	(0.10)	(0.11)
Dem X Expanded	-0.18	-0.15	-0.17	-0.13
	(0.10)	(0.10)	(0.12)	(0.12)
Rep X Aware			-0.18	-0.19
			(0.13)	(0.15)
Dem X Aware			0.20	0.19
			(0.17)	(0.15)
Expanded X Aware			0.16	0.12
			(0.15)	(0.15)
Rep X Expanded X Aware			0.18	0.23
			(0.19)	(0.21)
Dem X Expanded X Aware			-0.06	-0.05
			(0.20)	(0.18)
Controls	No	Yes	No	Yes
Sample size	981	960	981	960
R-squared	0.33	0.37	0.34	0.38
Test joint sig. of Expansion X Party effects (p)	0.12	0.29		
Test joint sig. of Expansion X Aware effects (p)			0.05	0.02
Test of equal Expansion X Aware effects (p)			0.45	0.27

Table 4: Testing whether higher support in expansion states varies by partisanship. Standard errors in parentheses, clustered by state. Additional controls include indicators for race and ethnicity, gender, source of health insurance, education, income, employment, and age category. * p<0.05, ** p<0.01, *** p<0.001.

the impact of the expansion with a good deal of error, because what matters is the opinions of partisans who are aware that the expansions have taken place or not. We therefore estimate a regression predicting approval of the ACA as a function of a triple interaction between party, expansion, and awareness of the expansion.

The results of this estimation are reported in columns (3) and (4) of Table 4. Here we see that the $Expanded \times Aware$ interaction – which represents the interaction between

expansion and awareness for independents – is positive and of a similar magnitude to the full-sample interaction presented in Table 3. For Republicans, the $Rep \times Expanded \times Aware$ appears to be larger, by between 0.18 and 0.23 points depending on whether controls are included; for Democrats, the impacts appear roughly equal to the full sample (-0.06 and -0.05).

Given the difficulty in interpreting triple-interactions, we conduct joint tests of coefficients relevant for our potential mechanisms. For instance, while none of the individual $Expansion \times Aware$ interactions are statistically significant, we reject the null hypothesis that all of the $Expansion \times Aware$ interactions – those for independents, Democrats, and Republicans – are jointly equal to zero (p = 0.05 without controls, 0.02 with controls). This suggests that considered jointly, partisans who were aware of the expansion were more likely to approve of the ACA (a result that is driven by the effects among Independents and Republicans).

We also fail to reject the null hypothesis that the $Expansion \times Aware$ interactions are the same for Democrats, Republicans, and independents (p = 0.45 without controls, 0.27 with controls). This suggests that awareness of the expansion conditioned the impact of the expansion the same for all partisan subgroups. In other words, among those who were aware of the expansion, there were not partisan-based differences in reactions.

Together, the results of Tables 3 and 4 suggest that the difference in approval for the ACA between expansion and non-expansion states is primarily located among those who are aware of the policy. While independents may at first also appear to be most impacted, a closer analysis reveals that, within partisan subgroups, awareness also conditions the impact of expansions on ACA support.

The fact that the difference in support for the ACA is concentrated among residents of expansion states who are aware of the policy supports our interpretation of the changes we identify in section 4, but it also highlights the impact of policy complexity of the ACA and the politics surrounding the expansion of Medicaid in the states. The fact that so few were aware of the policy and its connection to the ACA suggests that the political deals required

to implement and integrate the policy into the existing health care environment (see, for example, the account of Brill (2015)), may have sown the seeds of its eventual undoing by fostering a complexity that made it difficult for citizens to trace the policy consequences to an identifiable policy. The politics required to enact the ACA may have limited the scope and magnitude of the policy feedbacks that were possible, creating a policy whose connections to the ACA were unclear for most.

