# Oversight From Below and Above: Individual and Institutional Legislative Influence on Agencies

#### Abstract

Legislatures influence executive agencies through oversight. Most studies have examined this influence by demonstrating the effect of institution-level preferences on agency actions. We take a new and different approach by investigating whether agencies are sensitive to the preferences of individual legislators. We do so while also accounting for institution-level preferences. In addition, we assess the extent to which the effect of individual legislators depends on features of the legislature as an institution – namely, party control of the legislature and the legislature's institutional capacity – shape individual influence. We investigate these relationships in the context of state agencies' annual nursing home inspections. Negative binomial models for the number of citations issued during an inspection provide evidence of the effects of individual (and institutional) preferences. Our results also show that the influence of individual legislators is partially contingent on whether they serve in the majority and on the capacity of the legislature.

#### Introduction

Given the broad array of policies and issues that legislatures address, they cannot design the precise details of every policy. As a result, they delegate to government agencies. Delegation, however, produces a well-known conundrum: legislatures need to enlist the support of expert agencies in formulating and implementing policies, but once legislatures delegate, agencies may take actions that differ from the legislature's preferences and intentions. If this happens, delegation can run afoul of democratic theory by attenuating the link that runs from citizens through elected officials to policy outcomes — unless legislatures and legislators can influence agency actions after delegating power to them.

In this paper, we examine legislative influence over agency actions by distinguishing between two distinct pathways of influence. The first path – and the primary focus of our paper – stems from oversight by *individual* legislators. Influence along this path can occur when an individual legislator intervenes or signals a willingness to intervene with an agency, perhaps due to policy preferences or on behalf of a constituent or donor. Legislators can make life difficult for an agency, so bureaucrats may find it in their interest to avoid taking actions that they suspect will be inconsistent with a legislator's preferences and that might trigger more formal actions or attention related to oversight.

The second path, which has been the focus of the vast majority of previous analyses of legislative oversight, is *institutional*. This type of influence stems from the legislature as a collective institution or from its constituent parts, like committees or parties. Such oversight can help ensure that agencies take actions that are aligned with the legislature's collective preferences, with bureaucrats attempting to make sure that their actions are consistent with the legislature's preferences as whole.

To examine the effect of individual and institutional influence, we focus on the regulation of nursing homes in the United States. This policy area is especially well suited for examining legislative influence because state agencies inspect nursing homes and have significant discretion in enforcing federal nursing home guidelines. In addition, because nursing facilities are located within legislative districts, individual legislators who represent those districts may care particularly about these local facilities and may exert pressure on agencies to be either stricter or more lenient during inspections. Furthermore, the state legislature has a collective interest in regulatory outcomes across the nursing home industry. Hence, we examine whether these agencies issue more citations for violations for facilities in state legislative districts represented by more liberal legislators and in states with more liberal legislatures.<sup>1</sup>

Our paper makes five contributions. First, we add to the small set of recent studies that have begun to explore the effect of individual legislators on government agencies.<sup>2</sup> We do so in a new way by investigating whether agencies anticipate reactions from individual local legislators and preempt oversight activity by acting in ways that are consistent with the preferences of these legislators. Second, and unlike most previous research, we assess this potential individual influence while also evaluating the effect of the institutional legislature. Third, we offer another novel contribution by analyzing whether the influence of individual legislators is contingent on their alignment with their legislative chamber – in particular, whether they are a member of the

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<sup>&</sup>lt;sup>1</sup> As we will discuss, we maintain that liberal legislators prefer more stringent regulation, and make this preference known to agencies.

<sup>&</sup>lt;sup>2</sup> This differs from existing studies, which, as we will discuss, mostly examine the effects of specific actions by legislators.

majority party or the minority party. Fourth, we examine whether individual influence is mediated by the legislature's capacity. Last, our analysis provides insight into why regulatory oversight of the multi-billion-dollar nursing home industry varies across U.S. states.

The paper proceeds as follows. We begin by briefly discussing previous research on legislative influence over agencies. Next, we develop a theoretical foundation that produces our expectations about individual and institutional influence on agency actions. After we describe in more detail why the policy area of nursing home care – in particular, the inspection of nursing homes – provides a useful forum for testing our theoretical predictions, we conduct several tests of political influence. Finally, we examine the robustness of our results and conclude with suggestions for further research.

#### **Previous Research**

Numerous studies have examined whether elected politicians use oversight to influence the ongoing actions of agencies.<sup>3</sup> Although early research decried a lack of congressional oversight,

<sup>&</sup>lt;sup>3</sup> The literature on political influence is vast, so here we provide only a brief overview of research in this area. In addition to studies of contemporaneous or ex post oversight, there is also an extensive literature on how legislatures can exert influence before agencies act, or ex ante. See, among many others, McCubbins, Noll, and Weingast (1989); Bawn (1997); Epstein and O'Halloran (1999); Huber and Shipan (2002); Wiseman (2009); VanSickle-Ward (2014); and Gailmard and Patty (2012). McGrath (2013a, 2013b) explores the subtle interactions between ex ante and ex post influence. For general overviews, see Huber and Shipan (2009), Moe (2012), and Brierly et al. (2023). For a specific focus on state agencies, see Krause and Woods (2014).

noting that legislatures rarely paid close attention to agencies (e.g., Scher 1963; Ogul 1976), scholars soon pointed out that this lack of congressional action did not necessarily imply a lack of influence. This revisionist view argued that Congress could rely on more passive forms of control, waiting, for example, for "fire alarms" to be pulled to notify them of potentially objectionable agency actions (McCubbins and Schwartz 1984). Furthermore, a lack of visible oversight activity does not necessarily imply abdication, since a lack of activity would be equally consistent with an agency doing exactly what the legislature wants and a legislature paying no attention to the agency (Weingast and Moran 1983).

These initial studies generated an explosion of scholarly attention to the relationship between legislative preferences and agency actions. Some of these ensuing studies were primarily theoretical (e.g., Calvert, McCubbins, and Weingast 1989; Ferejohn and Shipan 1990, Gailmard 2009); others were mainly empirical (e.g., Moe 1982; Wood 1990; MacDonald and McGrath 2016); and others contained a mix of theory and empirics (e.g., Ferejohn 1974; Moe 1985; Scholz and Wei 1986; Whitford 2002; MacDonald 2010; Acs 2019). But taken together, they demonstrated the connection between politicians' preferences and agency actions, often while highlighting the institutional features of legislatures, such as committees (e.g., Weingast and Moran 1983; Shipan 2004) or parties (e.g., Kiewiet and McCubbins 1991), that can facilitate this influence.

A smaller set of studies has examined contemporaneous influence at the state level, taking advantage of the institutional variation that states exhibit.<sup>4</sup> Although not all studies at the

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<sup>&</sup>lt;sup>4</sup> Studies of the relationship between state-level legislatures and agencies also often examine ex ante influence. See, among others, Potoski 1999, Poggione and Reenock 2004, and Woods 2018.

state level have found that agency actions are responsive to political preferences (e.g., Scholz 1991), most have. For example, Teske (1990), Wood (1992), Ka and Teske (2002), and Konisky and Reenock (2013) find that Democratic legislatures are associated with agencies taking more pro-active stances toward regulation, including enforcement activities. In the area of policing, Cook and Fortunato (2023) demonstrate that state legislatures influence both state- and local-level agencies. Lillvis and McGrath (2017) show that state medical boards are sensitive to the preferences of the state legislature. Boehmke and Shipan (2015) reach similar conclusions in the context of nursing home oversight, demonstrating that agencies in states with Democratic legislatures are likely to enforce regulations on nursing homes more aggressively than agencies in states with Republican legislatures, mirroring earlier findings by Kelly, Liebig, and Edwards (2008) and Harrington, Mullan, and Carillo (2004).

Overall, then, much research has demonstrated that both national and state agencies are responsive to legislative preferences. All of these aforementioned studies, however, focus on the effects that legislatures as an *institution* – either the legislature as a whole, or components of the legislature, such as committees or parties – have on government agencies. But none systematically examines a separate pathway by which legislative influence occurs – namely, that individual legislators can, and do, contact and pressure agencies.<sup>6</sup>

<sup>&</sup>lt;sup>5</sup> See Gerber and Teske (2000) for a useful overview.

