Agendas and Alternatives in the American States: Determinants of State Legislative Attention to Tobacco and Immunizations[1]

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Keywords: state health policy, agenda setting, attention allocation

2/2/2012

Prepared for the State Politics and Policy Conference, University of Houston and Rice University, February 16-18, 2012

Abstract: Why do select states pay attention to certain issues more intensely compared to others? And, what influences the number of policy alternatives considered by states? Using an original dataset on bill introductions from 1990-2010 in the fifty states towards tobacco and vaccine legislation, we find that problem severity is particularly important in explaining attention allocation while legislative polarization, legislative professionalism, and interest group diversity are strong determinants of the number of policy alternatives considered by states. Furthermore, states react contemporaneously to the agenda setting actions of neighboring states for tobacco, but not for immunization. The results provide a more nuanced understanding of the policymaking process in the states and agenda setting more generally.

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While scholars know a great deal about various aspects of the policy process in the states, such as policy enactments (Walker 1969), policy reinvention (Glick and Hays 1991), and policy implementation (Lipsky 1980), across a wide range of issues including education policy (Berkman and Plutzer 2005), criminal justice (Maske and Volden 2011), social welfare (Soss 1999), health policy (Volden 2006), regulatory policy (Gerber and Teske 2000) and morality policy, (Mooney and Lee 2000), we know less about how state officials choose among the unlimited array of policy issues on which to spend time and effort. There is much to learn about *state agenda-setting*: the process by which state officials decide which policies to consider and take seriously prior to policy action.

Using an original dataset on state bill introductions from 1990-2010 on tobacco control and vaccine regulation, we ask: what accounts for the state variations in the agenda setting process to these two important health policies? We draw on the agenda-setting and state politics literatures to explore why some states prioritize tobacco control and vaccine regulation more intensely than others and why select states consider many more distinct policy solutions compared to others. For *agenda intensity*, we concentrate on three explanations including issue severity, interest group activity, and the actions of neighboring states. For *policy alternatives*, we concentrate on the ideological polarization and professionalism of state legislatures, the diversity of interest groups within the state, and the actions of neighboring states.

Evidence suggests that problem severity is an especially strong determinant in explaining agenda intensity to tobacco legislation and vaccine regulation. In particular, we find that states with more smokers introduce more laws relating to tobacco. Similarly, states with lower immunization rates are more likely to allocate political attention to vaccine policy. Legislative polarization, legislative professionalism, and interest group diversity are particularly important in

determining the number of policy alternatives considered by states. We find that legislative polarization is negatively related to the number of policy alternatives considered by state legislatures because it increases policy gridlock, while legislative professionalism is positively related to the number of policy alternatives. States that have a diverse interest group community consider a greater number of policy alternatives presumably because organized interests provide more policy solutions for legislators to consider. Finally, the actions of neighboring states are important for state attention towards tobacco, but not immunizations.

The results demonstrate that states allocate considerable political attention to policy-development prior to policy adoption, providing a more robust understanding of how state governments engage in solution searches as they encounter new problems. At the same time, there are institutional and organizational differences that account for the state variation in political attention. Finally, the original dataset serves as a model for other scholars interested in developing measures of state agenda-setting across time that may compliment current research on policy enactments, as we discuss in the concluding section.

State Legislative Agendas: The Search for Policy Solutions

There are countless issues on which state lawmakers can create policy, ranging from budgetary decisions to same-sex marriage to school vouchers, yet the *agenda space*, the amount of time available for a particular issue, is incredibly limited (Baumgartner and Jones 1993). More fundamentally, for an underlying condition to achieve agenda space, government must recognize and define an emerging problem as appropriate for intervention (Sabatier and Jenkins' Smith 1999). In the face of considerable constraints of time, resources, agenda space and political attention, elected officials engage in disproportionate information processing, selectively updating a majority of issues through incremental adjustment, while dedicating

considerable resources to policy development on issues demanding urgent intervention (e.g., Jones and Baumgartner 2005). Other issues rise and fall on the formal agenda, receiving episodic attention as government responds to new dimensions of a policy problem (e.g., Downs 1972). Regardless, many policy solutions will receive limited if any attention from state lawmakers, rendering their chances of becoming law or being implemented at zero percent. The implications of non-attention are obvious; particular interests from the public, elites, or other important groups will be left out of the political system if they do not receive government attention (Schattschneider 1960).

Once an issue receives agenda space, policymakers must decide from a variety of different options on which policy solution to pursue. Kingdon (1995) refers to these as agenda alternatives (Schattschneider 1960; Bachrach and Baratz 1961). With any prominent agenda item there are a variety of ways for government to define a policy problem, generate alternatives and respond with legislation. Take the policy solutions offered to decrease teen pregnancy in the 1980s as an example. Conservatives sought to prevent teen pregnancy by promoting abstinence only programs and limiting contraception, while liberals urged for policymakers to provide access to contraception and abortion for young girls (Luker 1996). Others connected the problem to broader social issues, arguing that increased spending on education would help break the cycle of poverty, leading to a long term decline in teen pregnancy rates among children of lower socioeconomic backgrounds (Luker 1996).

These debates illustrate how causal stories and problem definition shape policy after an issue has been placed on the formal agenda. While there was broad political consensus that teen pregnancy was a problem that deserved government attention, officials debated about the proper course of action. The solutions offered reflect the ideological tenor of the times and the

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perceptions about the causes and consequences of the policy problem, which are often in political contention (e.g., Stone 1989). The way that government characterizes and addresses policy problems often evolves over time, leading to dynamic patterns of issue attention and policy change both within the national government (Kingdon 1984; Baumgartner and Jones 1993) and across the states (Boushey 2010; Boushey 2012).

These two concepts together describe the agenda setting process. While we know the most about the politics of attention at the national level (Baumgartner and Jones 1993), recently scholars have recognized the need for similar analyses at the subnational level. These recent articles, however, have primarily focused on how attention diffuses from the states to the federal level (Karch 2010; Baumgartner et al. 2009) or vice versa (Lowery et al. 2011). Karch (2010), for example, finds that national attention to stem cell research from 1999-2008 measured via President Bush's nationally televised addresses, increased the probability that state officials introduced similar bills as well as the total number of bills introduced on stem cell research in state legislatures. Karch's results, as well as others, tell us a great deal about how states are influenced systemically by national factors. This research has pushed our understanding of agenda setting dynamics between levels of government in federalism, but has done relatively little to explain state level heterogeneity in agenda setting and problem definition over time, which is the focus of this article.

To describe state agenda setting, we use *agenda intensity* to refer to the number of bills introduced by a state in a given session (Karch 2010), and *policy alternatives* to refer to the type and range of policy solutions introduced. Agenda intensity is a clear measure of attention allocation (Kingdon 1995); an issue that receives more intense agenda attention is a higher priority to policymakers compared to an issue that receives little or no agenda attention. On the

other hand, states may introduce a similar number of bills, but vary in the range of policy solutions introduced. One state may focus on a particular policy solution while others may introduce a variety of bills that cover a wide range of topics. We contend that agenda intensity differs conceptually from policy alternatives and expect these two concepts to be governed by different processes, as we explain below.

Determinants of State Agenda Intensity

Why do some states allocate more legislative attention to issues compared to others? Research on national and state agenda setting suggests a number of distinct mechanisms driving agenda setting. First, focusing events shape agenda setting, as policy-makers disproportionately respond to exogenous shocks or shifts in policy indicators that reveal a shift in problem severity (e.g.,Kingdon 1984; Baumgartner and Jones 1993). Second, the mobilization and participation of non-governmental actors is instrumental in shaping formal policy-making (e.g., Cobb and Elder 1983). Finally, federalism itself shapes state level policymaking, as publics and elites are directly influenced by the actions of geographic neighbors (e.g., Walker 1969). We therefore focus on three distinct explanations of agenda setting including the saliency of the issue, interest group activity, and the actions of neighboring states.

First, we expect for states to allocate more agenda space, more intensely on issues that are highly salient to the state. Saliency has various conceptualizations and measures (Epstein and Segal 2000), however, for our purposes, saliency refers to the severity of a problem. Problem severity is an important stimulus for attention at the national level (Armstrong et al. 2006) as well as policy action in the states (Sapat 2004; Nice 1994). Furthermore, there is large heterogeneity across the states in the severity of issues due to differences in geography, culture, demographics, ideology, or other factors. Take immigration policy as an example. One

explanation for why Southern states like Alabama, Georgia, and South Carolina have been so attentive to immigration policy in recent years is that these states have seen a sudden and sharp growth in their immigrant populations over the last two decades (Boushey and Luedtke 2011). While many researchers claim that empirical indicators of severity are unrelated to issue attention (e.g., Blumer 1971), much of this research has been conducted at the national level using single case studies. Research using a comparative approach across time and issues suggests that empirical measures of severity influences attention. For instance, Armstrong et al. (2006) find that newspaper attention to specific diseases increased as the number of deaths from that disease increased. We expect to find similar results when using the variation in issue saliency across the American states.

Second, we expect for states that have active advocacy groups to allocate more attention, more intensely on those issues that are important to those groups. States vary in both the number and type of organized interests that are active (e.g., Lowery and Gray 1993; Lowery and Gray 1995; Goldstein and Bearman 1996). The importance of interest groups in drawing government attention to problems is well established at the national level (Best 1990; Spector 1973 and Kituse; Wright 1996). Indeed, the explicit aim of interest groups is to draw government and public attention to *their* specific problem (Best 1990; Kitsuse and Spector 1973). Interest groups can increase governmental attention through a variety of ways, such as by communicating to policymakers or the public through general advocacy activity (Caldeira and Wright 1988), mobilizing voters in response to a particular issue (Donovan 2001), and providing information to the media (Colby and Cook 1991; Armstrong et al. 2006), which influences how the public thinks about policies. Furthermore, research on interest group behavior in the United States suggests that organizations engage in strategic venue shopping, exploiting the multiple venues of

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government in the United States to secure policy change (Pralle 2003). Although we expect for interest groups to exhibit similar strategies at the state level, we also anticipate that considerable heterogeneity in the size, power and density of interest group populations across the states will have important implications for the allocation of political attention.

Finally, we expect for the actions of neighboring states to positively influence the intensity of attention in the home state. A consistent finding in the policy diffusion literature is that as the proportion of neighboring states adopts a policy, the probability of adoption in the home state also increases (Berry and Bery 1990). Why do the actions of neighboring states influence the policy decisions in the home state? First, officials look to neighboring or nearby states to learn about policies for reasons of political and demographic similarity (Walker 1969; Berry & Berry 1990) and political networking (Mintrom & Vergari 1998). States are also most likely to compete economically with nearby states due to the mobility constraints of residents (Boehmke and Witmer 2004). And, recent research suggests that residents in the home state directly learn about policies in neighboring states and then pressure their own officials to adopt similar policies (Pacheco 2012). Whether through social learning, economic competition, or social contagion, we expect for the agenda setting actions of neighboring states to similarly have a positive influence on attention allocation in the home state.

