State Legislation Concerning Individuals With Dementia: An Evaluation of Three Theoretical Models of Policy Formation

Brian Kaskie, PhD,¹ Bob G. Knight, PhD,² and Phoebe S. Liebig, PhD²

Purpose: This study examined the formation of state government policies concerning persons with dementia. In particular, we identified variables associated with the passage of pertinent state laws by testing three theoretical models of policy formation: the iron triangle, the policy system, and an integrated model. Methods: We sampled 44 states and counted the number of laws concerning individuals with dementia that passed during the 1998 legislative sessions. We constructed nine independent variables to represent the three theoretical models of state policy formation. Then the number of legislative actions were regressed onto each model. Results: The integrated model that consisted of political actors, legislative features, and environmental inputs met goodness-of-fit criteria for a maximum likelihood regression analysis ($\chi^2/df = 1.55$). The advocacy effort of the Alzheimer’s Association, number of legislative champions, supply of special care beds for persons with dementia, and recent policy activity were related significantly with increased legislative activity concerning individuals with dementia. Implications: Policy responses concerning persons with dementia increasingly have been created within state governments, and we identified variables associated with the passage of pertinent state laws. This research also contributed to the advancement of comparative state policy research by contrasting the three theoretical models of policy formation.

Key Words: Alzheimer’s disease, Public policy, State governments

Forgetfulness and intellectual decline once were considered ordinary endpoints in the life course. These symptoms were thought to be so common among older adults that, in testimony provided to the Senate Special Committee on Aging in 1971, the American Psychiatric Association did not define senility as a treatable psychiatric illness (U.S. Senate Special Committee on Aging, 1971). Health professionals rarely assessed persons who presented these symptoms, and older adults with advanced senility often were sequestered to inpatient psychiatric hospitals, institutions for mental disease, or nursing homes where they received only the most basic custodial care (Kahn, 1975).

The conceptualization of senility as a normative process was not rejected until researchers determined that pronounced age-related changes in memory and intellectual performance often were caused by Alzheimer’s disease and other pathogenic processes (Fox, 1989). In 1974, Dr. Robert Katzman reported that neurological autopsies of senile older adults consistently revealed extensive neuronal degeneration, and high concentrations of the hallmark plaques and tangles associated with Alzheimer’s disease. He recommended that senility be defined as a diagnosable psychiatric disorder—the clinical dementia syndrome—rather than a normative age-related process. Then, in 1978, the National Institute on Aging convened the first national symposium on Alzheimer’s disease, and an expert panel confirmed that dementia was an insidious pathology that constituted a significant public problem (Butler, 1984).

Soon after, Senator Thomas Eagleton chaired the first Congressional hearing on Alzheimer’s disease in 1980, and the federal government acknowledged that dementia required a concerted policy response. A national network of Alzheimer’s Disease Research Centers was established in 1984, and the Advisory Panel on Alzheimer’s Disease was created in 1986. Congressional hearings on Alzheimer’s disease continue to be held annually. Congress has steadily increased financial support for research and programs targeting Alzheimer’s disease and other forms of dementia to more than $500 million, and the Advisory

¹We gratefully acknowledge the contributions of Darlene Kaskie, Mike Splaine, Margy Gatz, and Merrill Silverstein. The first author was supported by NIH/NIA (National Institutes of Health/National Institute on Aging) Predoctoral Training Grant 5-T32-AG00037: Multidisciplinary Research Training in Gerontology.
²Address correspondence to Brian Kaskie, PhD, Department of Health Management and Policy, University of Iowa, 2700 Steindler, Iowa City, IA 52242-1008. E-mail: brian-kaskie@uiowa.edu
³Department of Health Management and Policy, University of Iowa, Iowa City.
⁴Andrus Gerontology Center, University of Southern California, Los Angeles.
Panel on Alzheimer’s Disease continues to review programs and policy issues (Advisory Panel on Alzheimer’s Disease, 1995; Alzheimer’s Association, 2000; Fox, 1989).

As the U.S. population continues to age, the number of persons with dementia is expected to increase as well. Manton, Corder, and Stallard (1993) stated that the prevalence of dementia should increase beyond the current rate of 7.3% of the over 65 population as other chronic health problems and causes of death become more responsive to treatment interventions, thereby increasing life expectancy and the probability of acquiring dementia. So, the continued development and implementation of federal policies should become even more pivotal in the next 20 years (Gatz, Lowe, Berg, Mortimer, & Pedersen, 1994; Koenig, George, & Schneider, 1994).