<sup>&</sup>lt;sup>6</sup> Of course, scholars have long recognized that agencies are likely to be more responsive to legislators who hold positions of power (e.g., Ferejohn 1974). What is distinctive in our investigation is that we assess the influence of individual legislators more broadly, rather than focusing on the handful of individuals in positions of institutional power.

Some insightful studies recently have begun to fill this gap by bringing individual legislators into the study of the relationship between legislatures and agencies. A few of these studies are directly relevant for our analysis, as they examine whether individual-level oversight affects agency actions. First, Mills, Kalaf-Hughes, and MacDonald (2016) find little evidence that letters individual members send to agencies affect the actions of the agency. Ritchie and You (2019) examine both whether legislators engage in individualized oversight as a way of representing their constituents and also whether an agency is responsive to such overtures. They find strong evidence that when members of Congress contact agencies in support of their constituents, the agency is more likely to take actions on behalf of those constituents. Most recently, Ritchie (2023) uses internal agency documents to show that agencies act strategically by being especially responsive to members of Congress who are in positions of power.

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<sup>&</sup>lt;sup>7</sup> Several other recent studies have investigated when and why legislators choose to make individual contact with agencies (see Lowande 2018, Ritchie 2018, Lowande, Ritchie, and Lauterbach 2019, and Ritchie 2023).

<sup>&</sup>lt;sup>8</sup> The specific context in which they examine this relationship concerns letters that members of Congress sent to the Federal Aviation Administration in attempts to convince the agency not to close local air traffic control towers.

<sup>&</sup>lt;sup>9</sup> More specifically, they look at the Department of Labor's Trade Adjustment Assistance program, which "assists US workers who have lost, or may lose, their jobs as a result of foreign trade" (Ritchie and You 2019, 67). They find that between 2007 and 2012 the agency was more likely to grant assistance when a legislator had been in communication about the specific case.

These recent studies have opened a promising new door for the study of legislative influence on agencies. However, these investigations of agency responsiveness to individual legislators tend to focus on very specific agency decisions rather than broader agency activity. Similarly, they look at the effects of specific legislator actions, rather than examining whether agencies are responsive to legislators' preferences more generally. As discussed above, they also reach opposing conclusions about whether individual legislative contacts affect agencies. And understandably, given their explanatory concerns and data limitations, they devote little attention to the potential effect of the collective legislature as an institution. Given the nature of our data, which we describe in more detail below, we fill the gap left by these earlier studies by examining individual effects on broader agency actions, but doing so while accounting for the broader institutional context.

# **Theoretical Foundations**

As our brief review of the literature has established, theoretical and empirical accounts demonstrate that legislatures can, and do, influence agencies. Furthermore, this influence can come from legislative individuals as well as legislative institutions. In this section, we explore both types of influence with the goal of producing testable theoretical expectations. We begin with the influence of individual legislators.

<sup>&</sup>lt;sup>10</sup> Like Ferejohn (1974), Ritchie and You (2019) investigate whether individuals with institutional power – namely, House and Senate leaders – as well as congressional institutions in the form of relevant oversight committees, affect the agency's decisions. They find little effect. Ritchie (2023), on the other hand, finds evidence in favor of this proposition.

## Individual Influence

Individual legislators want to oversee and influence agencies for several reasons. To begin with, legislators have policy preferences, and oversight allows them to learn what actions the agencies have already taken or are in the process of taking. Legislators do this with the goal of detecting agency policy choices or actions that run counter to their preferences. In addition, a legislator can use individualized contacts to directly inform agencies about their policy preferences, with the goal of getting the agency to take specific actions.

Individual legislators also can act on behalf of others – firms, groups, constituents – who are affected by agency actions and who cannot easily influence the agency directly. This type of behavior is consistent with the logic of lobbying as legislative subsidy (Hall and Deardorff 2006), whereby organized interests make contributions to sympathetic legislators in order to encourage them to work on their behalf. In this context, that means individual legislators can undertake activities targeted at the bureaucracy – making a statement on the chamber floor, writing a letter to the agency, participating in hearings related to the agency – on behalf of the contributor. In response, the agency may adjust its actions to be in accordance with the legislator's and contributor's preferences.<sup>11</sup>

Considerable evidence indicates that legislators take up the causes of businesses and constituents with agencies. Regulated entities ask legislators to intervene with agencies on their behalf (Godwin, Ainsworth, and Godwin 2012), legislators intervene on behalf of their

<sup>&</sup>lt;sup>11</sup> For example, bureaucrats might shift their policy choices to avoid potentially costly escalations from donors who disagree with their actions.

supporters (Hall and Miler 2008), and oversight outcomes differ based on contributions made (de Figueiredo and Edwards 2007; Gordon and Hafer 2005) – including in the nursing home industry (Boehmke 2018). Federal reviews of nursing home oversight implementation by the states provide anecdotal evidence as well, with some state surveyors reporting that they feel pressured to go easy on certain facilities by state legislators acting on behalf of nursing home administrators (Grassley 2004).

Just as legislators have incentives to contact and influence agencies, those agencies have incentives to pay attention to the preferences of individual legislators. To begin with, if agencies are unresponsive to an individual legislator's entreaties, the legislator has the option of taking what initially is a private correspondence and making it a public issue, thereby drawing unwanted attention to what the agency is doing. Relatedly, a legislator can call for hearings or investigations, or can initiate legislation. As Ritchie and You (2019) emphasize, because agencies want to protect their autonomy and their priorities, they will seek to avoid angering members of Congress.

Given individual legislators' incentives to engage with agencies, as well as agencies' own incentives to be responsive to legislative preferences, we expect that agencies will be responsive to the preferences of individual legislators. In the context of nursing home regulation, agencies will be especially responsive to the preferences of the state legislator who serves in the district where a nursing home is located. State legislators are not equally invested in the inspections of each of the hundreds of nursing facilities in a state. Rather, they will be much more attentive to facilities in their districts, and depending on their ideological leanings, will be in favor of either stricter or more lenient regulation of nursing homes – and more generally of any businesses – that are located within their own district.

Furthermore, our expectation is that agencies will anticipate the reaction of these legislators and will modify their actions regarding the nursing homes in the legislator's district. If the legislator is more liberal and therefore prefers the agency to be more pro-regulation, the agency will take a more aggressive stance when inspecting a nursing home in that legislator's district. Conversely, the agency will back off and be less aggressive when the legislator in the nursing home's district is more conservative and therefore less pro-regulation. Based on these theoretical arguments, we expect that as the ideology of the legislator representing the district becomes more liberal, inspections will reveal more violations (referred to as *deficiencies*).

## Institutional Influence

In addition to being responsive to individual legislators, agencies also have an incentive to be responsive to the legislature as an institution. The full chamber has multiple tools it can use to bring a recalcitrant agency back in line, such as holding hearings, creating select committees to conduct investigations, refusing to confirm appointees, and more. Two legislative tools stand out. First, agencies worry about having their funding cut and prefer to maintain, or if possible increase, their overall budgets. Second, a legislature's ultimate power over agencies is the ability to pass legislation affecting the agency – for example, to reduce the agency's jurisdiction or even to dictate exactly which specific policies the agency must create and implement. Agencies strongly prefer to avoid a situation in which the legislature takes any of these actions, so they will anticipate potential reactions.

Consequently, we expect to find that when a legislative chamber is more liberal (and thus more pro-regulation), the agency will be more activist. If, on the other hand, the chamber is more conservative, then the agency will take a more pro-business approach that favors more lenient

regulation.<sup>12</sup> Testing for the effect of the full chamber provides two insights into legislative influence. Most basically, it adds to the general literature about the influence of legislatures on agencies, focusing on the relatively understudied state level. More importantly, however, and unlike any previous study, we can test for the influence of individual legislators while also accounting for the effect of the collective institution.

## *Individuals and the Mediating Effect of Institutions*

In addition to assessing the effect of individual legislators while accounting for collective legislative influence, we also conduct a more nuanced test of the effect of individual legislators. As noted, we expect the ideology of individual legislators to matter, with agencies regulating nursing homes more strictly in districts where the legislator is liberal and more leniently in districts where the legislator is conservative. However, individual legislators do not operate in a vacuum. Instead, the effect of these legislators takes place in the context of, and thus may be contingent on, the legislature as an institution. More specifically, the influence of an individual legislator may be conditional on whether she is a member of the majority or minority party.