To summarize, we have three expectations on the determinants of state agenda intensity:

H1: States will allocate more intense attention on issues that are locally severe.

H2: States with a large and more powerful interest group population operating within a given issue area will allocate more intense attention on those issues that are most important to the interest groups in the state.

H3: States will allocate more intense attention on issues that neighboring states consider.

Determinants of State Policy Alternatives

While agenda intensity refers to the number of bills introduced by a state in a given session, policy alternatives refer to the type and range of policy solutions introduced by state officials. As we described above, states may introduce a similar number of bills on a particular issue, but vary on the types of policy solutions offered. Unlike agenda intensity, a higher number of policy alternatives may signal uncertainty about the proper course of action or divergent political preferences among political actors. Consequently, we focus on three explanations including the ideological polarization of state legislatures, the diversity of interest groups in the states, and the actions of neighboring states.

First, we expect for states with a highly polarized legislature to have a higher number of policy alternatives. This is simply due to the fact that it is harder for legislators to agree on a common policy solution when they have opposing policy preferences. There is a growing realization that elite polarization has increased at the national level (e.g., Layman et al. 2006; McCarty et al. 2006) and recent research suggests that states have experienced a similar shift towards heightened polarization (Shor and McCarty 2011). In addition, states vary in their level of polarization. California is the most polarized where Democrats are ideologically distinct from Republicans while Rhode Island and Louisiana are the least polarized with both parties being similar ideologically (Shor and McCarty 2011).

Second, we expect for states with more diverse interest groups to have a higher number of policy alternatives. The logic here is that as the diversity of interests within the state increases, so too will the number of policy solutions offered by the organizational community. It is well established that one of the primary goals of interest groups is to inform and advise policymakers about policy solutions (Milbrath 1963; Hansen 1991) in hopes that they can shape

the content of bills (Schlozman and Tierney 1986). The suggestions made by interest groups are biased towards their policy goals and ideological preferences. Hence, increased diversity leads to more policy conflict among the interest group community (Baumgartner and Leech 1998), which will be reflected in an increase in policy solutions offered to the states.

Finally, we anticipate the policy alternatives considered by neighboring states to influence the number of alternatives considered in the home state however, it is unclear whether this effect will be positive or negative. According to punctuated equilibrium theory, policymaking is characterized by periods of policy stasis interrupted by pronounced policy punctuations. As Baumgartner and Jones (1993) describe, policy punctuations occur in response to elevated issue attention and a new understanding of policy problems, resulting in a positive feedback cycle whereby existing policy subsystems are replaced by new ones. Furthermore, these periods of punctuations offer political actors "windows of opportunity" to expand the scope of conflict, reframe policy debates, and propose new policy solutions (Kingdon 1995). Consequently, we may expect for the number of policy solutions offered in neighboring states to positively influence policy alternatives in the home state as positive feedback occurs and new policy subsystems are created.

In contrast, the policy diffusion literature clearly suggests that there should be a negative effect as states learn about successful policy solutions from other states; that is, as the number of policy alternatives considered in neighboring states increases, the number of policy alternatives considered in the home state should decrease. Here, scholars suggest that policy diffusion is a result of incremental social learning. Political officials, in their search for answers to complex problems, engage in a form of "satisficing" (Simon 1955), where they wait and see how a policy works out before adopting it in their own state (Volden 2006). Officials are most likely to adopt

policies that are successful (Volden 2006), which suggests a "winnowing" effect over time as nearby states converge on a common policy solution. We consider both of these possibilities in our analyses.

Overall, we expect the following on the determinants of policy alternatives in the states:

H4: States will consider more policy alternatives when ideological polarization is high.

H5: States will consider more policy alternatives when interest group diversity is high.

H6a: States will consider more policy alternatives as the number of alternatives considered by neighboring states increases.

H6b: States will consider fewer policy alternatives as the number of alternatives considered by neighboring states increases.

We test our hypotheses using a unique dataset on bill introductions in the states from 1990-2010 on two important public health issues, tobacco legislation and vaccine regulation, as we describe below.

The Politics of Tobacco Legislation and Vaccine Regulation

Cigarette smoking remains the single most preventable cause of death in the United States, responsible for more than 430,000 premature deaths each year including an estimated 53,800 people who die from exposure to SHS (Centers for Disease Control 2005). In addition, more than 8 million Americans live with tobacco-related disease, such as emphysema or heart disease, ever year. Cigarettes take its toll economically as well; smoking causes more avoidable illness and work absenteeism than any other behavior and accounts for 6-10% of all health care costs (Warner 2006). And, according to the CDC, cigarette smoking is estimated to be responsible for $193 billion in annual health-related economic losses in the United States.

While the public health and economic consequences of cigarette smoking are vast, federal activity has been quite limited compared to the regulation of other toxic substances. For instance, Congress continues to exempt tobacco products from the purview of the law (Warner 2006) and in 2000, the Supreme Court ruled that the FDA lacks jurisdiction to regulate tobacco products.[4]   The federal government periodically issues Surgeon General Reports on the health consequences of tobacco; however, these reports aim mostly to inform the public about the dangers of tobacco as opposed to influencing federal activity.

As a result, the majority of tobacco control policies have been enacted at the state level. These policies include smoke free policies, cigarette or tobacco taxes, regulations on youth access to tobacco and sales to minors, and funding of tobacco prevention and cessation programs. Several states, most notably California and Massachusetts, have comprehensive tobacco control policies aimed to alter community norms concerning smoking, and in the process, the smoking behavior of individuals (Warner 2006). In addition, some states have preempted localities from enacting more stringent regulations or have laws in effect that elevate smokers to a protected class. And, state tobacco policy garnered national attention in 1998 after the tobacco industry approved to a 46-state Master Settlement Agreement, totally a nearly $206 billion payout to states to be paid through the year 2025. Even still, states have large discretion over how these funds are used and state allocation decisions are diverse with some states allocating moneys to areas other than tobacco control and health (Sloan et al. 2005).

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[4] In 2009, however, President Obama signed The Family Smoking Prevention and Tobacco Control Act into law, which allows the FDA regulate what goes into tobacco products, make public the ingredients and prohibit marketing campaigns geared toward children.

Similar to tobacco control, states have primary jurisdiction over vaccine legislation. Immunizations, heralded as one of the 20th century's most successful public-health achievements, protect both individuals and the larger population from serious illness and death (National Conference of State Legislatures 2011). Vaccines are responsible for the control of many infectious diseases that were once common, including polio, measles, diphtheria, pertussis, rubella, mumps, and tentanus (Centers for Disease Control and Prevention 2009). Even still, each year as many as 42,000 adults die and thousands more are hospitalized from diseases that could be prevented by vaccination with the costs of treating these diseases exceeding $10 billion each year (Council of State Governments 2007). And, while rates of coverage among children are high, adult immunization rates continue to be stagnant or even decrease.

While the FDA regulates and licenses all vaccines to ensure safety and effectiveness, no federal vaccination laws exist, leaving the 50 states to decide how to regulate who is vaccinated and for which diseases. A major way that states control vaccinations is through child care and school mandates; all states require certain vaccinations for children entering public schools, but vary on the types and doses of vaccines required as well as the extent of exemptions. For instance, 20 states allow philosophical exemptions, while almost all states (except Mississippi and West Virginia) grant religious exemptions to childhood vaccinations. It is more difficult for states to control adult immunizations, although states try by increasing funds to support their adult immunization program, promoting awareness and education about vaccines, and ensuring that access is free from barriers (Council of State Governments 2007). States also have laws requiring the assessment of vaccination status and administration for healthcare workers and patients or residents in various facilities including hospitals and correctional facilities. Finally,

since the 1990s, states have kept track of child and adult vaccinations via immunization registries.

Although tobacco control and infectious disease control and prevention represent two of the most important public health issues facing state governments, these policies vary across a number of important dimensions that may shape the process of agenda setting and problem definition. First, there is a major difference in the strength and degree of organized interests working within each issue area. Tobacco remains a divisive issue in state politics, as tobacco manufacturers and distributors have a strong and vested interest in preventing strong tobacco regulation, while major public health advocates have organized to enact ever more restrictive tobacco legislation. Although major pharmaceutical manufacturers and public health officials are active in immunization policy, these groups often unite with the same objectives, while anti-vaccine advocates represent a small but vocal minority.

These two issues have also evolved very differently over the last 20 years. Immunization remains a major public health accomplishment, and although government allocates episodic attention to ensure vaccine safety or respond to a new disease, the policy area remains dominated by a public health subsystem. The tobacco policy subsystem has undergone considerable disruption over the last two decades, as long entrenched pro-industry tobacco regimes have been challenged a new public health subsystem. Thus these issues represent very different levels of policy equilibrium and disequilibrium over time.

Data

We are interested in explaining state agenda intensity as well as agenda alternatives to tobacco and vaccines over time. To measure state agenda intensity, we first collected data on the number of bills introduced in American state legislatures related to tobacco and immunization

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from 1990-2010 using the State Bill Tracking database on Lexis Nexis State Capital.[5]

Employing bill introductions to assess legislative attention is common at the national level (e.g., Adler and Wilkerson 2011) as well as in the states (e.g., Baumgartner et al. 2009).

A total of 20,634 bills related to tobacco were introduced across the fifty states from 1990-2010 while a total of 3,257 vaccine related bills were introduced during the same time frame. We divide our times series data into 11 legislative sessions: 1990, 1991-1992, 1993-1994, 1995-1996, 1997-1998, 1999-2000, 2001-2002, 2003-2004, 2005-2006, 2007-2008, and 2009-2010.[6] Figure 1 shows the number of tobacco related bills that were introduced in four select states in each region for each legislative session. From Figure 1, we see clear regional differences in agenda intensity towards tobacco with the Northeast introducing more tobacco related bills compared to other regions, particularly the South. A closer look at Figure 1 reveals large variation in tobacco agenda intensity across states and legislative sessions. Some states, like Massachusetts and Illinois, allocate much more attention to tobacco compared to other states, like Colorado and Ohio. Similarly, some states (e.g., New York and Illinois) have increased their attention towards tobacco, others (e.g., Pennsylvania and Connecticut) have

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[5] The database is maintained by LexisNexis, a division of Reed Elsevier Inc. and is available at http://web.lexis-nexis.com. The database contains bill synopses for each bill introduced by each state house in a calendar year. More detail about our data collection methods, including keywords used and intercoder reliability can be found in the Supplemental Text.