6 Conclusion

Can policy make politics? In this paper, we have subjected this increasingly common claim to empirical scrutiny, leveraging the case of the Affordable Care Act's Medicaid expansions to better estimate causal effects of policy on public opinion. Combining an innovative measurement methodology, a vast data set of over 220,000 responses collected by 175 different polls, a difference in differences design that exploits variation in the law within and across states, and an original survey of knowledge of the ACA's Medicaid expansions, we offer perhaps the most credible test of the hypothesis that policies themselves can impact public opinion.

We find the expansion of Medicaid caused an increase ACA approval that was larger in expansion states than in non-expansion states. Moreover, the evidence suggests those with lower levels of education became more supportive than those with higher education levels. While the results we present are broadly consistent with a policy feedback effect, it is important to place the results in a larger context. An effect of 0.2 on a 100-point scale would appear to fall well short of a substantively meaningful change in ACA support.

Consistent with our interpretation of the effect that we identify represents a policy feedback effect, the national survey we conduct reveals that the difference in approval is concentrated entirely among the 30% of the public who are aware of whether their state expanded Medicaid. The effects we find when we examine the subset of respondents who were actually aware of the expansion of Medicaid in their state are about as third as large as those we

observe for political partisanship overall. Because a necessary condition for a policy feedback to occur is that citizens are aware of the policy, the fact that the approval is only higher among expansion state residents who are aware of their state's expansion provides reassuring evidence that the effects we identify are policy feedback effects. Moreover, differences are only present among aware voters – suggesting that there are not other avenues through which opinions towards the ACA are differentially changing in expansion states.

There are several larger implications that can be drawn from these findings. First, in terms of policy feedbacks more generally, our results suggest that the details of policy implementation may matter greatly for the ability of a policy to generate policy feedbacks. The ACA provided insurance to low-income individuals by encouraging states to expand Medicaid – an encouragement that was made voluntary by the Supreme Court. The resulting patchwork nature of implementation combined with the fact that each expanding state did so by separately branding its expansion – sometimes explicitly denouncing the ACA during the expansion process – produced an environment where it may be especially difficult for citizens to recognize the connections between policies. That said, it seems plausible that the suboptimal implementation from the perspective of maximizing policy feedback may, in fact, have been the best that could be done given the political and economic constraints of the time. In fact, opponents of an active government presences in health care may have sought to make the implementation so fragmented precisely because so doing would limit feedback effects.

Second, in terms of public support for the ACA itself, because the policy is relatively new and most citizens are unaware of its implications and consequences, the effects we identify may underestimate the true longterm impact if the policy is allowed to persist. Our interpretation that the limited policy feedback effects are primarily a consequence of the the decentralized implementation obscuring the connections between policy and outcomes predicts that approval of the ACA should increase as more become aware of the policy and its consequences. The fact that approval for the ACA has increased during the current debate over its repeal and replacement and it recently reached an all-time high (Fingerhut 2017) is

consistent with the importance of awareness for conditioning policy feedback.

Our results provide some optimism for those who believe that policies can, in fact, impact opinion and for those who support the expansion of Medicaid as was provided for by the ACA. Our aggregate estimates are substantively small – never exceeding a single percentage point, but our individual-level estimates suggest we may be capturing the beginnings of a longer-term, more substantial shift in opinion that will depend crucially on public awareness of the policy. Moreover, the expansion of the ACA represents a particularly hard case for policy feedback given the nature of its implementation and also the strident partisan divisions that have persisted over the desirability of the law. For these reasons, the fact that we find any effect on public opinion at all is impressive.

Future work should explore longer term impacts, as well as attempt to better differentiate between changes in support among beneficiaries versus the general population. In our estimates, we find that changes in support are slightly, but not significantly greater among those without a college education. While we can identify whether the ACA produced a change in opinion and we can provide some evidence that suggests why the impacts are relatively limited, our ability to probe the exact mechanisms of opinion change are limited by the available data. The limited increase in support among likely non-beneficiaries is more surprising, and it suggests the need to explore a relatively neglected aspect of the policy feedbacks hypothesis, namely the possibility of spillover effects and the ability of policies to change the minds of entire polities rather than just direct beneficiaries (Soss and Schram 2007; Campbell 2012).

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