Consider a liberal legislator who is a member of the Democratic party. This legislator wants the state agency to be more proactive in regulating nursing homes in her district than would a legislator who is conservative and Republican. As we have discussed, agencies have

<sup>&</sup>lt;sup>12</sup> We abstract away from a number of other issues that scholars have studied at the legislature level, including the roles of committees, parties, and legislative professionalism. We do so in order to facilitate our study of individual legislators and whether the influence of these legislators is conditional on institutional factors.

reason to be responsive to this legislator's preference, which is for stricter enforcement of regulations. Now consider two different scenarios for this legislator. In the first, the legislature is under Democratic control, so our hypothetical legislator is a member of the majority. This status means that the legislator's potential tactics for influencing the agency will be supported by the party – hearings are more likely, a bill that the legislator introduces has a greater probability of moving forward through the legislative process, the legislator's ability to initiate and carry out an investigation will be enhanced. In effect, a liberal legislator's potential threats to the agency are credible when Democrats control the legislature.

In the second scenario, the legislature is controlled by Republicans, so the legislator is in the minority party. Now the agency will perceive that any potential threats from the individual legislator are likely to be muted or derailed by the chamber. For example, bills this legislator introduces are unlikely to go anywhere, promises to increase the budget will fall on deaf ears, and attempts to conduct hearings or initiate investigations will be met with immediate opposition. A similar dynamic should occur for a conservative legislator in a Democratic-controlled chamber. In both cases – a liberal legislator in a Republican-controlled chamber or a conservative legislator in a Democratic-controlled chamber – we expect the influence of individual legislators to be mediated by their party affiliation, relative to party control of the institution. More specifically, if they are members of the minority party, we expect that their influence will be diminished.

## Legislative Capacity

State legislatures vary markedly in their capacity to conduct oversight (e.g., McGrath 2013b). We contend that the effects of individual and institutional preferences on agency actions will be

conditioned by this capacity. At the institutional level, legislatures with more capacity typically have more staff to assist them, spend more time in session, and offer greater pay to recruit higher-quality individuals who then can devote themselves full time to their legislative responsibilities (Squire 1992). More directly relevant for our argument, increases in capacity facilitate greater legislative oversight (Fortunato and Parinandi 2023), as legislatures with higher levels of capacity can hold more hearings, write more bills, and spend more time monitoring agency or facility behavior. When agencies know that their actions will receive greater scrutiny, they will pay greater heed to the preferences of their principals. Legislative capacity will therefore enhance the influence of a legislature's preferences on agency outcomes. Prior research provides initial evidence of this effect in the nursing home industry, with increased capacity widening the gap between the number of deficiencies reported in states with Democratic-controlled and Republican-controlled legislatures (Boehmke and Shipan 2015).

In addition to examining this prediction about the relationship between capacity and institutional influence, we are especially interested in examining another potential effect of capacity, one that has received little attention from scholars: the effect of institutional capacity on the ability of individual legislators to effectuate their own preferences. Greater capacity provides more resources that individual legislators can draw upon to pursue their preferences and influence agencies, which could lead to a strengthening of the individual effect just as it does for the aggregate effect.

Further consideration, however, suggests that the preference-enhancing effects of capacity at both the institutional and individual levels may be at odds. If individual legislators' preferences matter beyond institutional preferences, then they must reflect a deviation from institutional preferences. But recall that capacity can be used by the institution to oversee and

monitor agencies, which means that institutions can draw upon it to deter or counteract attempts by individual legislators to influence administrators. Although increased capacity might enhance the ability of individual legislators to effectuate their preferences in a vacuum, in the broader institutional context it also allows the legislature as a whole to better thwart those attempts. We expect the institutional effect to override the potential individual effect.

Based on this reasoning, higher levels of institutional capacity should reduce the influence of individual legislators from both the minority and the majority parties. Beginning with members of the minority, a conservative legislator in a Democratic state legislature may have some success in persuading inspectors or administrators to write up fewer deficiencies for a facility if that legislature has low capacity. But if this Democratic legislature has high capacity, then the individual legislator will be less successful at influencing enforcement since the institution is more likely to detect and prevent such subversion of its control. Similarly, a liberal legislator faced with a Republican-controlled legislature will be more able to push agencies to be proactive in their district if the legislature has low capacity than if it has high capacity.

For members of the majority party, greater institutional capacity will reduce individual influence for two reasons. First, if the individual member has the same preferences regarding the level of oversight as the party, there will be less need for agencies to pay attention to an individual member when they are receiving the same signal from the more powerful institution. Second, to the extent that an individual from the majority party prefers different levels of regulatory enforcement, the institution can use its capacity to observe individual legislators' actions and reduce their influence.

Of course, as mentioned above, greater capacity might provide individuals with more resources to pursue their preferences, and also might shift the incentive structure, leading

legislators to place a higher priority on serving constituents (Harden 2013). We find these counterarguments less applicable here than our prediction that the increase in institutional control that results from greater capacity will diminish the influence of individual legislators who are members of the minority party. Furthermore, our predicted effect may be especially likely to occur in the context of nursing home inspections. The average legislator has five inspections conducted in their district per year, and not all of these may provide a meaningful opportunity for intervention. Further, such interventions are not especially technical, so representatives with low capacity should still be able to seek influence. On balance, therefore, we predict the opposite effect of capacity at the legislator level than at the institutional level: increased capacity will weaken individual legislators' ability to implement their own preferences. <sup>13</sup>

# **Political Influence on Nursing Home Oversight in the States**

To examine individual and institutional influence on agencies, we follow in the path of prior research that utilizes the outcomes of annual agency inspections of nursing home (e.g., Ruffini 2022; Loomer et al. 2022; Bui et al. 2020). The nursing home industry exhibits two features that make it an excellent forum for comparing legislative influence across states. First, the overarching regulations and procedures governing nursing home inspections come from the federal government through its role in Medicaid and Medicare funding. Second, despite the federal role in structuring oversight of nursing homes, the inspections are contracted out to the

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<sup>&</sup>lt;sup>13</sup> Empirical evidence from Boehmke (2018) aligns with this prediction. He finds that nursing home contributions to legislators reduce deficiencies, but only in states with lower legislative capacity.

states. This federalist structure means that while the process and criteria are similar across states, there is ample room for political influence over how state agencies implement and enforce regulations.

The inspection system for facilities accepting Medicare or Medicaid funds was put in place by the federal government under the Omnibus Budget Reconciliation Act of 1987 (Public Law 100-203) with the details put in place by the Centers for Medicare and Medicaid Services (CMS, formerly the Health Care Financing Administration). These regulations call for on-site, multi-day inspections by a team of state surveyors to be performed roughly every year (Harrington, Mullin, and Carillo 2004). Inspectors evaluate more than one hundred separate items, noting a deficiency when an item is not met. Deficiencies are rated according to their severity and scope for harm. These two items combine to determine the level of the deficiency on a scale from A (lowest) to L (highest). As the number of total or severe (G-level or above) deficiencies increases, facilities may be subject to penalties, including denials of payment for new admissions, civil and monetary penalties (CMPs), or even closure (Harrington, Mullin, and Carillo 2004).

Prior research finds that inspections are highly variable across states and that political differences help explain some of the variation in inspection outcomes and enforcement (e.g., Bowblis 2011; GAO 2005; Harrington and Carillo 1999; Harrington, Mullin, and Carillo 2004; Walshe and Harrington 2002). Two studies are especially relevant for our purposes. First,

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<sup>&</sup>lt;sup>14</sup> In addition to explaining differences in inspection outcomes, studies have explored related differences in funding and staffing. States receive some funding from the federal government for implementing regulations, then supplement this with additional funding themselves as needed.

Boehmke and Shipan (2015) find that facilities receive fewer deficiencies, on average, as the proportion of Republicans in the legislature increases. This result is consistent with our institutional influence argument and supports our supposition that conservative legislators prefer less stringent oversight. Second, Boehmke (2018) finds that facilities that make campaign contributions to state elected officials also receive fewer deficiencies on their inspections. This finding comports in general with our expectations regarding influence by individual legislators.

