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DISINNOVATION IN THE AMERICAN STATES:
POLICY TOWARD HEALTH SYSTEMS AGENCIES

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ABSTRACT

Requiring the states to involve consumers in health planning through local health planning boards (HSAs) was an attempt by the federal government to control health care costs. Elimination of this requirement more recently has meant some states have discontinued the program. The elimination of HSAs can be considered a case of policy disinnovation. Drawing on the innovation literature, the following variables were expected to correlate, although negatively, with elimination of HSAs: value added to manufacturing, average acre value of farms, per capita income, population living in metropolitan areas, and party competition. All were found to correlate negatively. Predisposition to spend reflected in per capita state expenditures was also correlated negatively with elimination of HSAs, as was the average daily hospital room charge and average hospital cost per stay.

Innovation is a term that has been applied to the adoption of new programs and policies by state governments. The process by which policies diffuse among the American states has been described and explained, the latter chiefly in terms of state characteristics found to correlate with the adoption of a particular policy. While it has been recognized that there is a reverse process, disinnovation, there has been little, if any, effort to describe and understand it. This can be attributed to an ever widening public sector over the years, spurred on by the demands and resources of the federal government. Withdrawal of federal initiatives and funds more recently may, however, make disinnovation a more frequent phenomenon and perhaps a more frequently studied one. This paper examines one such disinnovation, the elimination of health systems agencies (HSAs) in the American states. More specifically, it explores the
correlation between characteristics of the states and elimination of HSAs.

Health systems agencies are local health planning boards provided for in the 1974 National Health Planning and Resource Development Act in combination with Title 19 of the Social Security Act (Medicare and Medicaid). Under the provisions of the law (P.L. 93-641) and subsequent amendments in 1979, state governments were to divide their states into local and/or area wide health planning and development agencies which were to be responsible for synthesizing HSA plans into a single statewide plan. State governments would also be responsible for reviewing HSA activities including HSA decisions on certificate of need applications, i.e., applications from hospitals, nursing homes, etc., for proposed construction and expansion of health care facilities. Funds for HSA staff were to be provided from federal monies. Failure of states to comply would mean a loss of federal funds for hospital construction and medicare and medicaid payments. A change in the law in 1981, however, permitted states the option of meeting the health planning requirements of the 1974 act without continuing HSAs.

One of the objectives of the 1974 act was to involve consumers of health care services in health planning. Federal regulations thus required that at least one half of the membership of HSA boards be consumers. The remaining members were to be health care professionals, e.g., physicians and others involved in the provision of health care services. Involving consumers in certificate of need review it was hoped, would provide a check on unnecessary expansion of health care facilities, limiting capital expenditures, and thus reducing the cost of health care. While HSAs have increased the number of consumers involved in health planning (Burlage, 1979; Sigelman, 1982), it is less clear what the impact of HSAs has been on health care costs (Downs, 1982; Duhl and Blum, 1981). The concern here, however, is with the response of state governments to the change in federal policy toward HSAs. Withdrawing the requirement that states have HSA planning boards meant that states were free to retain or eliminate local planning boards. The elimination of HSAs by a state can be considered a case of disinnovation, and it is variation among the states in this regard that the study will try to explain.
INNOVATION LITERATURE

Jack Walker has defined innovation as "simply a program or policy that is new to the states adopting it, no matter how old the program may be or how many other states have adopted it" (Walker, 1971: 335). Disinnovation can be considered a program or policy that is terminated or discontinued by a state (Rogers, 1962; Eyestone, 1977). While the focus of this study is disinnovation, the literature on innovation provides a useful framework.

Two principle questions are asked in research in policy innovation in state government. 1. What are the patterns of diffusion of policy innovations among the states? 2. Which states are likely to be "early adopters" of policy innovations?

With respect to the first, Walker (1971), borrowing from theories of human choice and organizational decision making, suggests that decision makers in the states may look to other states for cues regarding new programs and appropriate levels of services. While a few states fancy themselves as leaders in the adoption of new ideas and can be expected to move on their own, most delay waiting for other states to act, particularly those states which, for one reason or another, serve as a reference point. Walker refers to regional reference groups. States often compare themselves with others in their region and look to these states for new ideas and programs. Certain states may become regional pacesetters with new ideas failing to spread to the region until adopted by the pacesetter. Thus, we might expect patterns of diffusion to reflect a clustering pattern through time, with little variation in time of adoption within regions, but some variation between regions. We would also expect those states that use the self starting states as references to be the first to adopt innovations.