[6] Five states (Kentucky, Louisiana, Mississippi, New Jersey, and Virginia) have legislative sessions on even years. Consequently, the 11 sessions are 1990-1991, 1992-1993, 1994-1995, 1996-1997, 1998-1999, 2000-2001, 2002-2003, 2004-2005, 2006-2007, 2008-2009, and 2010.

decreased their attention, particularly since the early 2000s, and still others (e.g., California and Texas) have generally been stable towards their attention to tobacco.

We see a similar degree of heterogeneity when we look at the number of vaccine related bills. As shown in Figure 2, the West generally introduces fewer vaccine related bills compared to other regions. Some states, such as New York and Texas, spend much more attention on vaccine regulation compared to other states, such as California and Ohio. Similarly, it appears that many states (e.g., Massachusetts and Washington) increased their attention towards vaccine since the 2000s, while other states (e.g., Alabama and Connecticut) show spikes in attention at certain times.

To measure policy alternatives, we categorized each of the tobacco or vaccine bills into major topic codes. We categorized the tobacco bills into eight major topics that we believe capture the typology of policy alternatives considered within the realm of tobacco control (Smith et al. 2002). These categories include control, environment, agriculture, insurance, advocacy, litigation, finance, and miscellaneous. We categorized the vaccine bills into eleven major subject codes including school-related mandates, employment, insurance, animals, research and development, disclosure-registry, vaccine content, advocacy, public health service, administration of vaccines, and miscellaneous.[7] Intercoder reliability, as measured by Cohen's Kappa is .73 for the tobacco categories and .77 for the vaccine categories. Tables A1 and A2

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[7] The vaccine topic codes are similar categories identified by other researchers. See the National Council of State Legislatures Immunization Legislation Summaries (http://www.ncsl.org/home/search-results.aspx?zoom_query=immunization). We acknowledge that bills can fall into more than one major topic code, however, we instructed our coders to force each bill to correspond to only one code.

provide more detailed explanation of the major subject categories for tobacco control and vaccine regulation, respectively, and the Supplemental Text provides details on the techniques used to download and categorize bills.

As shown in the Supplemental Text, the majority of the tobacco bills fall into three categories: control, environment, and finance, although the dominant category varies across states and session. For instance, 48% of all the bills introduced in New York from 1990-2010 dealt with the control category compared to only 15% in Montana (see Table S1 in Supplemental Text). Meanwhile, 63% of the bills introduced in Wyoming from 1990-2010 concerned the financing of tobacco compared to only 16% in Massachusetts. Similarly, the number of bills introduced across all the states dealing with environmental issues was high in the early 1990s, decreased in the early 2000s, and gradually rose to 24% in 2009-2010 (see Figure S1 in Supplemental Text). And, as we might expect, the number of bills introduced across all the states dealing with the financing of tobacco increased sharply in the years following the Master Settlement.

There is much more variation across types of policies considered for vaccine related bills. For instance, most states considered at least one bill from each of the eleven categories from 1990-2010. Even still, school-related mandates took up a large portion of vaccine-related bills for certain states. Sixty-two percent, 46%, and 44% of all the bills introduced in Missouri, Ohio, Arkansas, respectively, from 1990-2010 dealt with school-related mandates compared to only 4% in New Hampshire where the majority of bills dealt with animals and vaccines (see Table S2 in the Supplemental Text). Arkansas, Nebraska, and Texas spent the most time on disclosure or registry bills; 25%, 20%, and 20% of all the vaccine-related bills from 1990-2010, respectively. And, while many states did not propose any vaccine related bills that dealt with government

advocacy, some states, such as Texas (9%), Indiana (9%), and Minnesota (8%), did. There

appears to be longitudinal variation in when certain policy types appeared on state agendas. For

instance, following concern over vaccine's role in the Autism epidemic, a number of state level

bills regulating vaccine content emerged in 2005 after receiving virtually no attention previously.

Alternatively, school mandates tend to be a common policy alternative across time (see Figure

S2 in Supplemental Text).

While the types of policy alternatives are substantively interesting, the focus of this paper

is on the number of specific policy alternatives introduced. Consequently, we created a measure

that sums the number of distinct categories that have more than one bill introduction for both

tobacco legislation and vaccine regulation in each state session.[8] Although states that consider a

large number of bills concurrently consider more policy alternatives, the correlation between our

measures of agenda intensity and policy alternatives is not perfect ($r = .59$ for tobacco and $r =$

.85 for vaccines).

Figure 3 shows the policy alternatives measure for tobacco related bills for selected states

from each region across legislative session. As shown in Figure 3, there is large heterogeneity

across states in the number of policies considered over time. States, such as Illinois and

California, generally consider more policy alternatives than other states, such as Ohio and

Colorado. While some states (e.g., Minnesota, Florida) show large shifts in the number of policy

solutions considered while other states (e.g., California and New York) have less longitudinal

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[8] We also calculated a Herfindahl index for each state session using the following equation

where i is the proportion of bills considered in each category. The Herfindahl index and the

number of policy alternatives variable is correlated ($r = .51$ for tobacco and $r = .51$ for vaccines)

and the substantive conclusions are similar using both measures (although see Footnote 20).

variation. Figure 4 shows a similar graph for vaccine related bills. States are much more likely

to consider only 1 policy alternative for vaccine related bills compared to tobacco bills, as shown

by the frequency with which states have a value of 1 on the score. In addition, there seems to be

more longitudinal variation in the number of distinct policy bills considered for vaccines

compared to tobacco. States, such as New York and California, consistently consider a more

policy solutions for vaccine related bills compared to other states, such as Alabama and Ohio.

Some states (e.g., Alabama) have increased the number of policy alternatives considered over

time while others (e.g., New York) are more stable.

Data Analysis: Determinants of State Agenda Intensity on Tobacco and Vaccines

We first test our hypotheses concerning the determinants of state agenda intensity. Recall

that *H1* suggests that states will allocate more intense attention on problems that are more severe.

We measure problem severity towards tobacco using two variables: the percentage of smokers in

a state and the smoking attributable mortality rate (SAMR). We expect that states with a large

number of smokers will pay more attention to tobacco simply because of the burden that smokers

place on the state's health and economics. This variable is time varying and taken from the

CDC's Behavioral Risk Factor Surveillance System (BRFSS). For SAMR, we measure the

average annual number of deaths caused by cigarette smoking for each state from 1997-2001.

We expect for severity of tobacco to increase as the number of deaths by cigarette smoking

increases. For immunization, we measure three variables that we believe capture severity. First,

we pool the rate of deaths per 100,000 caused by vaccine preventable diseases from 1999-2008

for each state, with the expectation that as the rate of deaths increase, so too should state

attention to vaccines.[9] Second, we measure the rate of immunization from two important age groups. For children, we measure the average percentage of children 19-35 months of age vaccinated across a variety of diseases including diphtheria, tetanus, and pertussis (DTaP), poliovirus, measles, mumps, and rubella (MMR), *Haemophilus influenza* type b (Hib), hepatitis B, and varicella (chickenpox) pooled from 1995-2009.[10] For seniors, we measure the percentage of residents aged 65 years and older who report receiving a flu vaccine in the past year pooled from 1995-2010 using the BRFSS. Here, we expect that as the rate of immunization increases, state attention to vaccines should decline as the threat of outbreaks decrease.

As stated by *H2*, we expect states to allocate more intense attention on issues that are most important to the advocacy groups that are powerful and active in the state. The battle over tobacco control has been waged primarily between the tobacco industry and health advocates, particularly since the 1990s (Givel and Glantz 2001). Consequently, we include four measures of state organized interests for the tobacco analyses: the ratio of the number of health (or tobacco) lobbyists in the state to the total number of registered lobbyists and whether health (or tobacco) interests were listed as one of the ten most effective lobbies within a state (coded as 2), one of the top 20 groups (coded as 1) or not mentioned. Together these variables capture the

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[9] These data come from the CDC's Wonder searchable database. Specifically, these diseases include viral hepatitis (B15-B19) and Influenza (J11, J11.1, and J09).

[10] These data come for the National Immunization Survey. Specifically, we took the average percentage of children from 19-35 months of age who were administered 4 or more doses of DTAP, 3 or more doses of 3 or more doses of poliovirus vaccine, 1 or more doses of any MMR vaccine, 3 or more doses of Hib vaccine, 3 or more doses of HepB vaccine, and 1 or more doses of varicella vaccine.

presence and perceived power of health and tobacco lobbyists compared to other organized

interests in each state. These variables come directly from Shipan and Volden's (2006) analysis

of anti-smoking legislation and are non-time varying. For vaccines, we include the two variables

on health lobbyists only.[11] We expect for states to pay more attention to tobacco legislation or

vaccine regulation as the presence and power of health organizations increase; similarly, we

expect for states to pay less attention to tobacco control as the presence and power of tobacco

organizations increase.

Finally, recall that *H3* suggests that states will allocate more intense attention on issues

that neighboring states consider. To measure attention allocation in neighboring states, we

include the average number of tobacco or vaccine-related bills introduced in neighboring states

for each legislative session, respectively. Specifically, we add up all of the tobacco or vaccine

related bills introduced in neighboring states and divide this value by the number of neighboring

states. We expect the neighboring attention variable to be positively related to attention

allocation to tobacco control and immunization.

We also include various control variables that may influence state agenda intensity

separately from our hypotheses. These include state ideology and state partisanship, as measured

by Pacheco (2011).[12] In general, states with large numbers of liberals or Democrats are more

likely to adopt health-related bills (e.g., Paul-Shaheen 1998; Kousser 2002). We expect similar

results for state attention to tobacco and vaccines. Second, we include a measure of democratic

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[11] Ideally we would have a comparable measure to capture the presence and power of the

pharmaceutical interest groups however, these variables are not available.

[12] An annual estimate was not available for the 2009-2010 session, so 2007-2008 estimates were

included.

strength with the typical expectation that states under Democratic control will be more likely to pay attention to health-related bills. This variable is the sum of percentages of state house and senate that are Democrats plus 100 if the governor is a Democrat (Bailey & Rom 2004).[13] For the tobacco analyses, we include a dummy variable to indicate whether a state is a tobacco producer, tobacco producing states are less likely to pass anti-smoking legislation. We also include Squire's (2007) measure of legislative professionalism with the expectation that highly professionalized legislatures will introduce more bills compared to those that are not professional. Karch (2010) and others find a positive relationship between attention allocation at the national level and attention allocation in the states. Consequently, we include yearly measures of the number of Congressional Hearings focused on tobacco or vaccines collected directly from the Policy Agendas Project.[14] Finally, we include a counter variable for session to account for systemic influences on state attention that are not captured by the model.[15] The session counter accounts also for all election effects as well as any other annual level influences on state attention allocation to tobacco and vaccine (Lowery et al. 2011).