Evidence from those involved in the survey process reinforces these findings and illustrates some of the factors that might lead surveyors to reduce deficiencies, whether due to explicit pressure or in anticipation of challenges to their actions. Forty percent of respondents from a survey of state inspection agencies reported that state legislators or high-level administrators discouraged their efforts at oversight (Walshe and Harrington 2002). Such practices also might reflect a general climate or perception that citations should be underreported. For example, one respondent to a survey of nursing home surveyors by the federal Government Accountability Office noted that pressure can come directly from higher-level administrators in the relevant agency: "[m]y supervisor states that citing too many deficiencies [...] creates a 'hostile' environment" (GAO 2009, p. 36). In addition, the same

However, the proportion of state to federal funding for implementation varies widely (Walshe and Harrington 2002). In some states, a majority of the funding for implementation comes from the state, as in California (64.2%). In other states, the state supplement is only a small percentage of the state's implementation budget, as in Montana (12.2%). Similarly, the number of nursing home inspectors in a state varies widely relative to the number of beds or facilities in the state (Walshe and Harrington 2002).

survey found twenty percent of respondents indicated that their state had a form of non-citation practice, which involved not writing citations for certain violations, avoiding citations at too high a level, or allowing facilities to make corrections without recording the citation (GAO 2009).

Legislators also directly pressure surveyors to reduce citations. A 2004 letter from Senator Charles Grassley gives an example in which "the nursing home owner's friend, who served in a state legislature, called requesting that the facility continue with 'business as usual' and not be bothered by further review" (Grassley 2004, p. 4). Respondents to the 2009 GAO survey noted that legislators had "pressured the agency on behalf of nursing homes [...] to get citations reduced" (GAO 2009, p. 41) or asked for the "deletion or downgrading of deficiencies" (GAO 2009, p. 41). Some legislators even went as far as to be on-site in the nursing home when surveyors arrived "to question surveyors about their work and whether state agency executives were coercing them to find deficiencies" (GAO 2009, p. 42).

## Data on Nursing Home Inspections and Political Preferences for Oversight

We measure the stringency of state oversight of skilled nursing facilities using data collected by the teams of state surveyors that inspect nursing homes every nine to 15 months. The results from these inspections include a listing of citations for any of the roughly two hundred items reviewed, along with the scope and severity of these citations, as well as other information about the facility, including its staffing ownership, and occupancy. These data are collected and submitted to CMS, which publishes the results through its Certification and Survey Provider Enhanced Reporting (CASPER) system, which replaced the Online Survey, Certification, and

Reporting (OSCAR) database in 2012.<sup>15</sup> We use data collected from both systems and combine it into one database.<sup>16</sup>

We use a count of the number of deficiencies cited on each survey as our outcome variable, consistent with many previous studies (Aka, Deason, and Hammond 2011; Boehmke and Shipan 2015; Harrington and Carillo 1999; Harrington, Mullin, and Carillo 2004; Walshe and Harrington 2002). This approach gives us observations at the facility-inspection level with information on the results of 216,331 regular surveys conducted at 17,913 different facilities from 1999 to 2017.<sup>17</sup> During this time, facilities averaged 6.85 deficiencies per regular inspection, ranging from 3.3 in Rhode Island to 11.1 in Delaware.

Our main predictions about the political causes of variation in deficiencies revolve around the influence of legislative preferences, both individual and institutional. Thus, we need to measure these preferences during the year in which a survey takes place. To do so, we draw on

<sup>&</sup>lt;sup>15</sup> Only facilities that accept Medicare or Medicaid are subject to inspection and reporting, but almost all skilled nursing facilities fall into this category (Walshe and Harrington 2002).

The Nursing Home Compare data is available at <a href="https://data.cms.gov/provider-data/archived-data/nursing-homes/">https://data.cms.gov/provider-data/archived-data/nursing-homes/</a>. It includes data back to 2016 and links to archives of older data. Data from 2012 is not quite as detailed as for other years due to the transition between the OSCAR and CASPER databases, but does include the information required for our analysis. We downloaded data over time from the relevant sites, including in 2006, 2008, 2010, 2012, and 2017.

<sup>&</sup>lt;sup>17</sup> The inspection data downloaded in 2006 typically included the last three regular surveys, which would have been conducted at 12- or 18-month intervals. Therefore, a handful of surveys in the data took place prior to 2002.

Shor and McCarty's (2011) state-level legislative ideology scores, which have higher values for conservative ideologies and lower values for liberal ideologies. We capture the legislative institution's ideology with the median ideology of the lower chamber. For individual ideology, we use the ideology of the representatives for the upper and lower chamber districts in which the facility is located. In districts with multiple representatives in a given year – whether due to change in the officeholder or the presence of multi-member districts, we use the average value across all members included in the data for that year. Note that individual legislator ideology is constant over a member's time in office, but the chamber median varies as the composition of the chamber changes.

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https://dataverse.harvard.edu/dataverse/bshor.

<sup>&</sup>lt;sup>18</sup> We focus on just the lower chamber for both substantive and practical reasons. With respect to the former, including both lower and upper chamber median ideologies leads to high levels of collinearity, with a correlation of 0.87 between the two. In terms of substance, lower chambers tend to be more involved in oversight, play the lead role in setting agency budgets, are larger, and are usually elected more frequently and at the same time (Squire and Hamm 2005). Alternate versions of our models that include just upper chamber median ideology or that use both chambers produce results that parallel those we report (i.e., that individual and institutional ideology have the predicted effects).

<sup>&</sup>lt;sup>19</sup> We use the June 2020 version of the chamber ideology and the July 2020 release of the individual legislator ideal points, downloaded from

<sup>&</sup>lt;sup>20</sup> Restricting the analysis to cases with just one member or to states with single-member districts does not affect the results.

We combined the individual legislator estimates with our nursing home data by using the nursing home's address from the inspections data to geolocate each facility and then merging the geolocated coordinates with shape files for state legislative districts.<sup>21</sup> We created a crosswalk file to match the district identifiers in these shapefiles with the district identifiers in the Shor and McCarty data to identify the representatives for as many facilities as possible. Our overall success rate was quite high, with over 93% of nursing home-inspection observations matched with both upper and lower chamber entries in the Shor and McCarty legislator ideology data.<sup>22</sup>

To assess our predictions about the conditioning effect of being in the minority on an individual legislator's influence, we capture whether the representative's party has majority

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<sup>&</sup>lt;sup>21</sup> We use the Tigerline shapefiles, which are available from <a href="https://www.census.gov/cgi-bin/geo/shapefiles/index.php">https://www.census.gov/cgi-bin/geo/shapefiles/index.php</a>. We used ArcGIS to perform our geolocation and merge with the district shapefiles. The output includes a variable measuring the accuracy of the merge. About 91% of our cases had the highest accuracy. Excluding cases with lower accuracy does not affect our results.

<sup>&</sup>lt;sup>22</sup> This excludes Nebraska, which has no entries in the legislator data. A few states had poor results for matching. For example, we had no matches for Vermont and less than forty percent for Hawaii, Kentucky, Massachusetts, Nevada, and New Hampshire. These states typically have multi-member districts or wildly different district naming conventions in the TIGER shape files and the Shor-McCarty data. When we drop low-matching states, our results are nearly identical.

control in her chamber.<sup>23</sup> This results in one variable for the upper chamber representative and one for the lower chamber representative. In cases with more than one representative in a given year, we require that all members be members of the majority party in their chamber. We interact this variable with the local legislator's ideology to test whether majority party membership alters the effect of individual ideology.

To investigate our argument that legislative capacity increases the effects of institutional preferences but decreases the effect of individual preferences, we consider two different measures of legislative professionalism from Squire (2007, 2017) and Bowen and Greene (2014).<sup>24</sup> We report results for both measures for two reasons. First, both have gaps that we must fill in via linear interpolation or extrapolation. Second, as we discuss below, the results for collective institutional preferences differ substantially depending on which we use.