While regional ties work to slow the diffusion process and lead to an evenness in the diffusion pattern, specialized communication and increasing professionalism among state decision makers may have the opposite effect. Walker (1971) notes that the total time of diffusion has decreased over time. For the period 1930-1966, the total time for innovations to diffuse was 25.6 years, for 1870-1899, 52.3 years. The increase in associations that monitor developments in state government, such as the Council of State Governments, which disseminate information on new ideas to the states and the development of professional orientations among state decision makers, which
leads to a commitment to improved ways of doing things, is having an homogenizing effect on state government. The result is a faster diffusion process, with typically laggard states adopting much sooner than in the past.

There is also the impact of federal incentives stimulating innovation diffusion. Welch and Thompson (1980) find, for example, that programs with federal incentives diffuse more rapidly than those without, and that positive incentives are more effective in diffusing programs than negative incentives. Light (1978) too, based on a survey of state administrators, finds that the federal government is an important stimulus to innovation, but observes that this varies with policy area. He notes that the federal government is perceived by state administrators as an important stimulus in the areas of human resources and criminal justice, but less important in natural resources and transportation. He concludes that the study of innovation by policy area is a promising approach to understanding the diffusion process. Downs and Mohr (1976) reach similar conclusions. With respect to which states lead in developing innovations, Grupp and Richards (1975) find variation across policy areas.

Virginia Gray (1975) has also examined patterns of diffusion of policy innovations in the states. Gray examines twelve policies in the areas of education, welfare, and civil rights. Employing a model based on the assumption that interaction among adopters and non adopters, similar to Walker, accounts for the spread of adoptions, she is able to generate a regression reflecting the pattern of diffusion over time. The predicted pattern for the twelve policies is a close fit to the observed. The cumulative percentage of adopters is "S" shaped, the frequency distribution normal. Gray also observes variation in the diffusion process by policy area. The diffusion of education policies follows a regular and consistent pattern. Policies in the civil rights and welfare areas vary in diffusion patterns. Moreover, states that are innovative, early adopters, in one area are not necessarily innovative in another. Nor are the same states necessarily innovative within policy areas, i.e., a state may be quick to adopt one education innovation but slow to adopt another. She concludes that "innovativeness" is both issue and time specific.

In spite of Gray's findings, differences among the states in certain characteristics may be related to early adoption. Gray herself finds that per capita personal income in the states
distinguishes the first ten adopters with respect to the twelve policies she examined. The governor's electoral margin was also correlated with the first ten states to adopt. In an effort to uncover general correlates of innovation, Walker (1971) ranked the states by innovation scores based on 88 programs and policies. Reasoning that available resources in terms of wealth and expertise might lead to a willingness to experiment as well as risk failure, he hypothesized that the larger and wealthier states, those with the most developed industrial economies and the largest cities, would have the highest innovation scores. It is plausible, Walker suggests, to assume that the great cosmopolitan centers of the country would likely be the most adaptive and sympathetic to change, and thus, the first to adopt new programs.

Consistent with this line of argument, Walker finds that innovation scores do correlate with the value added to goods by manufacturing, the average per acre value of farms, the size of the urban population, and per capita income. He also examined the correlation between degree of party competition, malapportionment of the state legislature and innovation score. Both were positively related to innovation. Correlations with several other political variables lead Walker to conclude that the states that adopt new programs more rapidly are bigger, richer, more urban, more industrial, have more fluidity and turnover among elected office holders, and have legislatures that more adequately represent cities.

The Walker and Gray studies are particularly relevant to this study. It is plausible to assume that some of the factors found by them to correlate with innovation also correlate, although negatively, with disinnovation. That is, it is expected that those characteristics which are positively correlated with early adoption are negatively correlated with elimination. Based on this line of reasoning the following propositions can be derived: The value added to goods by manufacturing, average per acre value of farms, per capita income, size of urban population, and degree of party competition are inversely related to elimination of HSAs. It is also logical to assume that Walker's innovation scores for the states relate inversely to elimination.