The dependent variables are count variables and analyses suggest the presence of overdispersion. Using Gaussian techniques for non-normally distributed data can lead to biased

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[13] An annual estimate was not available for the 2009-2010 session, so 2007-2008 estimates were included.

[14] For tobacco related hearings, we use the major topic code 341: Tobacco Abuse, Treatment and Education. For vaccine related hearings, we use major topic codes 331: Prevention, Communicable Diseases and Health Promotion, and 332: Infants and Children.

[15] We also included a squared version of the session variable, but it failed to reach statistical significance for both tobacco and vaccine counts.

estimates of the regression parameters (King 1988). Additionally, ACF plots indicate significant autocorrelation in both the tobacco and vaccine counts; models that ignore time dependence lead to incorrect inferences and inefficient estimates, particularly in event count data (Brandt and Williams 2006). Due to the non-normality and time dependent nature of the data, we transform our dependent variables to approximate a normal distribution by taking the square root. We then estimate OLS regressions and include lagged dependent variables to control for autocorrelation.[16] We include robust standard errors to account for heteroskedasticity and error dependence across states. For all time varying variables, we include both a lagged and contemporaneous version. This allows us to test whether our independent variables have an immediate or lagged effect on state attention. For instance, we will be able to assess whether states react immediately to what issues are being considered in neighboring states in the same session or whether they react to issues that were considered in the previous legislative session. Results are shown in Table 1.[17]

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[16] Including a lagged dependent variable also controls for the possibility that some states have a general tendency to consider more bills across all areas. Another way to control for a general tendency to consider many bills is to include the total number of bills introduced per legislative session. We collected crude measures of the total number of bills introduced by states using table 3.19 in the Book of States from 1990-2010, which counts all of the bills introduced in each regular session across the states. These are available online (http://knowledgecenter.csg.org/drupal/view-content-type/1219). This data is not available for certain states in certain years, so we pooled the total by state. Our total bill count variable is correlated with the lagged dependent variables ($r = .53$ for tobacco and $r = .52$ for vaccines).

[17] As Brandt and Williams (2006) point out, the coefficient of the lagged dependent variable in a negative binomial regression is no longer an autocorrelation coefficient; instead, it estimates a

As shown in Table 1, there is support for *H1* across both issues and *H3* for tobacco. For

tobacco, the model suggests that for every additional increase in the percentage of smokers in a

particular state, the expected square root count of the number of tobacco related bills considered

increases by .09 in the next legislative session. [18]   For vaccines, the model suggests that for

every additional increase in the percentage of people aged 65 or older immunized for the flu, the

expected square root count of the number of vaccine related bills consider decreases by .04. The

immunization rate among children and the death rate from vaccine preventable deaths are not

statistically significant in the model.

The model also suggests that for every additional tobacco related bill considered in

neighboring states, the expected square root count of the number of tobacco related bills

considered increases by .04 in the same legislative session. This effect is contemporaneous,

suggesting that states are reacting immediately to the agenda setting actions of neighboring

states. Interestingly, the model also suggests that states react negatively to the actions of

neighboring states for both tobacco and immunications in the previous session, as shown by the

negative and statistically significant coefficients on the lagged neighboring variables. This is

unexpected and goes against H3. However, it may be that these results are driven by

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linear exponential growth rate. This is a dynamic model with a trend, but not necessarily a

cyclical or dynamic component. They suggest other time series event count models, such as a

linear poisson autoregressive model. Unfortunately, the PAR(p) model is not suited for time

series cross sectional data with non-time varying variables.

[18] Smoking attributable mortality rate is highly correlated with the percentage smokers variables

($r = .69$). Even still, the coefficient is not statistically significant when the smoker variables are

excluded from the model.

multicollinearity; the correlation between the contemporaneous and lagged versions of the neighboring variables is high ($r = .87$ for tobacco; $r = .82$ for vaccines). Models that include the differenced and lagged version of the neighboring variables suggest that this effect is positive and contemporaneous only for tobacco and not significant for immunizations. Thus, we are inclined to conclude that neighboring states have a contemporaneous and positive effect on agenda intensity in the home state for tobacco and no effect for vaccine attention.

Finally, *H2*, which suggests that state attention is dependent on interest group activity within the state, receives no support for either issue. Table 1 does suggest that state attention to tobacco is highly related to Congressional attention to tobacco in the previous session, which is consistent with previous work (Karch 2010). Vaccine attention is unrelated to national attention. Finally, other control variables conform to expectations; states are more likely to pay attention to tobacco legislation when Democrats are in power and when the state has a high percentage of liberal residents; more professional legislatures are more likely to consider vaccine related bills.

Data Analysis: Determinants of State Agenda Alternatives on Tobacco and Vaccines

Next, we test our hypotheses about state agenda alternatives. Recall that we expect for states to consider more policy alternatives when ideological polarization is high (*H4*). To capture polarization, we use Shor and McCarty's (2011) measures of state legislative ideology. Shor and McCarty (2011) combine state legislative roll call votes with state legislative survey data from Project Vote Smart (NPAT) from 1996-2009 to map states onto an ideological space using spatial models so that comparisons can be made across states and time. We use Shor and McCarty's (2011) data to measure polarization by taking the difference between the party median scores on ideology averaged across chamber for each state session. Nebraska is excluded from the analyses since its legislature is nonpartisan.

To empirically test H5, which suggests that states will consider more policy alternatives when interest group diversity is high, we use Gray and Lowery's 1997 interest group diversity data on lobby registrations in the fifty states (Gray and Lowery 2001a). The 1997 data contain a list of every lobby registration and the type of lobby group across 26 different sectors including Banking, Insurance, Religious, Tax, and Welfare (Gray and Lowery 2001b; see also Boehmke 2008).[19] Using these distinct categories, Gray and Lowery (1997) create a measure of diversity using a Herfandahl index where higher numbers indicate greater interest group diversity within a state.

Finally, recall that we are ambiguous to the effect that neighboring state policy alternatives has on the home state's policy alternatives. According to the punctuated equilibrium theory, *H6a* states that states will consider more policy alternatives as the number of alternatives considered by neighboring states increases, indicating a positive feedback cycle as states reorganize a policy subsystem in response to a new way of defining a policy problem. According to the policy diffusion literature, *H6b* suggests the opposite; states will consider less policy alternatives as the number of alternatives considered by neighboring states increases. To test these two competing hypotheses, we measure the average number of policy alternatives considered for tobacco or vaccine bills in neighboring states. Specifically, we summed all of the distinct alternatives considered by neighboring states and divided this value by the number of neighboring states.

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[19] Gray and Lowery also partition the data into 3 primary categories based on how autonomous members are, including membership groups, associations, and institutions. We ignore this variation as it does not matter theoretically for policy alternatives in what types of organizations exist, rather it is more important to identify the diversity of sectors that groups encompass.

To be consistent with the previous analyses, we include identical control variables. The dependent variables are counts with evidence of overdispersion for vaccine related bills and time dependence for both issues. Consequently, for the vaccine analyses we transform the dependent variable to approximate a normal distribution by taking the square root. We then estimate OLS regressions with lagged dependent variables to control for autocorrelation.[20] We include robust standard errors to account for heteroskedasticity and error dependence across states. For all time varying variables, we include both a lagged and contemporaneous version. Results are shown in Table 2.

As shown in Table 2 for both tobacco and immunizations, legislative polarization is statistically significant, but in the opposite direction from *H4*. The model estimates that for every one unit increase in the ideological difference between the state parties, the number of policy alternatives considered for tobacco related bills decreases by .45 while the expected square root count of policy alternatives considered for vaccine related bills decreases by .18. We suspect the results indicate the presence of gridlock in the face of polarization (Binder 2003; Jones 2001), which decreases bill introductions more generally. This suspicion is empirically supported as the polarization variable fails to reach statistical significance when we include a measure of the number of tobacco (or vaccine) related bill introductions into the model, which is positive and statistically sign ($\beta=.03^{***}$ for tobacco and $\beta=.05^{***}$ for vaccines).

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[20] Including a lagged dependent variable also controls for the possibility that some states have a general tendency to consider more policy alternatives. A squared version of the counter variable is significant in the tobacco model ($\beta= -.03^{***}$), but fails to reach statistical significance in the vaccine model. The substantive results regarding our hypotheses are unchanged for tobacco with the inclusion of the squared counter variable.

As suggested by *H5*, interest group diversity is positively related to the number of policy alternatives for both issues. For every one unit increase in interest group diversity, states consider .47 more policy solutions in regards to tobacco legislation and .66 more policy solutions in regards to immunizations. The model also shows support for *H6a*, but only for tobacco related legislation.[21] More specifically, as the average number of policy alternatives considered in neighboring states increases, the number of policy alternatives considered increases by .24 in the home state in the same legislative session. This effect is contemporaneous as state officials react immediately to what is going on in neighboring states; the lagged version is not statistically significant at conventional levels. This is strong support for *H6a*, which draws from the punctuated equilibrium theory and less support for *H6b*, which suggests from the policy diffusion literature that states will hone in on one particular policy solution as they learn about successful policies in neighboring states. The control variables are generally not statistically significant; however, results suggest that legislative professionalism is positively associated with the number of policy alternatives for both issues.

Conclusion

Using an original dataset on bill introductions on tobacco and immunizations in the states from 1990-2010, we identify factors influencing the agenda setting process across the states. We find that problem severity is particularly important in understanding why select states allocate more agenda attention on tobacco control or vaccine legislation. We also find legislative polarization and interest group diversity to influence the number of policy alternatives considered by states on tobacco and vaccine related bills. More specifically, legislative

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[21] The neighboring states variable fails to reach statistical significance when using the Herfandahl index of diversity of policy alternatives.

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polarization leads to fewer policy alternatives because it leads to more policy gridlock. Meanwhile, interest group diversity is associated with greater policy alternatives being considered presumably because organizations provide states with more policy options. Finally, the actions of neighboring states are particularly important for tobacco attention allocation, but not for vaccine legislation. States are more likely to allocate attention towards tobacco and to consider a more diverse set of policy solutions when neighboring states consider more bills and more alternatives; however, these effects are contemporaneous as states react to the actions of neighboring states in the same legislative session.

These results suggest several novel things about the agenda setting process in the states. First, state policy makers appear to respond to key policy indicators tracking population health, allocating agenda space to issues that present very real public health problems. This suggests that at least within the domain of public health policy, state governments are attentive to problem severity. This is comforting, as state governments serve a key role in developing and implementing public health policy in the United States, and other research on agenda setting and policy adoption has failed to establish a link between problem and policy-making (Rogers and Dearing 1996).