The Role of State Governments

Policy responses pertaining to persons with dementia also have been advanced by the state governments. In fact, Cutler (1986) and Lombardo (1991) argued that state governments assumed primary public authority for developing and implementing the public policies pertaining to persons with dementia, and Liebig (1993), Van Horn (1993), and Well, Wiener, and Holahan (1998) said that the roles and responsibilities assumed by state governments have expanded and become even more important in recent years.

The National Conference of State Legislatures (1986), Knight and Macofsky-Urban (1990), and the Alzheimer’s Association (1999) compiled state policies pertaining to persons with dementia. We analyzed these policies and organized them into seven categories. The state policies included: (a) agenda-setting activity such as organizing a commission on Alzheimer’s disease; (b) efforts to provide public education and service linkage; (c) financial and administrative support for biomedical research programs and service demonstrations; (d) implementation and regulation of residential health care, community-based health care, and social services; (e) establishment of professional requirements such as licensing, training, and staffing ratios; (f) provision of guardianship and protective services; and (g) tax credits, allowances, and other budget allocations concerning individuals with dementia and their caregivers.

Further evaluation of the state policies revealed that legislative activity increased considerably during the 1990s. Kaskie (1998) found that the state legislatures targeted 150 discrete legislative actions toward persons with dementia between 1990 and 1997, and eight state legislatures passed 10 or more laws targeting persons with dementia during this period. This finding illuminated a research question that warranted further analysis: Why did some states pass more laws concerning persons with dementia than others?

The primary objective of this research was to identify the influences of state legislative activity. To reach this objective, we tested how well three theoretical models of policy formation explained the passage of state laws pertaining to persons with dementia. We assumed that if we could identify the sources of variability across the legislative outputs, then we could determine why some states passed more laws than others. We also assumed that the research findings would assist advocacy efforts to enhance legislative activity across the United States.

A second objective of this research was to illuminate the process of state policy formation more generally. Comparative evaluations of state policy outputs such as air pollution control, lottery adoptions, and Medicaid funding (Berry & Berry, 1990; Meier & MacFarlane, 1992; Ringquist, 1994) have identified mechanisms of state policy making but have not definitively answered questions asking why state legislatures create variable outputs (Brace & Jewett, 1995). By conducting a comparative evaluation of state dementia policy and testing three distinct models, we contributed to comparative state policy research methodology and shed more light on why state legislatures create such a vast assortment of laws.

Three Theoretical Models of State Policy Formation

The theoretical models selected for our analysis represented empirically supported conceptualizations of the convoluted process of legislative policy making. We also determined that the three models—the iron triangle, the policy system, and an integrated model—could be readily applied to the analysis of state dementia policy formation.

The iron triangle model originally was formulated by Freeman (1955) after he observed the development of federal policies within the Bureau of Indian Affairs. He concluded that the exchanges among interest groups, government agents, and elected representatives were critical to the formation of policies concerning the use of Indian lands. Other researchers (Gais, Peterson, & Walker, 1983; Hamm, 1986) conducted case studies in which the iron triangle was applied to help explain policy formation at the state level. Following this, we hypothesized that state laws concerning individuals with dementia were more likely to be passed in states with a greater advocacy effort made on behalf of people with dementia by local chapters of the Alzheimer’s Association, a greater number of agency experts who pursued pertinent policy-making activities, and a greater number of legislators who supported relevant policies.

In contrast, Easton (1958) argued that state policies were created within a system in which the procedural rules, professional capabilities, and ideology of state governments were more critical to shaping state policy outputs. Dye (1966) expanded the conceptualization of the policy system by arguing that environmental inputs, such as the wealth of a state and the size of its population, influenced policy outputs as well. Empirical applications of the policy system have been numerous and often done to the exclusion of the iron triangle, which was dismissed as secondary or nonessential to the policy-making process (if not difficult to evaluate empirically in comparative state policy research designs).
We hypothesized that laws concerning dementia were likely to be passed by state legislatures that: (a) supported these sorts of policies ideologically; (b) were capable of responding to the needs of a vulnerable population; (c) were economically wealthy; and (d) had a large number of older adult citizens. In Figure 1, we depict how state laws pertaining to persons with dementia may be shaped by an iron triangle and a policy system.

Contemporary researchers have selected constructs featured in the iron triangle and the policy system, and have created an integrated model of state policy formation. In these integrated models, policy outputs were assumed to be shaped by political actors who operated within legislative institutions that were influenced by environmental characteristics (Ringquist, 1993). In constructing an integrated model relative to state dementia policy, we made two modifications to the original integrated model. First, we included constructs of all three political actors featured in the iron triangle. This departs from previous research that either ignored the iron triangle altogether or only included a gross measure of interest group influence (i.e., per capita membership).