Extending Walker's argument, expenditure levels among the states might be another variable significant in accounting for variation among the states in elimination of HSAs. Per capita state expenditures are not only another indicator of a state's
wealth, but in some way may reflect a predisposition to spend. If so, it is plausible to assume that states with higher levels of expenditures are more likely to add to those levels with the addition of programs than states with lower levels. In other words, states currently spending at a high level are more likely to retain HSAs than those spending at a lower level. Thus, another proposition is that expenditures per capita are inversely related to elimination of HSAs.

Other variables relevant to the particular policy lead to another set of propositions. HSAs were set up to cut hospital costs. Where hospital costs are high, it is plausible to assume a greater need for HSAs. In other words, the higher hospital costs are, the greater need to control them, and thus, the greater the need to maintain cost cutting mechanisms such as HSAs. Therefore, there are the following propositions: Average daily hospital room charge and average hospital cost per stay are inversely related to elimination of HSAs.

METHOD

The Omnibus Reconciliation Bill of 1981 gave the states the option of retaining or eliminating HSAs. While some states continue to deliberate the fate of HSAs and this makes the study's conclusions somewhat tentative, many have decided whether or not HSAs will continue operation. In the Spring of 1982, questionnaires were sent to the governors in the 50 states. Followup questionnaires were sent in the Summer to those failing to respond to the first wave. Thirty-eight questionnaires were returned, with 33 (66%) indicating that the issue of HSAs had been resolved.

Responses from the 33 are the basis for the analysis. States were categorized on the dependent variable, elimination of HSAs based on their response to the following question: As you know the federal requirements and support for the continuation of Health Systems Agencies have been dropped. Whether or not a state will continue with HSAs will be for each state to decide. Some states may continue with HSAs and allow them to operate as they did previously; other states may eliminate them altogether. Still others may transfer the functions of HSAs to other agencies of state government. Please check the statement below which comes closest to what your state is planning to do or may already have done. 1. No change. HSAs will continue to operate as they have in the past. 2. HSAs will
be eliminated, but their review functions will be transferred to other state agencies. 3. HSAs will be eliminated.

Many responses did not fit neatly into the above three categories. For example, some states indicated that HSAs would continue but without the state providing funds. In most cases, local government and/or private funding sources were mentioned. Such responses were considered no change only if review functions of HSAs with respect to certificate of need review would continue. The transfer of HSA review functions to other agencies also presents some problems of classification. The nature of the review with respect to local input was not always clear; nor was it obvious in the case of some states whether certificate of need review would continue. In many such cases, however, it was clear that certificate of need review would not continue and consumer participation would be limited and/or not expected, at least not in a way comparable to HSAs. One might argue that such arrangements amount to elimination. Because of the problems of classification, we have created two variables based on these responses. One is a dichotomy with elimination and transfer coded one, all other responses zero. A second maintains all three categories. These two variables are correlated with the independent variables outlined earlier.

ANALYSIS

Of the 33 usable responses, 24 (73%) states indicated that HSAs were or would be eliminated; nine states (27%) indicated the continued existence of HSAs with the same or basically the same functions as before. Of the 24 indicating that HSAs would be eliminated, 15 (65%) responded that the function of HSAs would be transferred to other agencies of state government. Thus, we have nine no change, 15 elimination but transfer of function, and nine elimination with no transfer, or elimination of structure and function.

Previous studies suggest a number of variables are correlated with innovation, as defined by Walker, in the American states. Table 1 shows the correlation, measured by Pearson's correlation coefficient, between the two dependent measures and the independent variables reviewed earlier. As a check on the appropriateness of Pearson's correlation with a trichotomous dependent variable, plots against each independent variable were examined and showed patterns of relationship to be reasonably linear. A check on the use of Pearson's with what amounts to an ordinal classification was also made by
Table 1. Correlates of discontinuation of HSAs