In addition to these theoretical variables, we also include a set of facility-specific measures that are commonly used to model variation in the number of cited deficiencies (Aka, Deason, and Hammond 2011; Boehmke and Shipan 2015; Grabowski and Castle 2004; Harrington et al. 2000; Walshe and Harrington 2002). These factors include the size of the

<sup>&</sup>lt;sup>23</sup> Data through 2011 from Klarner's website (https://www.klarnerpolitics.org/datasets-1). We use the October 18, 2012 version, extending it through 2019 with data we collected from the Book of States (Table 3.3).

<sup>&</sup>lt;sup>24</sup> Squire creates an index based on salary, days in session, and staff per member relative to the US Congress. Bowen and Greene create a two-dimensional scale based on expenditures, compensation, and session length. We use their first dimension, which captures all three of these components.

facility, measured by the number of beds and the proportion of those beds that are occupied<sup>25</sup>; its staffing, measured by the number of registered nurse hours worked per day per resident; ownership characteristics, specifically whether it is for-profit, nonprofit, or government-owned (the omitted category); whether it is located within a hospital; whether it accepts Medicare, Medicaid, or both (the omitted category); and whether there is a resident council, a family council, or both (with neither as the omitted category). These variables are reported with the annual surveys in the CASPER data since 2012 but only at one point in time for the prior three years' worth of survey results in the OSCAR system. During this earlier period, we treat our facility-level independent variable as constant over the three-year survey period. We also include one additional political variable: gubernatorial preferences. The political party of the governor has been shown to affect the level of regulation (e.g., Wood 1992), so to capture this effect we create an indicator variable equal to one if the governor is a Republican and zero if he or she is either independent or a Democrat.<sup>26</sup> We report descriptive statistics for all variables included in the analysis in Table 1.

## [Table 1 about here.]

Finally, we include state and year fixed effects (coefficients not reported). State fixed effects will capture constant differences in enforcement zeal, additional regulatory requirements,

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<sup>&</sup>lt;sup>25</sup> We excluded a small number of outliers (81 cases) for which the proportion of beds occupied exceeded 150%. A few cases were listed at over 400%, which appeared to result from errors in the data (e.g., a facility's beds changing suddenly for one year).

<sup>&</sup>lt;sup>26</sup> Data on gubernatorial party is taken from Klarner (see previous footnote) prior to 2012 and from data we collected from the Book of States (Table 4.1) for 2012 and after.

and other characteristics across states, including the previously discussed time-invariant measures of nursing home oversight stringency. Year fixed effects account for factors that are outside our area of theoretical interest but that might vary over time and affect regulation in this area (e.g., national level factors like party control of Congress or the presidency). Since the dependent variable represents a count of the number of deficiencies reported in a survey and many surveys have no or few deficiencies, we estimate a negative binomial regression model. In addition, we include random effects at the facility level.<sup>27</sup>

#### **Results**

Table 2 reports the results of our analyses. Before focusing on the preference, partisan, and capacity variables at the core of our theoretical argument, we first note that the results for the nursing-home specific variables comport with prior research. We find more deficiencies in facilities that have a greater number of beds. Conversely, nursing homes that have a greater percentage of beds occupied and a higher number of registered nurse hours worked per resident receive fewer deficiencies. Facilities that accept just Medicaid or just Medicare patients (accepting both constitutes the omitted category) also have fewer deficiencies, as do non-profit and government-owned facilities and those with a family council.

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<sup>&</sup>lt;sup>27</sup> We estimated the reported models using *membreg* in Stata 18.0, which corresponds to a negative binomial with random effects in the rate (expected count) equation. See Table SI.1 in the Supplementary Information for an exponentiated version of the results in which the coefficients express percentage changes in the dependent variable given a one unit increase in the given independent variable.

## [Table 2 about here.]

In terms of our theoretical variables, we find consistent and broad support for the effect of legislative preferences on inspection results, at both the individual and institutional levels. The first model of Table 2 includes just the ideology of individual legislators (in both upper and lower chambers) and finds negative and significant effects, matching our expectations. Recall that higher scores correspond to a more conservative ideology. Hence, the negative coefficient for individual ideology in the first model indicates that facilities in districts represented by more conservative legislators receive fewer deficiencies. <sup>28</sup>

In the second model of Table 2 we add institutional legislative preferences, captured by lower chamber ideology.<sup>29</sup> The results show that these institutional preferences have a negative and significant effect on deficiencies. Furthermore, our findings for individual preferences

(see <a href="https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes/">https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes/</a> for details) – by zip code to measure whether the nursing home is in an urban or rural area. As expected, urban facilities do have more deficiencies. While the effect of individual legislators becomes insignificant in Model 1 change when we account for this, the effect remains in Models 2 and 3.

29 We also include gubernatorial party. Surprisingly, the coefficient for this variable indicates that Republican governors are associated with more deficiencies. Although this is beyond the

scope of our study, it merits further exploration in future studies.

<sup>&</sup>lt;sup>28</sup> Because urban facilities might be expected to have more deficiencies, and because liberal legislators are more likely to represent urban areas, we ran alternate models that incorporated RUCA (Rural-Urban Commuting Area) codes – which "classify U.S. census tracts using measures of population density, urbanization, and daily commuting"

persist, with the coefficients and standard errors changing little once we include institutional preferences.<sup>30</sup> Thus, the first two models demonstrate strong and consistent support for our predictions about the influence of both individual and institutional preferences on agency actions.<sup>31</sup>

In order to evaluate the substantive influence of these variables, we calculate a series of predicted counts varying the features of legislators at the individual and institutional levels. For comparability between these levels, we draw on the results from the second model in Table 2. We begin by setting all variables to representative values (full details in the figure) and then sequentially vary institutional, lower chamber, and upper chamber ideology from decidedly liberal to decidedly conservative values. Doing this sequentially conveys the effect of each

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<sup>&</sup>lt;sup>30</sup> Note that the effect of the chamber median is understated in some sense since individual legislators' ideologies are measured on the same scale. Specifically, measuring local representative ideology as a deviation from chamber ideology shifts the entire chamber effect to the chamber median variable, making it more negative in this case (i.e., the sum of the chamber effect in the model presented and the chamber effect captured through local representative ideology in the model presented). Since this is just a mathematical shift, none of the other coefficients change in the deviations specification, including the coefficients on individual legislator ideology.

<sup>&</sup>lt;sup>31</sup> As noted earlier, deficiencies vary in scope and severity. When we run separate tests for severe (level G and above) and non-severe (levels A-F) deficiencies, the results in Table 2 are largely the same, with the exception that local ideology loses significance in Model 1.

measure on its own and the accumulated effect of a statewide change in ideology at all levels. At each value, we predict the expected number of deficiencies and its standard error.

## [Figure 1 about here.]

Figure 1 reports these results. Changing the ideology of the institution has a substantively large effect, with facilities under a liberal chamber receiving 1.1 more citations per survey than those under a conservative chamber, corresponding to a 20% increase. Changing the ideology of the lower chamber representative from conservative to liberal corresponds to 0.13 more deficiencies under a liberal institution or 0.14 more deficiencies under a conservative one.

Similarly, changing the ideology of the upper chamber representative produces 0.21 more deficiencies in a liberal chamber with a liberal lower chamber representative and 0.17 more when both are conservative. The cumulative effect indicates that deficiencies increase from 5.46 to 6.89 – a 25% increase – when both local representatives and the institution simultaneously go from conservative to liberal. Overall, then, we find strong support for the argument that the ideology of individual legislators, and of the legislature overall, is associated both statistically and substantively with the frequency of deficiencies.

Individual effects in an institutional context

The first two models provide clear support for our expectations regarding the influence of individual and institutional ideology. In the third model in Table 2 we investigate whether the

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<sup>&</sup>lt;sup>32</sup> The asymmetric effects occur because the expected value from the count model is generated by an exponential function:  $\exp(X\hat{\beta})$ .

effect of local representatives' ideology depends on majority party membership. We then interact these variables with the corresponding local representative's individual ideology.