Perhaps more importantly, the research on the generation of public policy alternatives provides a number of valuable insights into contemporary American politics. Legislative polarization appears to stymie the generation of policy alternatives, leading to gridlock rather than the proliferation of new policy ideas. Ideological divisions appear to stifle both incentives for compromise and the avenues of innovation in American state governments. The relationship between interest group diversity and the generation of policy alternatives also provides an important insight into the process of state level agenda setting. In recent years, scholars of state

politics have become alarmed that both term limited and deprofessionalized legislatures have become increasingly reliant on organized interests for policy ideas. This research suggests that variation in state interest group communities has a real impact on state level agenda setting, as states with dense, diverse and powerful interest group communities have broader policy agendas. This suggests that interest groups remain an important source of influence and innovation in the American case. Researchers worried about the rising influence of interest groups in the wake of the movement to restore citizen legislatures in the United States should be interested to note that legislative professionalism is also associated with increased agenda intensity and the generation of alternatives.

Beyond these implications for real politics, this research also advances our understanding of agenda setting and state policymaking in key ways. First, our research confirms a central finding of the policy diffusion literature—demonstrating (in the case of tobacco legislation) that state bill introductions are partially shaped by the agenda setting activity of neighboring states. It is therefore not simply the act of policy adoption that triggers policy emulation and imitation, but rather an earlier process of attention allocation. This suggests an interesting line of inquiry for future research, as scholars may wish to explore whether adopting and non-adopting states differ not only in the decision to enact legislation, but also in their agenda setting and problem definition activities. However, we do not find evidence that policy diffusion leads to a winnowing effect by states on appropriate policy alternatives. Instead, states simultaneously experience positive feedback whereby new policy subsystems are created, which results in an expansion of policy alternatives under consideration.

Finally, we begin to investigate how federalism shapes the process of agenda setting and problem definition in American politics. Studies of policy diffusion have largely used a simple

binary measure to indicate whether a state has adopted an emerging innovation at a given point in time. However, these discrete innovations are themselves the product of a more dynamic process of problem recognition, problem definition, and alternative generation. This research opens up new questions about policy innovation that focus not simply on when and why states adopted a given policy, but rather why they paid attention to a policy problem and what alternatives policy-makers considered. By focusing on the many alternatives that emerge through agenda setting, this and future research will push us towards an improved understanding of the process of policy experimentation and innovation that play such a prominent role in federalism.

Works Cited

Armstrong, Elizabeth M., Daniel P. Carpenter, and Marie Hojnacki. 2006. "Whose Deaths Matter? Mortality, Advocacy, and Attention to Disease in the Mass Media." *Journal of Health Politics, Policy, and Law*, 31 (4): 729-772.

Bachrach, Peter and Morton S. Baratz. 1961. "Two Faces of Power." *American Political Science Review*, 56 (4): 947-952.

Bailey, Michael A. and Mark Carl Rom. 2004. "A Wider Race? Interstate Competition across Health and Welfare Programs." *Journal of Politics,* 66 (2): 326-347.

Baumgartner, Frank R., Virginia Gray, and David Lowery. 2009. "Federal Policy Activity and the Mobilization of State Lobbying Organizations." *Political Research Quarterly*, 62 (3): 552-567.

Baumgartner, Frank R. and Bryan D. Jones. 1993. *Agendas and Instability in American Politics*. Chicago: University of Chicago Press.

Baumgartner, Frank R. and Beth Leech. 1998. *Basic Interests: The Importance of Groups in Politics and in Political Science*. Princeton: Princeton University Press.

Baumgartner, Frank R. and Jamie Gold. 2002. "The Changing Agendas of Congress and the Supreme Court." in *Policy Dynamics*, Bryan D. Jones (eds.). Chicago: University of Chicago Press.

Berkman, Michael and Eric Plutzer. 2005. *Ten Thousand Democracies: Politics and Public Opinion in America's School Districts*. Georgetown University Press.

Berry, Frances Stokes, and William Berry. 1990. "State Lottery Adoptions as Policy Innovations: An Event History Analysis." *American Political Science Review* 84: 395-415.

Best, Joel. 1990. *Threatened Children: Rhetoric and Concern about Child-Victims*. Chicago: University of Chicago Press.

Blumer, Herbert. 1971. "Social Problems as Collective Behavior." *Social Problems*, 18: 296-306.

Boehmke, Frederick J. 2008. "The Initiative Process and the Dynamics of State Interest Group Populations." *State Politics and Policy Quarterly*, 8 (4): 362-383.

Boehmke, Frederick J. and Richard Witmer. 2004. "Disentangling Diffusion: The Effects of Social Learning and Economic Competition on State Policy Innovation and Expansion." *Political Research Quarterly*, 57 (1): 39-51.

Boushey, Graeme. 2010. *Policy Diffusion Dynamics in America*. Cambridge: Cambridge University Press.

Boushey, Graeme. 2012. "Punctuated Equilibrium Theory and the Diffusion of Innovations." *Policy Studies Journal*, 40 (1): 127-146.

Boushey, Graeme and Adam Luedtke. 2011. "Immigrants across the US Federal Laboratory: Explaining State-Level Innovation in Immigration Policy." *State Politics and Policy Quarterly*, 11 (4): 390-414.

Brandt, Patrick T. and John T. Williams. 2001. "A Linear Poisson Autoregressive Model: The Poisson AR(p) Model." *Political Analysis*, 9 (2): 1-21.

Caldeira, Gregory A., and John R. Wright. 1988. "Organized Interests and Agenda Setting in the US Supreme Court." *American Political Science Review*, 82: 1109-1127.

Centers for Disease Control and Prevention. 2005. ''Annual Smoking-Attributable Mortality, Years of Potential Life Lost, and Productivity Losses—United States 1997–2001.'' MMWR 54:265–68.

Centers for Disease Control and Prevention. 2009. "How Vaccines Prevent Disease." Available
    at: http://www.cdc.gov/vaccines/vac-gen/howvpd.htm Accessed February 2, 2012.

Cobb, Roger and Charles Elder. 1983. *Participation in American Politics: The Dynamics of
    Agenda Building.* Baltimore: John Hopkins University Press.

Colby, David C. and Timothy E. Cook. 1991. "Epidemics and Agendas: The Politics ofr Nightly
    News Coverage of AIDS." *Journal of Health Politics, Policy, and Law*, 16: 215-249.

Council of State Governments. 2007. "Increasing Vaccination Rates." Available at
    http://www.healthystates.csg.org/NR/rdonlyres/E921A0B1-CBD5-4A29-8C93-
    8612CA6E2E77/0/IncreasingVacLPB.pdf Accessed February 2, 2012.

Dearing, James W. and Everett M. Rogers. 1996. *Agenda-Setting*. Thousand Oaks, CA: Sage.

Donovan, Mark C. 2001. *Taking Aim: Target Populations and the Wars on AIDS and Drugs.*
    Washington, DC: Georgetown University Press.

Epstein, Lee and Jeffrey A. Segal. 2000. "Measuring Issue Salience." *American Journal of
    Political Science*, 44 (1): 66-83.

Gerber, Brian J. and Paul Teske. 2000. "Regulatory Policymaking in the American States: A
    Review of Theories and Evidence." *Political Research Quarterly*, 53(4): 849-886.

Glick, Henry R. and Scott P. Hays. 1991. "Innovation and Reinvention in State Policymaking:
    Theory and the Evolution of Living Will Laws." The Journal of Politics 53 (3): 835-850.

Givel, Michael and Stanton Glantz. 2001. "Tobacco Lobby Political Influence on US State
    Legislatures in the 1990s." *Tobacco Control,* 10: 124-134.

Goldstein, Adam O. and Nathan S. Bearman. 1996. "State Tobacco Lobbyists and Organizations
    in the United States: Crossed Lines." *American Journal of Public Health* 86: 1137-1142.

Gray, Virginia, David Lowery, James Monogan, and Erik K. Godwin. 2009. "Incrementing

   Toward Nowhere: Universal Health Care Coverage in the States." *Publius: The Journal*

   of Federalism, 40 (1): 82-113.

Gray, Virginia and David Lowery. 1993. "Stability and Change in State Interest Group Systems,

   1975-1990." *State and Local Government Review,* 25 (2): 87-96.

Gray, Virginia and David Lowery. 2001a. "The Expression of Density Dependence in State

   Communities of Organized Interests." *American Politics Review*, 29:374–391.

Gray, Virginia and David Lowery. 2001b. "The Institutionalization of State Communities of

   Organized Interests." *Political Research Quarterly*, 54:265–284.

Hansen, John Mark. 1991. *Gaining Access: Congress and the Farm Lobby, 1919-1981*.

   Chicago: University of Chicago Press.

Jones, Bryan and Frank Baumgartner. 2005. *The Politics of Attention: How Government*

   Prioritizes Problems. Chicago: The University of Chicago Press.

Karch, Andrew. 2007. *Democratic Laboratories: Policy Diffusion among the American States*.

   Ann Arbor: University of Michigan Press.

Karch, Andrew. 2010. "Vertical Diffusion and the Policy-Making Process: The Politics of

   Embryonic Stem Cell Research." *Political Research Quarterly*.

King, Gary. 1988. "Statistical Models for Political Science Event Counts: Bias in Conventional

   Procedures and Evidence for the Exponential Poisson Regression Model." *American*

   Journal of Political Science, 32 (3): 838-863.

Kingdon, John W. 1995. *Agendas, Alternatives, and Public Policies*. New York: Harper Collins.

Kousser, Thad. 2002. "Politics, Economics, and State Policy: Discretionary Medicaid Spending,

   1980-1993." *Journal of Health Politics, Policy and Law* 27:639-671.

Layman, Geoffrey C., Thomas M. Carsey, and Juliana Manasce Horowitz. 2006. "Party

    Polarization in American Politics: Characteristics, Causes, and Consequences." *Annual*

    Review of Political Science, 9: 83-110.

Lipsky, Michael. 1980. *Street Level Bureaucracy*. New York: Russell Sage Foundation.

Lowery, David, Virginia Gray, and Frank R. Baumgartner. 2011. "Policy Attention in State and

    Nation: Is Anyone Listening to the Laboratories of Democracy?" *Publius: The Journal of*

    Federalism, 41 (2): 286-310.

Lowery, David and Virginia Gray. 1993. "The Density of State Interest Group Systems." *The*

    Journal of Politics, 55: 191-206.

Lowery, David and Virginia Gray. 1995. "The Population Ecology of Gucci Gulch, or the

    Natural Regulation of Interest Group Numbers in the American States." *American*

    Journal of Political Science, 39 (1): 1-29.

Luker, Kristin. 1996. *Dubious Conceptions: The Politics of Teenage Pregnancy.* Cambridge,

    MA: Harvard University Press.

Makse, Todd and Craig Volden. 2011. "The Role of Policy Attributes in the Diffusion of

    Innovations." *Journal of Politics*, 73 (1): 108-124.