Second, our integrated model included specifically defined measures of environmental inputs: per capita supply of special care beds for persons with dementia, and recent legislative activity concerning dementia. The inclusion of the former followed Ringquist (1994), who found more substantive relationships among precisely defined constructs of the environmental context and a particular state policy output. We hypothesized that states with more special care services created more policies.

The inclusion of the latter followed Khator (1993), who determined that state recycling policies were influenced by the historical interest in recycling activity. We hypothesized that current state legislative activity was shaped by a historical precedent. So, in our integrated model, we assumed that dementia legislation passed in 1998 was related to the amount of legislative activity during the 1996 and 1997 sessions. Our integrated model of state policy formation is shown in Figure 2.

**State Legislative Output**

The dependent variable was a measure of state legislative output: We counted the number of laws concerning individuals with dementia that passed during the 1998 sessions. By focusing on legislative activity, we disentangled the institutional origin of our policy output. We did not confound the influences upon the state legislatures with those associated with executive and judicial institutions (Meier, 1993; Van Horn, Baumer, & Gormley, 1992). Indeed, the variables that influence the formation of state law should not be confused with those that influence the creation of executive pronouncements, agency regulations, and judicial decisions. Bureaucratic agencies and the state courts should not be as responsive to constituency demands or economic deficits, for example.

We recognized the limitations of this circumscribed construct. Counting the number of legislative actions provided only an elementary index of legislative activity. Whether or not the quantity of legisla-

![Figure 1. The iron triangle and the policy system.](image-url)
tive action corresponded with the quality of law, or the implementation of the law by state agencies or interpretation of the law by state courts, was not tested in this research. Nevertheless, given the lack of a well-established research tradition in this area, we were confident that our focus was an appropriate place to begin. After all, state legislation represents the cornerstone of state policy activity. Without state laws, fiscal appropriations are less likely to be dispensed, programs are less likely to be developed and implemented, and cases are less likely to be brought to the courts (Holcombe, 1926; MacDonald, 1955; Rosenthal, 1993).

Methods

Sample

Our sample included the 44 states that convened legislative sessions during 1998. Because the Arkansas, Montana, Nevada, North Dakota, Oregon, and Texas legislatures only meet during odd calendar years, these states were not included in the analysis. Further, because we were interested in testing causal models of state policy formation, we focused on a single legislative session and did not confound our outcome measure by pooling activity across consecutive years (Gray, 1976; Lewis-Beck, 1977).

Measures

We constructed an outcome measure of state policy activity by counting the number of laws passed during the 1998 legislative sessions that pertained to individuals with dementia (Alzheimer’s Association, 1999). We then constructed 11 independent variables from primary and secondary sources of data. After correlating the variables (see Table 1) and completing auxiliary regressions, we removed two variables from further analysis in order to avoid problems associated with multicollinearity. In particular, the auxiliary regression analyses indicated that legislative professionalism had an $R^2$ value of .75 ($p < .01$), and state revenue had an $R^2$ of .72 ($p < .01$). The nine variables that were used to test three models of state policy formation are listed in Table 2.

Dependent Variable: The Number of Laws Passed During the 1998 Legislative Sessions

The Alzheimer’s Association (1999) compiled state legislation passed during the 1998 sessions that was

Table 1. Correlations Among the Possible Legislative Determinants

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Alzheimer’s Association</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Bureaucratic agents</td>
<td>.416*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Legislative champions</td>
<td>.313*</td>
<td>.468*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Legislative professionalism</td>
<td>.402**</td>
<td>.184</td>
<td>.389**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Government ideology</td>
<td>.025</td>
<td>-.067</td>
<td>.148</td>
<td>.114</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Government performance</td>
<td>.039</td>
<td>.041</td>
<td>.261</td>
<td>.552**</td>
<td>.113</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. State revenue</td>
<td>.367*</td>
<td>.281</td>
<td>.347*</td>
<td>.727**</td>
<td>.099</td>
<td>.446*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Per capita income</td>
<td>.070</td>
<td>.057</td>
<td>.177</td>
<td>.484**</td>
<td>.224</td>
<td>.596**</td>
<td>.352</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Per capita special care</td>
<td>-.088</td>
<td>-.221</td>
<td>-.047</td>
<td>-.163</td>
<td>-.281</td>
<td>.184</td>
<td>-.221</td>
<td>.072</td>
<td>-.148</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Recent policy activity</td>
<td>.157</td>
<td>-.025</td>
<td>-.059</td>
<td>.082</td>
<td>.133</td>
<td>-.026</td>
<td>.363*</td>
<td>-.008</td>
<td>.104</td>
<td>-.008</td>
<td></td>
</tr>
</tbody>
</table>

Note: $N = 44$.