The results in this third model provide support, albeit mixed, for our prediction that the effect of individual preferences will be mediated by whether the individual is a member of the majority or the minority party. In the lower chamber, the coefficient for Lower Representative Ideology – which, given the interaction, now captures the effect of preferences on agency actions for minority party members – remains negative, significant, and similar in size to earlier models; and the same is true for the chamber's collective ideology. In addition, the effect of individual preferences is smaller (-0.016 + 0.005 = -0.011) but remains negative and significant among majority party members. However, the coefficient on the interaction term does not differ significantly from zero, indicating that party membership in the lower chamber does not mediate the effect of individual preferences.

We find stronger support in the upper chamber for our expectations about the conditioning effect of party membership on individual ideology. In particular, the coefficient on the interaction term (-0.078) is negative and significant, as is the combined effect for majority party members (0.027 - 0.078 = -0.052). Interpreting this finding for individuals in the upper chamber benefits from a visual depiction, so in Figure 2 we plot the change in the latent index for majority and minority party members across the range of observed values of individual ideology. Values above zero correspond to an increase in deficiencies while values below zero correspond to a decrease. The positive slope for members of the minority party is unexpected, but in several other important ways this figure provides support for our expectations. To begin with, as in our earlier models, the marginal effect of ideology remains negative for individual representatives in the majority party, as demonstrated by the blue line and its associated 95%

confidence interval. As individuals in the majority party become more conservative (i.e., moving to higher values on the x-axis), agencies report fewer deficiencies for nursing homes in their districts.

Furthermore, the plot illustrates the effect of majority party status, which we interpret here as the effect of the legislator's party as a whole gaining or losing control of the chamber. For liberal members, a shift from the minority to the majority party – indicated by the arrow on the left side of the figure – produces a sizeable increase, corresponding to about one more deficiency per inspection for more extreme members. And for conservative members it produces a slightly larger decrease. Little changes for moderate representatives, with the two lines crossing just to the left of an ideology value of zero.

# [Figure 2 about here.]

The Conditioning Effect of Legislative Capacity

In Table 3 we turn to an assessment of our final hypothesis, which addresses how legislative capacity conditions the effect of individual and institutional preferences. As noted earlier, we use both the Squire (2007, 2017) and Bowen and Greene (2014) measures of legislative professionalism in separate regressions to capture capacity, and we interact each of these measures with our individual and institutional variables. Our predictions are, first, that the interaction between individual ideology and professionalism should be positive, indicating that the marginal effect of individual ideology diminishes as legislative capacity increases; and second, that the marginal effect of institutional ideology should be negative, suggesting that the preferences of the institution are magnified in legislatures with greater capacity.

The results largely support our predictions. As seen in Table 3, regardless of whether we use the Squire measure or the Bowen-Greene measure, all three preference measures – the individual variables of *Lower Representative Ideology* and *Upper Representative Ideology*, as well as the institutional variable of *Lower Chamber Ideology* – have negative and significant coefficients. More importantly for assessing our prediction about capacity, for both measures we find positive and significant interactions between professionalism and individual representatives' ideology for members from each chamber, matching our prediction that capacity depresses the influence of individual members. The one difference occurs for the interaction with institutional ideology: the model with the Squire measure produces a negative and significant coefficient for the interaction between capacity and *Lower Chamber Ideology*, whereas the Bowen and Greene model produces a positive and significant coefficient. The former matches our expectations and lines up with prior work (Boehmke and Shipan 2015). The latter does not.

# [Table 3 about here.]

Again, because of the inclusion of interaction terms, the marginal effect of ideology is best interpreted visually. Figure 2 plots the marginal effects of the three ideology measures on the latent deficiencies scale along with 95% confidence intervals. As expected, the marginal effects for local representatives are negative in legislatures with lower capacity and move gradually towards zero as capacity increases, indicating a lessening of the influence of individual

<sup>&</sup>lt;sup>33</sup> See Table SI.2 in the Supplementary Information for an exponentiated version of the results.

ideology.<sup>34</sup> Overall, this confirms our expectation that greater institutional capacity will diminish, rather than increase, the influence of individual legislators.

Turning to the effect of chamber preferences, the top figure shows that it remains negative and significant for all values of the Squire measure of professionalism and becomes more negative in legislatures with greater capacity. This finding, which supports our theoretical argument, means that while facilities receive fewer deficiencies, on average, in states with conservative legislatures, they receive even fewer when a conservative legislature has greater capacity to control the administrative branch. The bottom figure, on the other hand, shows that the marginal effect remains negative for most observations with the Bowen and Greene measure, but that contrary to our expectations, the effect gets larger as capacity increases, becoming positive for a handful of cases. Facilities receive fewer deficiencies, on average, in states with conservative legislatures; but the effect is reduced rather than enhanced when the legislature has greater capacity to control the administrative branch.<sup>35</sup>

## [Figure 3 about here.]

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this direction, see Brown and Mitchell (2023).

<sup>&</sup>lt;sup>34</sup> The coefficients are below zero for middle and lower levels of professionalism, which includes most states. After that, for higher levels of professionalism the confidence intervals include zero, with one exception (upper chamber representatives with the largest Bowen-Greene values).

<sup>35</sup> This unexpected finding points to the need for further state politics research to unpack both the differences and similarities across different measures of professionalism. For an excellent start in

#### Conclusion

Are government agencies responsive to the preferences of elected officials? We investigate this question by focusing on both institutional preferences and, more innovatively, on the preferences of individual local legislators. We ask four main questions. First, do individual legislators exert influence over agencies? A handful of innovative studies have drawn attention to this topic in recent years, but mostly have focused on the effects of individual legislators who have contacted an agency. Here, we instead examine whether agencies anticipate and respond to the preferences of individual legislators. Second, we also include institutional measures of preferences, allowing us to determine whether the preferences of individual legislators continue to matter even when broader institutional preferences are accounted for. Third, we examine whether the effects of individual legislators are contingent on the institutional context, and more specifically on partisan control of the chamber. Finally, we examine how the legislature's capacity affects both individual and institutional influence.

To investigate these questions, we examine state-level regulation of nursing homes. State agencies inspect nursing homes and identify violations, or deficiencies. We assess whether agencies find more deficiencies when local legislators are more liberal and when the chamber median is more liberal. Our results provide strong support for our predictions. Agencies are responsive to both individuals and institutions, as evidenced by our consistent findings that agencies identify higher numbers of deficiencies for facilities located in districts represented by legislators who are more liberal and also when the median legislator in the lower chamber is more liberal. Building on these initial results, we then also find some support for our expectation that the effects of individual preferences are mediated by whether the individual is a member of the minority or majority party, with stronger and more consistent effects in upper chambers and

more mixed effects in lower chambers. Last, we generally find that higher capacity is associated with a decreased effect of individual preferences on agencies and an increased effect of institutional preferences on agencies, although there is some variance in these results, depending on which measure of capacity we use.

Taken together, these results provide a wide range of new insights into legislative influence over agencies, as well as the most comprehensive understanding of which aspects of the legislature – individuals or institutions – influence agencies, and whether that influence is contingent on the broader institutional context. Within the framework we have provided, future studies can now turn to a variety of extensions and additional explorations. To begin with, given our theoretical focus on individual and institutional legislative preferences, we incorporated state and year fixed effects to account for cross-sectional and across-time factors that, although outside of our focus, also might influence the stringency of regulation. Future research can relax this approach. For example, while the agencies that conduct investigations are generally similar across states, they also vary in a number of ways – structure, financial support, capacity, and so on – and these factors might affect how agencies carry out inspections. Similarly, political influence on CMS at the national level likely varies over time, which might then filter down to the state level, given the federal nature of this policy area. Future theoretical and empirical work on these differences across states and across time could yield additional important insights into the level of nursing home regulation.

Other extensions could also enhance our understanding of legislative influence on agencies. For example, future research could look both outside the policy of nursing home regulation and also further within this area. For the former, we have argued that nursing home regulation is an ideal forum for examining political influence; but do similar effects exist in other

policy areas and with other agencies? For the latter, are nursing homes themselves active players in the regulatory game – for example, behaving strategically vis-à-vis the legislature and agencies – and if so, how does that affect legislative influence? Further investigation into the role of legislative capacity is also merited, especially given that one of our findings about capacity varies based on which measure of capacity we use. Finally, while our results do show that the effects of individual legislators can depend on partisan control of the legislature, particularly in the upper chamber, future research can further explore how legislators exert their influence under different conditions and which types of actions may be more effective than others. For now, though, our analysis provides both a new way of assessing legislative influence over agencies and a framework that other studies can build on.