McCarty, Nolan M., Keith T. Poole, and Howard Rosenthal. 2006. *Polarized America: The*

    Dance of Ideology and Unequal Riches. Cambridge, MA: MIT Press.

Milbrath, Lester M. 1963. *The Washington Lobbyists*. Chicago: Rand McNally

Mintrom, Michael and Sandra Vergari. 1998. "Policy Networks and Innovation Diffusion: The

    Case of State Education Reforms." *The Journal of Politics*, 60 (1): 126-148.

Mooney, Christopher Z. and Mei-Hsein Lee. 2000. "The Influence of Values on Consensus and

    Contentious Morality Policy: US Death Penalty Reform, 1956-1982." *The Journal of*

    Politics 62 (1): 223-239.

National Conference of State Legislatures. 2007. "2007 Enacted State Legislation Related to

    Immigrants and Immigration." Available at: http://www.ncsl.org/issues-

    research/immigration/2007-enacted-state-legislation-related-to-immigran.aspx Accessed

    February 2, 2012.

National Conference of State Legislatures. 2011. "Immunizations." Available at:

    http://www.ncsl.org/issues-research/health/immunizations-policy-issues-overview.aspx.

    Access February 2, 2012.

Nice, David C. 1994. "The States and the Death Penalty." The Western Political Quarterly, 45

    (4): 1037-1048.

Pacheco, Julianna. 2011. "Using National Surveys to Measure State Public Opinion over Time:

    A Guideline for Scholars and an Application." *State Politics and Policy Quarterly*, 11

    (4): 415-439.

Pacheco, Julianna. 2012. "The Social Contagion Model: Exploring the Role of Public Opinion on

    the Diffusion of Antsmoking Legislation across the American States." *The Journal of*

    Politics, 74 (1):

Paul-Shaheen, Pamela A. 1998. "The States and Health Care Reform: The Road Traveled and

    Lessons Learned from Seven that Took the Lead." *Journal of Health Politics, Policy and*

    Law 23: 319–361.

Pralle, Sarah. 2003. "Venue Shopping, Political Strategy and Policy Change: A Case Study of

    Canadian Forest Advocacy." *Journal of Public Policy* 23: 233-260.

Rochefort, David A. and Roger W. Cobb. 1994. *The Politics of Problem Definition: Shaping the Policy Agenda.* Kansas: University of Kansas Press.

Sabatier, Paul A. and Hank Jenkins-Smith. 1999. "The Advocacy Colation Framework: An Assessment." in Paul A. Sabatier, ed. *Theories of the Policy Process* (117-168). Boulder, CO: Westview Press.

Sapat, Alka. 2004. "Devolution and Innovation: The Adoption of State Environmental Policy Innovations by Administrative Agencies." *Public Administration Review*, 64(2): 141-151.

Schattschneider, E.E. 1960. *The Semisovereign People*. New York: Holt, Rinehard, and Winston.

Schneider, Anne and Helen Ingram. 1993. "Social Construction of Target Populations: Implications for Politics and Policy." *American Political Science Review*, 87: 334-347.

Schlozman, Kay Lehman and John T. Tierney. 1986. *Organized Interests and American Democracy*. New York: Harper and Row Publishers.

Shipan, Charles R., and Craig Volden. 2006. "Bottom-up Federalism: The Diffusion of Antismoking Policies from US Cities to States." *American Journal of Political Science*, 50: 825-543.

Shor, Boris and Nolan McCarty. 2011. "The Ideological Mapping of American Legislatures." *The American Political Science Review*, 105 (3): 530-551.

Simon, HA. 1955. "A Behavioral Model of Rational Choice." Quarterly Journal of Economics 69: 99-118.

Sloan, Frank A., Jennifer S. Allsbrook, Leanne K. Madre, Leah E. Masselink, and Carrie A. Matthews. 2005. "States' Allocations of Funds from the Tobacco Master Settlement Agreement." *Health Affairs*, 24: 220-227.

Soss, Joe. 1999. "Lessons of Welfare: Policy Design, Political Learning, and Political Action."
1999. *APSR,* 93(2): 363-80.

Spector, Malcolm and John I. Kituse. 1973. "Social Problems: A Re-formulation." *Social
Problems*, 21: 145-159.

Squire, Peverill. 2007. "Measuring State Legislative Professionalism: The Squire Index
Revisited." *State Politics and Policy Quarterly* 7 (2): 211-227.

Volden, Craig. 2006. "States as Policy Laboratories: Emulating Success in the Children's Health
Insurance Program." *AJPS,* 50 (2): 294-312.

Walker, Jack L. 1969. "The Diffusion of Innovations among the American States." *APSR.* 63
(3): 880-889.

Warner, Kenneth. 2006. ''Tobacco Policy Research: Insights and Contributions to Public Health
Policy.'' In Tobacco Control Policy, ed. Kenneth Warner. San Francisco: Jossey-Bass.

Wright, John R. 1996. *Interest Groups and Congress: Lobbying, Contributions, and Influence*.
Boston: Allyn and Bacon.

Table 1 OLS Regression of State Agenda Intensity to Tobacco and Vaccines 1990-2010

Tobacco Legislation (N=490)			Vaccine Regulation (N=496)		
Tobacco Bills (t-1)	.72	***	Vaccine Bills (t-1)	.47	***
	(.043)			(.08)	
Issue Saliency (H1)			*Issue Saliency (H1)*		
Percent Smokers (t)	-.06		Percent Aged 19-35 Months Immunized for Various Childhood Diseases	.02	
	(.01)			(.02)	
Percent Smokers (t-1)	.09	*	Percent Aged 65+ Immunized for the Flu	-.04	**
	(.05)			(.02)	
Smoking Attributable Mortality Rate	-.003		Death Rate of Vaccine Preventable Diseases	.03	
	(.002)			(.02)	
Interest Groups (H2)			*Interest Groups (H2)*		
Power Tobacco Lobbyists	-.01				
	(173.00)				
Power Health Lobbyists	.07		Power Health Lobbyists	.02	
	(.08)			(.07)	
Ratio Tobacco Lobbyists	-7.83				
	(6.97)				
Ratio Health Lobbyists	.57		Ratio Health Lobbyists	.11	
	(1.18)			(1.35)	
Neighboring States (H3)			*Neighboring States (H3)*		
Average Number of Tobacco Bills Introduced in Neighboring States (t)	.04	**	Average Number of Vaccine Bills Introduced in Neighboring States (t)	.05	
	(.016)			(.03)	
Average Number of Tobacco Bills Introduced in Neighboring States (t-1)	-.03	*	Average Number of Vaccine Bills Introduced in Neighboring States (t-1)	-.06	*
	(.02)			(.03)	
Control Variables			*Control Variables*		
National Attention to Tobacco (t)	.02	*	National Attention to Vaccines (t)	.00100	
	(.009)			(.003)	
National Attention to Tobacco (t-1)	.03	**	National Attention to Vaccines (t-1)	.002	
	(.012)			(.004)	
Percent Democrat (t)	.04		Percent Democrat (t)	.020	
	(.03)			(.02)	
Percent Democrat (t-1)	-.03		Percent Democrat (t-1)	-.022	
	(.03)			(.02)	
Percent Liberal (t)	.08	*	Percent Liberal (t)	-.01	
	(.04)			(.03)	
Percent Liberal (t-1)	-.05		Percent Liberal (t-1)	.05	
	(.03)			(.03)	
Tobacco State	-.016				
	(.16)				
Democratic Strength	.002	***	Democratic Strength	.0006	
	(.009)			(.001)	
Legislative Professionalism	.70		Legislative Professionalism	1.37	**
	(.61)			(.52)	
Session Counter	-.09	***	Session Counter	.06	***
	(.03)			(.02)	
Constant	.52		Constant	.54	
	(.76)			(2.07)	

Note: Dependent variables is the square root of tobacco or vaccine bill introductions. *p<.10,**p<.05, ***p<.001 with a two tailed test. Robust standard errors shown in parentheses.

Table 2 OLS Regression of State Policy Alternatives to Tobacco and Vaccine 1990-2010

Tobacco Legislation (N=486)				Vaccine Regulation (N=486)		
Tobacco Alternatives (t-1)	.26	***		Vaccine Alternatives (t-1)	.19	***
	(.07)				(.05)	
Polarization (H4)				*Polarization (H4)*		
Legislative Polarization	-.45	***		Legislative Polarization	-.18	**
	(.13)				(.07)	
Interest Group Diversity (H5)				*Interest Group Diversity (H5)*		
Interest Group Diversity Index	.47	*		Interest Group Diversity Index	.66	***
	(.24)				(.12)	
Neighboring States (H6a; H6b)				*Neighboring States (H6a; H6b)*		
Average Number of Policy Alternatives Considered in Neighboring States for Tobacco (t)	.24	***		Average Number of Policy Alternatives Considered in Neighboring States for Vaccines (t)	.030	
	(.063)				(.03)	
Average Number of Policy Alternatives Considered in Neighboring States for Tobacco (t-1)	-.13			Average Number of Policy Alternatives Considered in Neighboring States for Vaccines (t-1)	-.01	
	(.08)				(.03)	
Control Variables				*Control Variables*		
Percent Democrat (t)	-.01			Percent Democrat (t)	.013	
	(.02)				(.01)	
Percent Democrat (t-1)	.04	**		Percent Democrat (t-1)	-.011	
	(.02)				(.01)	
Percent Liberal (t)	.08	***		Percent Liberal (t)	-.002	
	(.02)				(.02)	
Percent Liberal (t-1)	-.03			Percent Liberal (t-1)	.02	
	(.03)				(.02)	
Democratic Strength	.0003			Democratic Strength	.0013	***
	(.001)				(.0004)	
Legislative Professionalism	.72	*		Legislative Professionalism	.56	*
	(.42)				(.30)	
Session Counter	.07	**		Session Counter	.04	*
	(.03)				(.02)	
Constant	.44			Constant	.30	
	(.49)				(.27)	

Note: Dependent variable for the vaccines model is the square root of the number of policy alternatives considered.
*p<.10,**p<.05, ***p<.001 with a two tailed test. Robust standard errors shown in parentheses.