*p < .05; **p < .01 (two-tailed).
most pertinent to the demented population. These laws were identified by staff analysts who tracked legislative bills using on-line state policy databases and key informants. In 1998, the 44 state legislatures passed an average of 2.23 (SD = 2.18) actions that pertained to individuals with dementia. California, Virginia, and Arizona passed nine, eight, and seven bills and amendments, respectively. Nine states (i.e., Alabama, Hawaii, Idaho, Louisiana, New Hampshire, Nebraska, Ohio, South Dakota, and Wyoming) took no pertinent legislative action. In Table 3, we list the different types of state laws that were passed during the 1998 sessions.

### Table 3. Summary Table of State Legislative Activities

<table>
<thead>
<tr>
<th>Categories of Legislation</th>
<th>Types of Legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>State government administration</td>
<td>Committee and task force organization</td>
</tr>
<tr>
<td></td>
<td>Program consolidation</td>
</tr>
<tr>
<td>Revenue and finance</td>
<td>Spousal impoverishment definition</td>
</tr>
<tr>
<td></td>
<td>Caregiver tax credits or exemptions</td>
</tr>
<tr>
<td>Insurance</td>
<td>Long-term care insurance</td>
</tr>
<tr>
<td></td>
<td>Mental health parity insurance</td>
</tr>
<tr>
<td>Criminal justice</td>
<td>Criminal offenses against persons with dementia</td>
</tr>
<tr>
<td>Protective services</td>
<td>Guardianship appointments</td>
</tr>
<tr>
<td>Direct care services</td>
<td>Ombudsman administration</td>
</tr>
<tr>
<td></td>
<td>Day care and respite services</td>
</tr>
<tr>
<td></td>
<td>Safe return programs</td>
</tr>
<tr>
<td></td>
<td>HCB services; board and care; residential care</td>
</tr>
<tr>
<td></td>
<td>Assisted living facilities</td>
</tr>
<tr>
<td></td>
<td>Nursing homes and skilled nursing facilities</td>
</tr>
<tr>
<td></td>
<td>Staffing requirements</td>
</tr>
<tr>
<td>Research support and other laws</td>
<td>Research programs</td>
</tr>
<tr>
<td></td>
<td>Other policies (e.g., driver license renewal)</td>
</tr>
</tbody>
</table>

Note: HCB = home- and community-based.

#### Independent Variables

**Actions of the Alzheimer’s Association.** —The first author conducted a survey of public policy staff from local chapters of the Alzheimer’s Association in each of the 44 states (as identified by Mike Splaine, the State Policy Director from the Alzheimer’s Association National Public Policy Office). The survey solicited information concerning: (a) participation in state-wide task forces concerning dementia; (b) public education efforts; (c) relationships with state legislators interested in aging and dementia; (d) relationships with bureaucratic agents; and (e) other pertinent policy-making activities.

The policy staff and volunteers from the 44 chapters completed an average of 5.54 (SD = 3.90) policy-making activities during 1997. Eight chapters engaged in 10 or more policy-making activities, whereas two state chapters pursued none. Bivariate correlations indicated that this index of interest group activity corresponded significantly with the total number of hours that chapter staff dedicated to public policy making (.50; p < .01) and the amount of money the chapter allocated to public policy efforts (.45; p < .05), but the measure was not as strongly associated with the size of the chapter membership (.25; p < .01). This suggested that previous attempts to measure an interest group’s political influence by estimating per capita membership were not necessarily valid (Graddy, 1991; Haider-Markel, 1999).

**Actions of Bureaucratic Agents.** —The Office of Technology Assessment (1990) suggested that the state departments of mental health and the state units on aging were heavily involved with the implementation of programs and policies pertaining to the demented population. After obtaining a sample of key contacts from the National Association of State Mental Health Program Directors (1998) and the Administration on Aging (M. Puccinelli, personal communication, 1998), the senior author conducted telephone surveys similar to those posed to the Alzheimer’s Association.
The number of state agents responsible for programs and policies concerning individuals with dementia ranged from one to four across the 44 states. Their influence on legislative outputs was estimated by summing the number of actions that each agent took to advance public policies. A state in which three agents each took two actions, such as convening a government task force on Alzheimer’s disease and meeting with legislative staffers, received a score of 6. The survey responses revealed that the state agents engaged in an average of 3.70 (SD = 2.34) policy-making activities during 1997. Agents from 2 of the 44 states pursued more than eight policy-making activities, but agents from 4 other states did not engage in any such activity.