<table>
<thead>
<tr>
<th></th>
<th>Elimination/ Transfer¹</th>
<th>Elimination/ Transfer²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value added by manufacturing (1977)</td>
<td>-.13</td>
<td>-.17</td>
</tr>
<tr>
<td>Average per acre value of farms (1980)</td>
<td>-.33**</td>
<td>-.23*</td>
</tr>
<tr>
<td>Per capita income (1979)</td>
<td>-.12</td>
<td>-.33**</td>
</tr>
<tr>
<td>Percent population living in urban areas (1978)</td>
<td>-.20</td>
<td>-.30**</td>
</tr>
<tr>
<td>Degree of party competition (1974-1980)</td>
<td>-.11</td>
<td>-.25*</td>
</tr>
<tr>
<td>Per capita state expenditures (1978)</td>
<td>-.13</td>
<td>-.29**</td>
</tr>
<tr>
<td>Average daily room charge (1979)</td>
<td>-.22*</td>
<td>-.37**</td>
</tr>
<tr>
<td>Average cost of a hospital stay (1978)</td>
<td>-.33**</td>
<td>-.41**</td>
</tr>
<tr>
<td>Walker's innovation score</td>
<td>-.23*</td>
<td>-.28**</td>
</tr>
</tbody>
</table>

** Probability less than .05  
* Probability .05 to .10

calculating Spearman's rho. While somewhat lower in magnitude, the results using rho were equivalent to Pearson's correlation. We have selected to report our findings in terms of Pearson's correlation because it is, we believe, more typically employed and likely to be familiar to a wider audience, and because it has multivariate extensions which permit more powerful analytical techniques.

A negative correlation in the Table means that a variable is inversely related to elimination of HSAs. Expectations fashioned from the innovation literature suggest all relationships should be negative and examination of the Table shows that they are. The variables Walker found to correlate with innovation are inversely correlated with disinnovation, as is Walker's own innovation scale for the states. The pattern holds with both the trichotomous and dichotomous measures, although the correlations are somewhat higher for the dichotomy. The finding holds out the prospect that disinnovation can be explained by the same theoretical structure that underlies innovation. Spending patterns too, relate negatively to elimination of HSAs, which is consistent with the thesis that predisposition to spend among the states is likely to lead to the retention of innovations, at least those that cost money. The Table also reveals that elements relevant to the particular policy make a difference. Both average daily room charge and average cost of hospital stay are negatively correlated with elimination of HSAs. It may be that innovation and disinnovation are correlated with variables that reflect wealth and expertise, as Walker hypothesized, but it is also quite plausible to assume that variables specific to a particular policy can also be important. In some situations one can anticipate that policy relevant factors can enhance prospects for innovation or disinnovation, while in others, retard prospects. In some cases, one can imagine that the influence of policy factors may have effects opposite and perhaps stronger than wealth and/or expertise. These possibilities may help to explain what appears to be a contradiction in the literature on innovation diffusion among the states.

While all the variables Walker examined in his study correlated in the expected way with elimination of HSAs, the correlations were quite modest. This may reflect the crude and imprecise manner in which disinnovation is measured. But it also raises the question of the utility of these variables for understanding disinnovation. Why did the variables not correlate higher? One can argue that slack resources, available
expertise, and a willingness to take risks may push states with these characteristics to innovate; however, once an innovation is in place, neither expertise nor potential risk should play a role in retaining it. Once a program is underway, the obstacle of risk has been overcome and expertise, if by this we mean the skill necessary to implement and administer a policy or program, while still important, at least through the years immediately following adoption, would presumably be less of a factor as a state begins to acquire knowledge of the program or policy in operation. Furthermore, we can anticipate that a tight fiscal situation would not necessarily lead to withdrawal of an innovation, particularly if interests have developed with a stake in preserving it, which is often the case.

While no one would suggest giving up on the development of what might be called a non-policy specific explanation for innovation or disinnovation at this point, with respect to disinnovation, a more fruitful approach may be one that focuses on factors and elements unique to the particular policy or group of policies. This is especially likely to be the case where policies remain controversial. Health planning or at least the issue of who should be involved in it are quite controversial. Therefore, we expect that policy specific and other idiosyncratic factors will be important in explaining health planning policy. In addition to patterns of health care costs, one might expect variables such as the strength of the medical lobby and the personal preferences of significant public officials, e.g., governors, to be important.