Figure 1 Number of Tobacco Related Bills Introduced By State Legislative Session
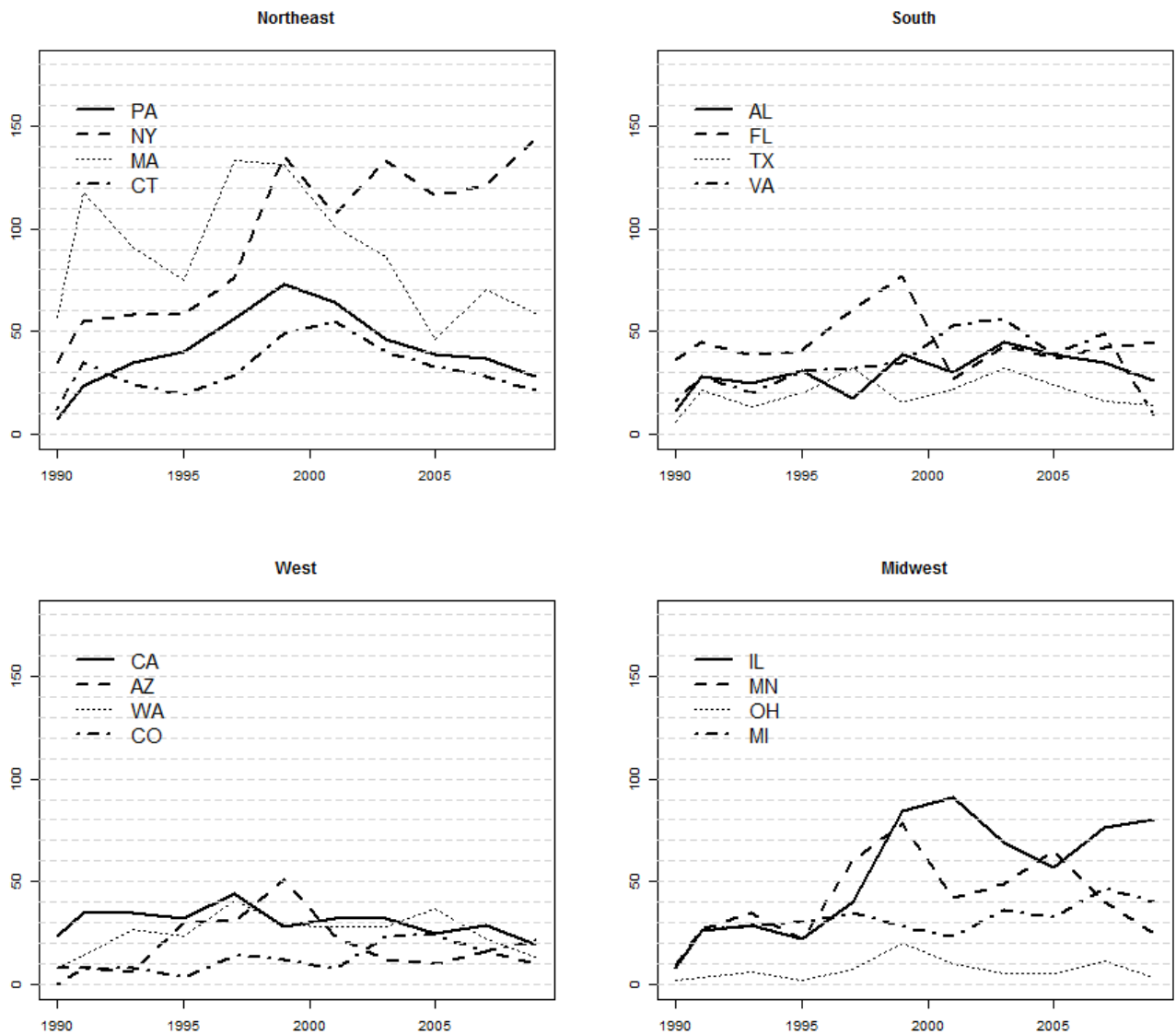
Figure 2 Number of Vaccine Related Bills Introduced by State Legislative Session
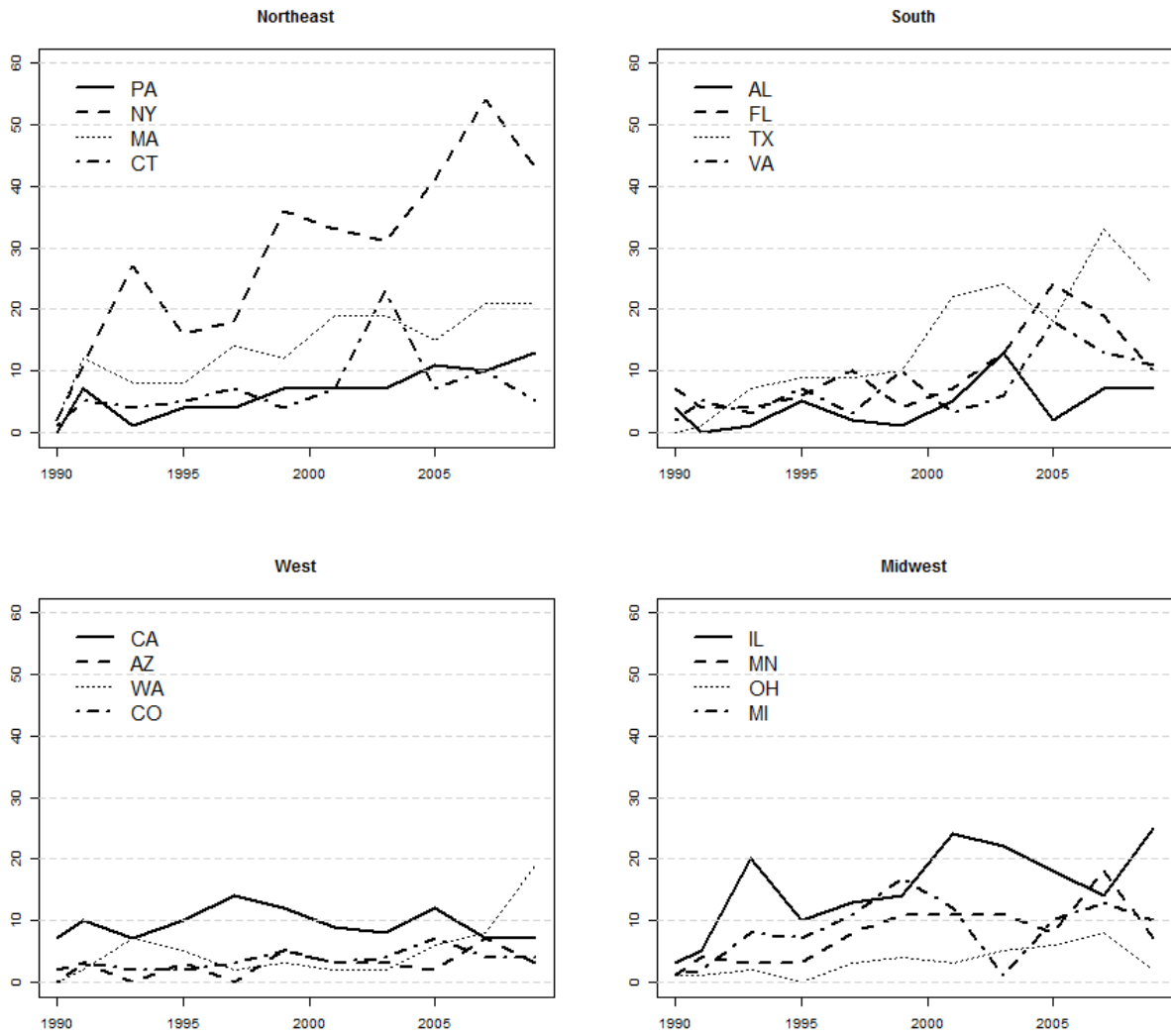
Figure 3 Number of Different Policy Alternatives Introduced by State Legislative Session on Tobacco
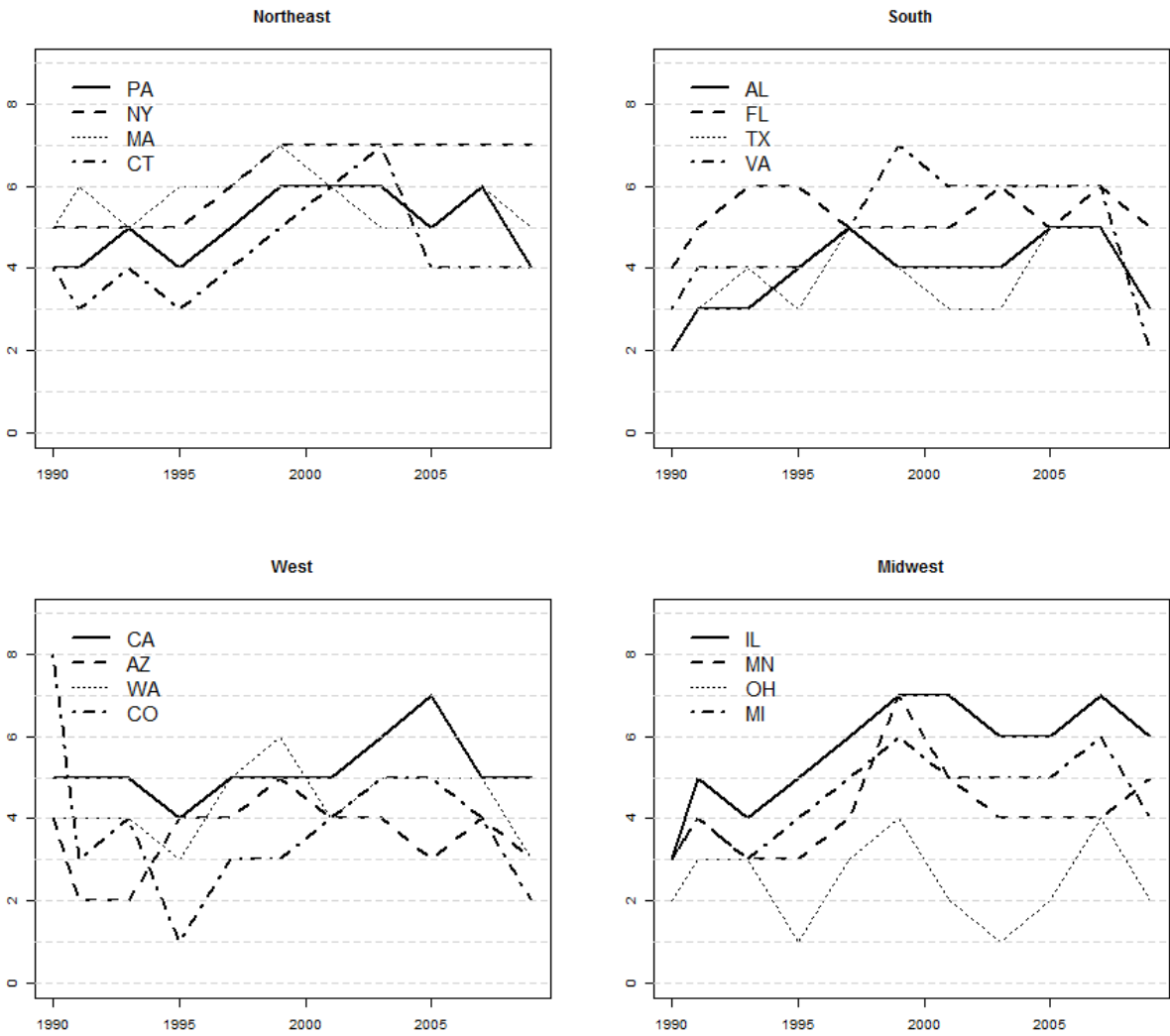
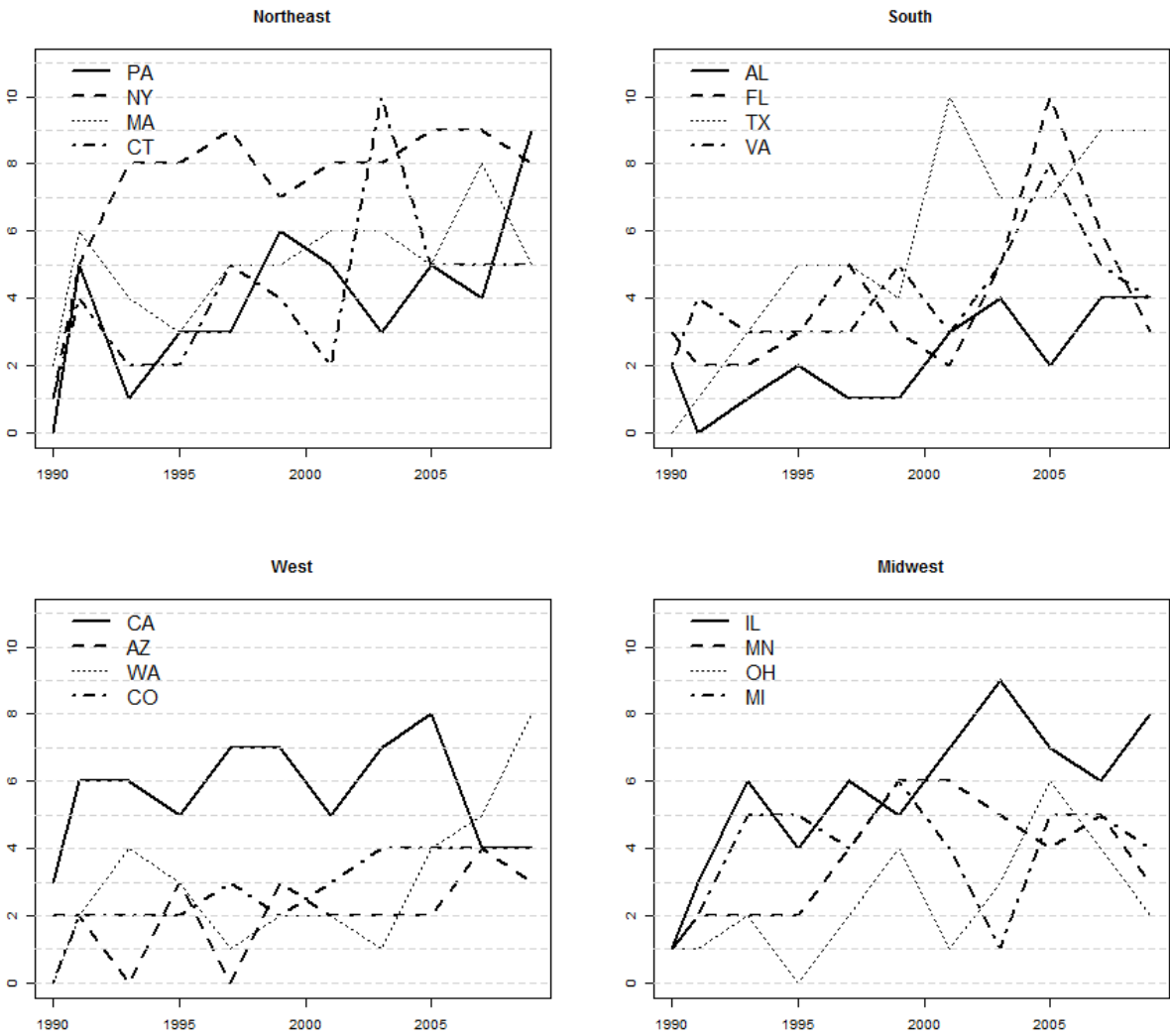**Figure 4 Number of Different Policy Alternatives Introduced by State Legislative Session on Vaccines**