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Table 1.

Summary Statistics for Variables Used in the Analysis

	Mean	SD	Min.	Max.	N
Number of Deficiencies	6.85	5.97	0.00	95.00	216,331
Lower Representatives (Median Ideology)	0.03	0.96	-3.17	3.32	194,029
Upper Representatives All in Chamber Majority	0.63	0.48	0.00	1.00	189,364
Lower Representatives All in Chamber Majority	0.62	0.49	0.00	1.00	193,657
Upper Representatives (Median Ideology)	0.04	0.93	-2.53	2.97	189,529
House Ideology	0.03	0.75	-1.43	1.18	203,524
Republican Governor	0.55	0.50	0.00	1.00	211,346
Number of Beds (100s)	1.07	0.63	0.01	13.89	211,465
Beds Occupied (proportion)	0.83	0.15	0.01	1.50	210,448
RN Hours per Resident	0.72	0.58	0.00	10.85	203,516
Medicaid Only	0.04	0.20	0.00	1.00	211,465
Medicare Only	0.05	0.21	0.00	1.00	211,465
Hospital Based	0.07	0.25	0.00	1.00	211,465
Nonprofit	0.26	0.44	0.00	1.00	211,340
Government Owned	0.06	0.24	0.00	1.00	211,340
Resident and Family Councils	0.34	0.47	0.00	1.00	211,459
Just Resident Council	0.00	0.06	0.00	1.00	211,459
Just Family Council	0.04	0.19	0.00	1.00	211,459

Table 2.

Aggregate Chamber and Individual-Level Preferences Affect Nursing Home Deficiencies

	Model 1		Mod	el 2	Mod	el 3
Lower Representative Ideology	-0.015*	(0.003)	-0.013*	(0.003)	-0.016*	(0.006)
Upper Representative Ideology	-0.016*	(0.003)	-0.017*	(0.003)	0.027*	(0.005)
Lower Chamber Ideology			-0.120*	(0.007)	-0.107*	(0.010)
Lower Rep. in Majority					-0.009*	(0.005)
Lower Rep. Ideology * In Majority					0.005	(0.010)
Upper Rep. in Majority					-0.019*	(0.005)
Upper Rep. Ideology * In Majority					-0.078*	(0.007)
Republican Governor			0.080*	(0.004)	0.082*	(0.004)
Number of Beds (100s)	0.135*	(0.005)	0.135*	(0.005)	0.135*	(0.005)
Beds Occupied (proportion)	-0.225*	(0.018)	-0.223*	(0.018)	-0.226*	(0.018)
RN Hours per Resident	-0.149*	(0.006)	-0.149*	(0.006)	-0.149*	(0.006)
Medicaid Only	-0.127*	(0.015)	-0.127*	(0.015)	-0.126*	(0.015)
Medicare Only	-0.238*	(0.016)	-0.240*	(0.016)	-0.239*	(0.016)
Hospital Based	0.017	(0.013)	0.016	(0.013)	0.016	(0.013)
Nonprofit	-0.136*	(0.007)	-0.135*	(0.007)	-0.136*	(0.007)
Government Owned	-0.111*	(0.012)	-0.104*	(0.012)	-0.105*	(0.012)
Resident and Family	-0.001	(0.005)	-0.001	(0.005)	-0.001	(0.005)
Resident Council	-0.056	(0.042)	-0.061	(0.042)	-0.061	(0.042)
Family Council	-0.041*	(0.015)	-0.041*	(0.015)	-0.042*	(0.015)
constant	1.831*	(0.032)	1.807*	(0.032)	1.831*	(0.032)
Overdispersion (alpha)	0.323*	(0.002)	0.321*	(0.002)	0.321*	(0.002)
Var(u)	0.107*	(0.002)	0.108*	(0.002)	0.107*	(0.002)
Observations	179,	199	178,	870	178,	426

*Note*. Random effects negative binomial model estimated using *menbreg* command in Stata 18.0; random effects included at the facility level. 49 states included in the analysis (excludes Nebraska) covering the period 2000 to 2016. Year and state fixed effects included (not reported). \* indicates coefficient significantly different from zero at the .05 level.

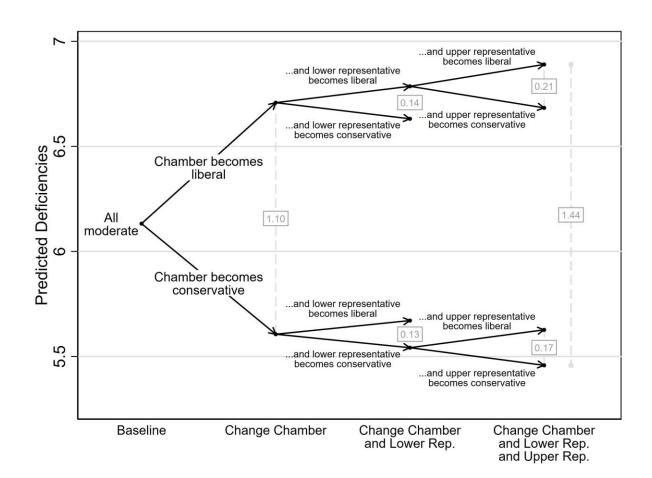
Table 3.

Legislative Capacity Modifies the Influence of Aggregate Chamber and Individual-Level Preferences on Nursing Home Deficiencies

	Squire		Bowen an	Bowen and Greene	
Lower Representative Ideology	-0.031*	(0.007)	-0.021*	(0.004)	
Upper Representative Ideology	-0.042*	(0.007)	-0.028*	(0.004)	
Lower Chamber Ideology	-0.044*	(0.014)	-0.138*	(0.007)	
Legislative Professionalism	-1.446*	(0.071)	0.110*	(0.007)	
Lower Rep. Ideology * Leg. Prof.	0.056*	(0.019)	0.004*	(0.001)	
Upper Rep. Ideology * Leg. Prof.	0.085*	(0.019)	0.006*	(0.001)	
Lower Chamber Ideology * Leg. Prof.	-0.287*	(0.054)	0.035*	(0.004)	
Republican Governor	0.069*	(0.004)	0.078*	(0.005)	
Number of Beds (100s)	0.136*	(0.005)	0.134*	(0.005)	
Beds Occupied (proportion)	-0.218*	(0.017)	-0.223*	(0.018)	
RN Hours per Resident	-0.149*	(0.006)	-0.148*	(0.006)	
Medicaid Only	-0.128*	(0.015)	-0.126*	(0.015)	
Medicare Only	-0.239*	(0.016)	-0.242*	(0.016)	
Hospital Based	0.016	(0.013)	0.015	(0.013)	
Nonprofit	-0.134*	(0.007)	-0.135*	(0.007)	
Government Owned	-0.105*	(0.012)	-0.108*	(0.012)	
Resident and Family	-0.001	(0.005)	0.000	(0.005)	
Resident Council	-0.064	(0.042)	-0.061	(0.042)	
Family Council	-0.041*	(0.015)	-0.040*	(0.015)	
constant	2.017*	(0.034)	1.997*	(0.034)	
Overdispersion (alpha)	0.320*	(0.002)	0.320*	(0.002)	
Var(u)	0.107*	(0.002)	0.107*	(0.002)	
N	178,870		178,870		

*Note*. Random effects negative binomial model estimated using *menbreg* command in Stata 18.0; random effects included at the facility level. 49 states included in the analysis (excludes Nebraska) covering the period 2000 to 2016. Year and state fixed effects included (not reported). \* indicates coefficient significantly different from zero at the .05 level.