**Number of Legislative Champions.**—The Alzheimer’s Association chapter staff and the bureaucratic agents also were asked to identify state legislators who supported policies pertaining to older adults, dementia, Alzheimer’s disease, older adults with disabilities, or long-term care. The survey respondents identified an average of 5.68 (SD = 3.55) legislative champions. Six state legislatures included 10 or more champions, whereas respondents from two other states did not identify a single legislator who promoted dementia-related policies.

**Government Ideology.**—Berry, Ringquist, Fording, and Hanson (1998) constructed an index of government ideology from interest group ratings of elected officials, election returns for congressional races, the party composition of state legislatures, and the party affiliation of the state governor. This measure constituted an advancement in comparative state policy research because the researchers captured the shades of political ideology rather than categorizing states as Democrat or Republican, liberal or conservative. State government ideology averaged 56.34 (SD = 23.22) across the 44 states. The validity of the measure was supported by recognizing that traditionally more liberal states such as Hawaii and Vermont received much higher scores (i.e., 95.75, 83.12) than traditionally more conservative states such as Arizona and Utah (7.62, 3.00).

**Government Performance.**—Rice and Sumberg (1997) created a measure of state policy innovation and government effectiveness by estimating how well the states responded to unique policy problems. States with higher levels of innovation and effectiveness were more responsive to public crises and demands. For the 44 states included in this analysis, performance averaged −0.01 (SD = .75). New York and California received the highest ratings (1.59 and 1.41, respectively), and were considered the most responsive and effective state governments. Mississippi and South Carolina both scored −1.43.

**State Wealth.**—We collected measures of 1995 per capita income as an index of state wealth (Hornar, 1997). Per capita income averaged $22,086 (SD = 3017.82) and was highest in Connecticut and New Jersey ($30,030 and $28,858) and lowest in Mississippi and West Virginia ($16,513 and $17,915). The measure correlated significantly (p < .01) with measures of per capita debt (.53), per capita state spending (.67), and per capita Medicaid expenditures (.58), confirming that per capita income represented a general construct of state economic activity.

**Proportion of Older Adult Citizens.**—Following the seminal work of Lammers and Klingman (1984) on the influence of older adults on state policy making, we gathered percentages of the states’ older adult population as an index of constituency influence (Morgan Quitno, 1996). The proportion of older adults averaged 12.68% across the 44 states (SD = 2.15). Florida and Pennsylvania had the highest percentage of older citizens: 18.42% and 15.92%, and Alaska and Utah had the lowest percentage: 4.63% and 8.82%.

**Per Capita Supply of Special Care Beds.**—Information concerning the number of special care beds for individuals with dementia was collected from the Nursing Home Statistical Yearbook (Cowles, 1997). On average, the 44 states provided 11 special care beds for every 100 demented nursing home residents. Arizona and Colorado had the highest per capita rates (.26 and .24), and Mississippi, Tennessee, and West Virginia had the lowest (.02, .02, and .01, respectively).

**Recent Legislative Activity.**—We created an index of recent legislative activity by counting the number of dementia-specific laws passed during the 1996 and 1997 sessions (Kaskie, 1998). By focusing on the most recent activity, we distinguished the state legislatures that were recently active from those that passed legislation previously but not in recent years. The 44 state legislatures passed an average of 1.52 targeted actions during the 1996 and 1997 legislative sessions (SD = 1.71). Florida passed seven laws, and California and Illinois passed six. Fourteen states were inactive during the 1996 and 1997 sessions. We completed a square root transformation of this measure to approximate a normal distribution.

**Analysis**

Because this research constituted an inaugural examination of state dementia policy formation, we were less interested with establishing the strength of relationships among the variables and more concerned with establishing a direction for future research. Models were evaluated using a maximum likelihood regression analysis, and we applied traditional goodness-of-fit criteria (i.e., χ²/df < 2; Hu & Bentler, 1995). Most of the state legislatures passed fewer than five laws during the 1998 sessions; therefore, the dependent variable reflected a positively skewed count of legislative actions and we specified a Poisson distribution in these analyses.
Results

The Iron Triangle

We regressed the 1998 legislative actions onto the iron triangle model of state policy formation. This model, which included measures of the Alzheimer’s Association advocacy effort, actions taken by experts from the state units on aging and departments of mental health, and the number of elected representatives who publicly supported issues concerning the aging population, did not reach goodness-of-fit criteria (\( \chi^2/df = 2.14 \)). However, evaluation of the individual parameter estimates indicated that the actions of the Alzheimer’s Association (\( \chi^2 = 5.80; p < .01 \)) and the number of legislative champions (\( \chi^2 = 3.05; p < .08 \)) were associated with 1998 legislative activity. The actions of the bureaucratic agents were not associated with legislative activity (\( \chi^2 = 1.58; p > .10 \)). The results are presented in Table 4.