Table A1 Description of Tobacco Code Categories and Examples

Category	Description	Example
Control	Includes regulations to control the consumption, access, and sale of tobacco produces, youth access, packaging of tobacco, exceptions, and penalties	PA HB 2735 introduced in 1994: Amends the Fire and Panic Act. Provides for penalties relating to school tobacco control. Further provides for penalty relating to smoking and prohibited designers and apprentice fire sprinkler fitters. Provides for rules and regulations and for penalties.
Environment	Includes regulations that aim to protect nonsmokers from environmental smoke including clean indoor air acts	CA AB 1569 introduced in 2003: Makes it an infraction punishable by a fine for a person to smoke a pipe, cigar or cigarette in a motor vehicle, whether in motion or at rest, in which there is a child passenger who is required to be secured in a child passenger restraint system. Provides the first violation is not subject to a fine. Requires the Department of Health Services to conduct a public education program regarding the dangers of secondhand smoke in confined places and to inform the public of the bill's requirements.
Agriculture	Includes regulations of the growth of tobacco products, tobacco subsidies to farmers, regulations of tobacco in its leaf form,and alternative uses for tobacco leaves	VA HB 176 introduced in 2003: Provides a subtraction from Federal adjusted gross income for individuals, and from Federal taxable income for corporations, when calculating taxable income for any amounts received by tobacco farmers or tobacco farming businesses from tobacco settlement funds.
Insurance	Includes smoking cessation coverage, discounts for people who do not smoke, requirements for Medicaid beneficiaries	IL SB 475 introduced in 2001: Amends the Senior Citizens and Disabled Persons Property Tax Relief and Pharmaceutical Assistance Act; provides that covered prescription drug includes drugs used in the treatment of chronic and acute effects or conditions related to cancer, lung disease, and smoking related illnesses.
Advocacy	Includes government sponsored ads for prevention, anti-smoking advertisements, education programs, cessation programs, and delegation of responsibilities to bureaucracy	MI SR 60 introduced in 1999: Resolves to recognize October 23-31, 1999, as National Red Ribbon Week, sponsored by the Michigan Communities in Action for Drug-Free Youth.
Litigation	Includes decisions about the Master Settlement Fund	NJ ACR 166 introduced in 1999: Memorializes the U.S. Congress to enact legislation to prevent federal recoupment of tobacco settlement monies received by states.
Finance	Includes cigarette taxes, allocation of funding fo Master Settlement Fund, allocation of funds from tax revenues, and funding of government tobacco control programs	OK SB 1084 introduced in 2006: Relates to sales tax exemptions for tickets, programs, tourism, advertising, veterans, contractor sales and facility expansion; requires vendors to honor proof of eligibility; limits municipal authority to levy sales taxes; exempts vessels or motors owned by nonprofits; relates to the cigarette stamp and tobacco products tax, wholesaler's bond, alternate energy tax credits, ad valorem taxes, rural electric cooperatives, veteran's license plates and historic hotel rehabilitation tax credits.
Micellaneous	Includes all other bills that do not fit into other categories	TN SB 3346 introduced in 2004: Concerns Local Government, General; repeals section preempting local governments from regulating tobacco products. - Repeals TCA Section 39-17-1551.

Table A2 Description of Vaccine Code Categories and Examples

Category	Description	Example
School-related Mandates	Includes requirements for vaccinations, exemptions or exceptions, funding & provisions for all school grades (pre-school-college) as well as school personnel and home-schooled children.	AL HB 176 introduced in 1990: Amends current code relating to the required immunization of kindergarten and first grade pupils entering Alabama's public schools, so as to include pre-kindergarten children.
Employment	Includes mandates of public workers, funding for employment related vaccinations	AZ HB 1965 introduced in 2003: Includes an adverse reaction to smallpox vaccine in the definition of compensable injury under the worker's compensation act for employees of the Department of Health.
Insurance	Includes mandates as conditions of public assistance, education or promotion of public assistance, regulation of coverage by private insurancy companies	CA AB 1287 introduced in 1991: Prohibits any health care service plan, disability insurer, nonprofit hospital service plans, self-insured employee welfare benefit plans, or life insurer from withholding coverage based solely upon an individual's participation in an approved AIDS vaccine clinical trial. Requires the State Department of Health Services to maintain a confidential certificate provided by the trial sponsor, subject to release by written authorization.
Animals	Includes domestic, livestock animals, as well as protocols for adoption	ND HB 1091 introduced in 1993: Relates to calfhood vaccination against brucellosis; and relates to the killing of an infected animal for human consumption.
Research & Development	Includes information gathering, allocation of funds for research, and program evaluation	NC HB 957 introduced in 2009: Directs the Department of Health and Human Services, Division of Public Health, to study the feasibility of establishing a school-based influenza vaccination pilot program.
Disclosure-Registry	Includes creation or funding of state registry	OR HB 2269 introduced in 2001: Establishes Oregon Immunization ALERT as statewide immunization registry program; authorizes Health Division to assess certain fees on health insurers to fund ALERT and to adopt rules for setting and assessing fees.
Content	Includes the regulation of the physical vessel of vaccine, preservatives, delivery method, storage and handling	PA HB 2863 introduced in 2004: Amends the Childhood Immunization Insurance Act of 1992. Further provides for definitions. Provides for mercury-free vaccines.
Advocacy	Includes public awareness campaigns, creation of pamphlets, billboards or media to communicate informations about vaccines	TX HCR 1072 introduced in 1995: Recognizes National Infant Immunization Week.
Public Health Service	Includes creation of task force within the bureaucracy, creation of agency or program, funding of general vaccinations, or delegation to bureaucracy	WA SB 5700 introduced in 1993: Creates an immunization schedule and incentive program. Directs the State Board of Health to establish an immunization schedule. Provides financial incentives to local health jurisdictions to improve immunization rates among children under four years of age.
Administration	Includes regulations about who can provide vaccines	VA HB 173 introduced in 2010: Relates to administration of vaccines by emergency medical services providers; provides that certified emergency medical services technicians who have received specified training, who act in accordance with specified protocols, and who act under the direction of the Commissioner of Health and the direction of their operational medical director, may dispense and administer influenza vaccine to adults and minors.
Miscellaneous	Includes all other mentions of vaccines that do not fit neatly into one of the other categories or those that have synopses that coders could not identify a category.	AR HB 2026 introduced in 2007: Creates a priority system for immunizations during a pandemic in order to limit the loss of life among citizens and to contain the spread of the disease.