Bivariate relationships do not allow one to sort out the relative importance of variables in explaining a dependent variable, however, a multiple regression procedure can. While we must be cautious in our conclusions owing to the small number of cases and intercorrelations among the independent variables, regression provides additional evidence that bears on our hypotheses. Table 2 contains the results of regressing the dependent variable on the independent variables. The numbers in the Table are standardized regression coefficients (betas). We have included only one of the health care cost variables in the regression because they are correlated (.68) with each other and reflect basically the same thing.

The regression analysis shows Walker's variables, or some of them, to be more important in explaining variation in policy toward HSAs than either per capita state expenditures or average cost of a hospital stay. While the latter are not unimportant,
Table 2. A Regression Analysis of Correlates of Discontinuation of HSAs

<table>
<thead>
<tr>
<th></th>
<th>Elimination/ Transfer/ No Change</th>
<th>Elimination/ Transfer/ No Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value added by manufacturing</td>
<td>0.06^1</td>
<td>0.09</td>
</tr>
<tr>
<td>Average per acre value of farms</td>
<td>-0.15</td>
<td>-0.05</td>
</tr>
<tr>
<td>Per capita income</td>
<td>0.10</td>
<td>-0.04</td>
</tr>
<tr>
<td>Percent population living in urban areas</td>
<td>-0.20</td>
<td>-0.25</td>
</tr>
<tr>
<td>Degree of party competition</td>
<td>-0.16</td>
<td>-0.22</td>
</tr>
<tr>
<td>Per capita state expenditures</td>
<td>-0.18</td>
<td>-0.28</td>
</tr>
<tr>
<td>Average cost of a hospital stay</td>
<td>-0.11</td>
<td>-0.18</td>
</tr>
</tbody>
</table>

1. Numbers are standardized regressions coefficients (betas).

The variables Walker used as measures of wealth, expertise, etc., rank higher at least in terms of their ability to explain variation in the dependent variable. Although conclusions must be considered tentative, analysis here would not allow us to reject the thesis that conditions giving rise to adoption of innovations are also important in the retention of innovations. To be sure, further research is required not only with respect to health policy but other areas of policy as well. If disinnovation becomes more widespread, as it may well, this issue can be examined more fully.

CONCLUSION

Mandating consumer involvement in health planning through HSAs in the states was an attempt by the federal government to control health care costs. More recent elimination of this requirement has meant some states have abandoned the program. The discontinuation of HSAs can be considered a case of policy disinnovation. While there have been several studies of innovation in the states, little work has focused on disinnovation. Drawing on the innovation literature, the following variables were expected to correlate, although
negatively, with elimination of HSAs: value added to manufacturing, average per acre value of farms, per capita income, population living in metropolitan areas, and party competition. All were found to correlate negatively with elimination of HSAs. However, correlations were not particularly high. One explanation for this is that disinnovation is something different than the reverse of innovation, and therefore, variables that correlate highly with one will not correlate highly with the other.

Predisposition to spend reflected in per capita state expenditures was also inversely related to elimination of HSAs. This too was expected. States willing to pay for one program or policy, it is suspected are likely to pay for another. Two policy specific variables also correlated with elimination of HSAs. These were the average daily hospital room charge and average cost per hospital stay. It is reasonable to expect that where health care costs are high, the felt need to control costs will be strong. The negative correlations for both confirm this.

Much of the literature on innovation stresses the need for policy specific research on factors related to adoption patterns. While the data presented here would lead us to concur, the data also direct us to consider the more general influences suggested by Walker which reflect the fiscal and intellectual capacity of the states. In seeking to understand state responses to HSAs and perhaps other programs designed to cut costs, patterns of health care costs within the states seem to be an important variable. It appears, however, that they work with other variables that also bear on such programs and policies.

NOTES

1. Differences between respondent and non respondent states do not appear to be severe, at least on the independent variables included in the analysis. Statistically significant differences, measured by a difference of means t test (p equal to .05), exist only on the variables average cost of a hospital stay and state expenditures per capita. Non respondent states are more likely to have higher hospital costs per stay and higher expenditures per capita.
2. While cases in the analysis do not constitute a random sample, statistical tests can be considered as a check against an undefined random process or some other source of variation producing a result.

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