The Policy System

Next, we evaluated four measures that represented a traditional policy system. We specifically hypothesized that the number of legislative actions in 1998 was related to government ideology, government performance, per capita income, and the proportion of older adult citizens. The analysis indicated that the model did not reach goodness-of-fit criteria (\( \chi^2/df = 2.41 \)). None of the individual determinants were associated with legislative activity: government performance (\( \chi^2 = 0.79 \)), government ideology (\( \chi^2 = 1.18 \)), per capita income (\( \chi^2 = 0.00 \)), and the proportion of older adult citizens (\( \chi^2 = 0.13 \)).

The Integrated Model

The integrated model met goodness-of-fit criteria (\( \chi^2/df = 1.55 \)). Evaluation of the individual determinants indicated that four variables were associated with 1998 legislative activity: advocacy efforts of the Alzheimer’s Association (\( \chi^2 = 2.88; p < .05 \)), number of legislative champions (\( \chi^2 = 4.12; p < .05 \)), measures of special care beds per capita (\( \chi^2 = 4.77; p < .05 \)), and historical legislative activity (\( \chi^2 = 16.56; p < .001 \)). We are careful to note that recent legislative activity was not correlated with any other independent variables (see Table 1).

Discussion

The evaluation of the three models of policy formation provided valuable insights into the passage of state laws concerning persons with dementia. Testing a fully specified model of the iron triangle across 44 states, for example, revealed that political actors accounted for some of the legislative output during the 1998 sessions. The advocacy efforts of the Alzheimer’s Association and number of legislative champions were associated with legislative activity, and these relationships maintained statistical significance when evaluated as a part of the integrated model.

Our evaluation of the iron triangle also advanced the methodology of comparative state policy research because we demonstrated how the model could be applied to all the states, rather than a case study or convenience sample. This countered a long-standing tradition of ignoring iron triangles in comparative state policy research (Dye, 1966; Easton, 1958).

The evaluation of the policy system provided some insight into the formation of state laws concerning individuals with dementia as well. For example, we found that the ideology of the state governments had no relationship with legislative activity. Policy outputs concerning dementia were not advanced selectively by one party or another; both liberal and conservative state governments supported policies for persons with dementia. This was reassuring, because the Alzheimer’s Association (2000) and other advocates have taken great effort to define the issues concerning dementia largely in nonpartisan terms. Advocates should persist in their efforts to advance state legislation, regardless of the electoral changes in state political majorities, governorship, and ideologies.

We were somewhat perplexed that the measure of government performance did not correspond with

<table>
<thead>
<tr>
<th>Table 4. Results of the Maximum Likelihood Regression Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>Alzheimer’s Association</td>
</tr>
<tr>
<td>Bureaucratic agents</td>
</tr>
<tr>
<td>Legislative champions</td>
</tr>
<tr>
<td>Government ideology</td>
</tr>
<tr>
<td>Government performance</td>
</tr>
<tr>
<td>Per capita income</td>
</tr>
<tr>
<td>Size of older constituency</td>
</tr>
<tr>
<td>Supply of Special Care Beds</td>
</tr>
<tr>
<td>Recent legislative activity</td>
</tr>
<tr>
<td>Goodness of fit</td>
</tr>
</tbody>
</table>
the number of legislative actions taken during the 1998 sessions. We anticipated that more responsive states would target the problems associated with dementia and enact pertinent legislation. However, a recent survey of the National Conference of State Legislatures (1999) indicated that policy problems associated with dementia were not listed as a legislative priority; therefore we concluded that a measure that distinguished more and less responsive state governments may not have been so incisive. When dementia becomes a state priority, this measure may correspond with the amount of legislative activity.