Figure 1.
Nursing Home Deficiencies are Greater when Institutions and Individuals are more Liberal

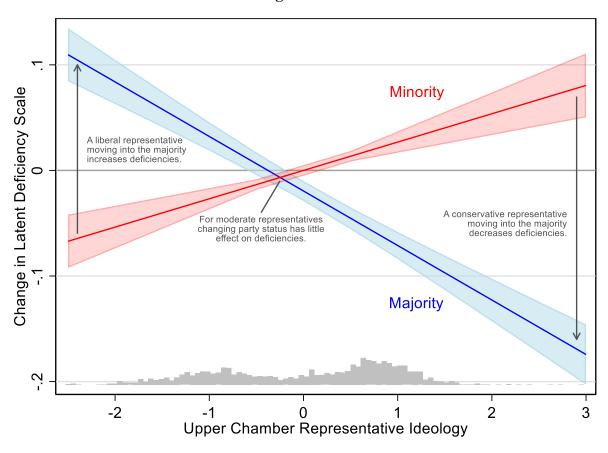


*Notes.* Figure plots the predict count of deficiencies for various combinations of institutional and individual ideology using the estimates from Model 2 in Table 2. Other interval or binary variables set to their median values; nominal variables set to 2010 for year and ND for state.

1

Figure 2.

Majority Party Status Allows Upper Chamber Legislators to Better Implement their Oversight Preferences

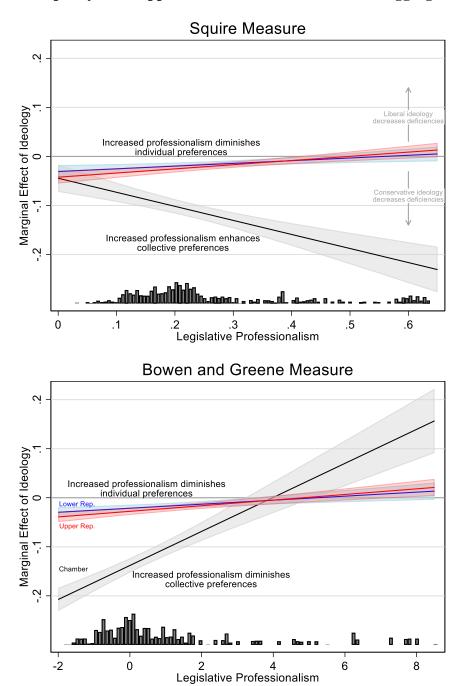


Notes. Figure plots the change in the latent deficiency scale for different values of upper chamber representative ideology for individual members of the majority and minority party using the results from Model 3 in Table 2, i.e.,  $\beta_{ideo.}*Ideology + \beta_{maj.}*Majority + \beta_{ideo*maj.}*Ideology*Majority$ . Values greater than zero increase this latent scale and lead to more deficiencies; negative values decrease them. Shaded areas represent a 95% confidence interval for the reported linear combination of coefficients. Minority party results colored red; majority party results colored blue. The histogram describes the distribution of values of upper chamber ideology in the estimation sample.

2

Figure 3.

Increasing Legislative Capacity Decreases the Influence of Individual Preferences but the two Measure of Capacity have Opposite Effects on the Influence of Aggregate Preferences



Notes. Figure plots the marginal effect of individual and institutional ideology on the latent deficiency scale for different values of legislative professionalism using the models in Table 3 (i.e.,  $\beta_{ideo.}$  +  $\beta_{ideo.*prof.}*Professionalism$ ). Shaded areas represent a 95% confidence interval for the reported linear combination of coefficients. Chamber results shaded black; upper chamber representative results colored red; lower chamber representative results colored blue. The histogram describes the distribution of values of legislative professionalism in the estimation sample.

## **Supplementary Information**

Table SI.1.

Aggregate Chamber and Individual-Level Preferences Affect Nursing Home Deficiencies – Exponentiated Coefficients

	Model 1		Мос	lel 2	Мо	del 3
Lower Representative Ideology	0.985*	(0.003)	0.987*	(0.003)	0.984*	(0.006)
Upper Representative Ideology	0.984*	(0.003)	0.983*	(0.003)	1.027*	(0.005)
Lower Chamber Ideology			0.887*	(0.006)	0.899*	(0.009)
Lower Rep. in Majority					0.991*	(0.005)
Lower Rep. Ideology * In Majority					1.005	(0.010)
Upper Rep. in Majority					0.981*	(0.005)
Upper Rep. Ideology * In Majority					0.925*	(0.007)
Republican Governor			1.083*	(0.005)	1.086*	(0.005)
Number of Beds (100s)	1.145*	(0.006)	1.144*	(0.006)	1.145*	(0.006)
Beds Occupied (proportion)	0.799*	(0.014)	0.800*	(0.014)	0.798*	(0.014)
RN Hours per Resident	0.861*	(0.005)	0.862*	(0.005)	0.862*	(0.005)
Medicaid Only	0.880*	(0.014)	0.881*	(0.014)	0.881*	(0.014)
Medicare Only	0.788*	(0.013)	0.787*	(0.013)	0.787*	(0.013)
Hospital Based	1.017	(0.014)	1.016	(0.014)	1.016	(0.014)
Nonprofit	0.873*	(0.006)	0.873*	(0.006)	0.873*	(0.006)
Government Owned	0.895*	(0.011)	0.901*	(0.011)	0.900*	(0.011)
Resident and Family	0.999	(0.005)	0.999	(0.005)	0.999	(0.005)
Resident Council	0.945	(0.040)	0.940	(0.040)	0.940	(0.039)
Family Council	0.960*	(0.014)	0.960*	(0.014)	0.959*	(0.014)
constant	6.240*	(0.197)	6.091*	(0.195)	6.240*	(0.202)
Overdispersion (alpha)	0.323*	(0.002)	0.321*	(0.002)	0.321*	(0.002)
Var(u)	1.113*	(0.002)	1.114*	(0.002)	1.113*	(0.002)
N	179,199		178,870		178,426	

Note. Shows identical results as Table 2, only with exponentiated coefficients and delta method standard errors for easier interpretation. Random effects negative binomial model estimated using *membreg* command in Stata 18.0; random effects included at the facility level. 49 states included in the analysis (excludes Nebraska) covering the period 2000 to 2016. Year and state fixed effects included (not reported).

Table SI.2.

Legislative Capacity Modifies the Influence of Aggregate Chamber and Individual-Level Preferences on Nursing Home Deficiencies – Exponentiated Coefficients

	Squire		Bowen and Greene		
Lower Representative Ideology	0.970*	(0.006)	0.979*	(0.004)	
Upper Representative Ideology	0.959*	(0.006)	0.973*	(0.004)	
Lower Chamber Ideology	0.956*	(0.014)	0.871*	(0.006)	
Legislative Professionalism	0.235*	(0.017)	1.116*	(0.008)	
Lower Rep. Ideology * Leg. Prof.	1.057*	(0.020)	1.004*	(0.001)	
Upper Rep. Ideology * Leg. Prof.	1.089*	(0.021)	1.006*	(0.001)	
Lower Chamber Ideology * Leg. Prof.	0.751*	(0.040)	1.035*	(0.004)	
Republican Governor	1.071*	(0.005)	1.082*	(0.005)	
Number of Beds (100s)	1.146*	(0.006)	1.144*	(0.006)	
Beds Occupied (proportion)	0.804*	(0.014)	0.800*	(0.014)	
RN Hours per Resident	0.862*	(0.005)	0.863*	(0.005)	
Medicaid Only	0.880*	(0.014)	0.881*	(0.014)	
Medicare Only	0.788*	(0.013)	0.785*	(0.013)	
Hospital Based	1.016	(0.014)	1.015	(0.013)	
Nonprofit	0.875*	(0.006)	0.873*	(0.006)	
Government Owned	0.900*	(0.011)	0.897*	(0.011)	
Resident and Family	0.999	(0.005)	1.000	(0.005)	
Resident Council	0.938	(0.039)	0.941	(0.039)	
Family Council	0.960*	(0.014)	0.961*	(0.014)	
constant	7.515*	(0.252)	7.366*	(0.251)	
Overdispersion (alpha)	0.320*	(0.002)	0.320*	(0.002)	
Var(u)	1.113*	(0.002)	1.113*	(0.002)	
N	178	,870	178,870		

*Note.* Shows identical results as Table 3, only with exponentiated coefficients and delta method standard errors for easier interpretation. Random effects negative binomial model estimated using *membreg* command in Stata 18.0; random effects included at the facility level. 49 states included in the analysis (excludes Nebraska) covering the period 2000 to 2016. Year and state fixed effects included (not reported). \* indicates coefficient significantly different from zero at the .05 level.