Our evaluation of the policy system also indicated that state wealth and the size of the older adult constituency were not related to the amount of legislative activity. On one hand, the lack of association between per capita income and legislative actions suggested that dementia policy making may occur independently from economic influences. Wealthy states were just as likely to pass laws as less wealthy states, just as liberal states were just as likely to enact legislation as conservative states. On the other hand, because many of the laws passed during 1998 did not require a budget authorization (see Table 3), the influence of state wealth may have been less critical in this analysis. Nevertheless, the findings support the continuation of advocacy efforts regardless of the states’ level of wealth. Laws concerning persons with dementia, especially those that require no formal budget authorization, can be passed by wealthy and less wealthy states alike.

Moreover, as the clinical dementia syndrome affects less than 10% of the older adult population, we may have been mistaken to presume that the older population in general would be interested in and supportive of pertinent legislative action. If we had evaluated a policy output that was of greater interest to the aging population (e.g., prescription drug benefits), then we may have found a relationship between state legislative activity and the size of the aging population. Still, a relationship between the size of the older constituency and age-related policy may not be straightforward. Previous research by Lammers and Klingman (1984) argued that the influence of the aging cohort on state policy may have been supressed by other variables such as political ideology.

Taken together, these particular findings suggest that comparative state policy researchers may have overstated the importance of institutional features and environmental inputs on the policy-making process. For instance, the influence of government ideology may be limited to shaping partisan policy outputs. Issues such as abortion funding certainly are shaped differently in a conservative state government as compared to a liberal one (Meier & MacFarlane, 1992). However, the explanatory power of this variable becomes lost when testing the formation of a nonpartisan issue such as the passage of laws concerning persons with dementia. Researchers, including those who examine other types of age-related state policy outputs, should consider the partisan nature of policy outputs before hypothesizing that their formation may be related with state ideology. We also determined that the influence of state government performance may only be helpful in explaining the formation of policy that necessitated an immediate response or captured the public imagination.

Comparative state policy researchers should use this variable selectively as well; if an issue does not require an immediate response, then the effect of government performance may not be apparent.

More important, we concluded that comparative policy researchers should acknowledge the failure of gross measurements to provide any incisive insights into the formation of state policy. Even if we did find a relationship between measures of wealth and constituency size, we would be at a loss to explain exactly how a legislature in a wealthy state with a large older adult population passes more laws. While previous evaluations have documented (and may continue to find) associations between constructs of economic wealth, constituency characteristics, and state policy outputs, we encourage state policy researchers to go beyond these descriptive associations and attempt to identify more precise causal mechanisms of state policy formation.

The Integrated Model

The most intriguing finding of our analysis was that the integrated model offered a convincing depiction of state legislative activity pertaining to persons with dementia. This was not surprising, as the model included all three of the political actors and substituted more specific measures of the environmental inputs (i.e., supply of special care services and recent historical activity for state wealth and the size of the older constituency). Analysis of the individual determinants revealed that the advocacy efforts of the Alzheimer’s Association, the number of legislative champions, the per capita supply of special care beds, and historical legislative activity related significantly with legislative activity during 1998.

The local chapters of the Alzheimer’s Association engaged in a variety of advocacy activity during 1997. The efforts included educating public officials about Alzheimer's disease, participating in task forces, maintaining relationships with key legislative staff and bureaucratic agents, and lobbying in favor of dementia-specific legislation. These activities had some impact on the passage of state laws. In future research, we plan to analyze advocate activities in greater detail and answer the question: What exactly are the most effective steps that an advocacy effort can take to advance state dementia policy?

The audience for this question includes more than the Alzheimer’s Association. Other advocacy organizations such as the AARP (formerly known as the American Association for Retired Persons), the National Alliance for the Mentally Ill, and the National Coalition of Mental Health and Aging would benefit from knowing the most effective actions that can be taken to advance state policy for vulnerable populations of older adults. Moreover, we intend to resolve
how to construct a valid measure of advocacy influence. If constructs of interest group influence are best created with primary data, then we could argue more strongly that comparative state policy researchers should be more cautious about using secondary data (e.g., size of the constituency or interest group membership) to construct these measures.

After considering the relationship between the number of legislative champions and state policy activity, we surmised that the champions may have advanced laws because they held key committee assignments, or were more supportive of dementia policy because they themselves were older adults who implicitly understood the issues. Still, we did not resolve just how and why legislative champions actually influenced legislative outputs in this research. An in-depth analysis of legislative behavior may provide a more substantive contribution to understanding the formation of dementia policy in particular, and to comparative state policy research in general. If the specific characteristics or actions that legislative champions take to advance state dementia policy can be identified, then the sources of variability across state policy outputs may be understood in greater detail.

We were encouraged that the precisely defined state environmental inputs were related to state policy formation. However, we did not determine how the number of special care beds actually influenced the passage of state laws pertaining to persons with dementia, especially because the majority of laws passed during 1998 did not concern special care beds or the institutions in which they were provided (see Table 3). Perhaps this construct captured a more general effect of the market for dementia services. States with more special care beds also may have more day care and other programs for persons with dementia. Hence, these states may have a larger market of dementia services that requires more state policy activity.

The strongest association in this evaluation was between the passage of state laws in 1998 and the legislative activity conducted in 1996 and 1997. The state legislatures were more likely to continue and pass laws in 1998 if laws pertaining to the demented population were approved in the preceding sessions. While this confirmed that past was prologue to the formation of state dementia policy, the finding did not establish how the legislative agenda was set initially or resolve how dementia policy stayed on (or was taken off) the legislative agenda. This study was not designed to resolve these more complex issues.

Future Considerations

This evaluation of state dementia policy formation can be improved in three distinct ways. First, future evaluations of the integrated model should incorporate variables to capture potential influences that were omitted in this research. These variables could include issue networks, geographic diffusion, and budget solvency. In examining issue networks (Heclo, 1978), we can move beyond iron triangles and consider how larger networks support or prevent the advancement of state policies. In so doing, we can determine how the influence of the advocacy of the Alzheimer’s Association may be moderated by the formation of a unified coalition that supports a particular state policy. We also can determine if and how the Association’s effort may be mediated by other interest groups that oppose the advancement of state policies targeting persons with dementia.

Moreover, Lieske (1993) suggested that the passage of an innovative state policy often stimulated a wave of activity among neighboring states. If one state legislature passed a unique law concerning individuals with dementia in 1997, then this may have encouraged legislative action in a neighboring state during the 1998 sessions. A more exhaustive integrated model would incorporate a construct that captures the potential effect of this sort of geographic diffusion in state policy activity.

Although we did not discover a relationship between state wealth and state dementia policy, we are not convinced that the state economy has no relationship with state policy activity, especially if that activity involved legislative allocations. Perhaps the states that entered a legislative session with a budget surplus were more likely to pass legislation concerning individuals with dementia (Winn & Whicker, 1990). We consider this to be a potentially important influence on policy activity that should be included in future evaluations.

Second, future research efforts should resolve how the variables included in the integrated model shape the quality of legislative actions. In this research, we only assumed that a count of legislative action represented a valid construct of desirable legislative activity. If the quality of state legislative policy pertaining to persons with dementia has little or no relationship with the quantity of legislative activity, then the insights provided by the integrated model become less useful. Future research must determine if the quantity of legislative activity is a valid index of quality.

Finally, future evaluations that attempt to explain the formation of state dementia policy must recognize that the policy-making process unfolds over time. The formation of an issue network, the influence of budget deficits, and the geographic diffusion of an innovative state policy may take several years before having an impact on specific legislative activity. The influence of these constructs cannot be captured in a cross-sectional evaluation or by an analysis in which influences and outputs are pooled over several policy-making sessions.

We recognize the work of Berry and Berry (1990) as exemplary. They conducted a comparative evaluation of state lottery adoptions over a 10-year period and identified the significant determinants using an event history analysis. Although our research has provided some preliminary insights into the formation of state dementia policy, we are eager to follow the work of Berry and Berry and examine the formation of specific state dementia policies over a longer period of time. This would provide further insight.
into how dementia initially reached state legislative agendas, and illuminate the most critical determinants of legislative activity (or the lack thereof).

In the meantime, this study established that the state legislatures have become a primary forum for the formation of an extensive array of policies pertaining to persons with dementia. The 44 legislatures that met during 1998 passed 98 laws that addressed no less than seven distinct topics. As the roles and responsibilities of American government continue to evolve within the state governments, analysts and researchers must focus on how the needs of persons with dementia are addressed within these forums.

We also took an initial step toward explaining how state laws pertaining to persons with dementia were created. We evaluated three models of state policy formation and concluded that the passage of laws corresponded most strongly with an integrated model of policy formation. More specifically, we found that state laws pertaining to persons with dementia were associated with the advocacy effort of the Alzheimer’s Association, the number of legislative champions, the supply of special care beds for persons with dementia, and recent legislative activity. By testing the models and illuminating the possible influences of state laws, we contributed to the development of policy responses made on behalf of older persons with dementia and also contributed to the analysis of other state policy outputs.

References


U.S. Senate Special Committee on Aging. (1971). Mental health and the el-


Received June 22, 2000
Accepted January 29, 2001
Decision Editor: Laurence G. Branch, PhD