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Deliverance: A Study of Medicaid and Managed Care

Since the inception of Medicaid in 1965, the program has seen extraordinary growth in expenditures and enrollment. From 1989 to 1992, the increases in Medicaid spending were the largest since the program began in. Enrollment in Medicaid by AFDC families grew from 3.8 million in 1990 to 4.4 million in 1992, almost a nine percent annual increase (Coughlin et al. 1994). During this period, states were also experiencing the effects of a nationwide recession. Rapidly rising expenditure levels stretched revenue streams to their limits.

In efforts to save money, states looked primarily at the benefits of managed care, which was becoming a successful delivery and financing system (Ruggie 1996). Medicaid patients had a history of using emergency rooms for problems such as colds, flues, and other minor illnesses. Medicaid paid \$75 for an emergency room visit in 1995, but only \$29 for a physician's office visit (Lutz 1995). Medicaid officials hoped that placing the patient in contact with a primary care physician would encourage the use of preventative medicine, thereby holding down costs.

States began Medicaid managed care programs using the AFDC population as guinea pigs. With waivers allowed under Section 1115 of the Social Security Act, states restructured their Medicaid programs (Rotwein et al. 1995). This was the single largest Medicaid innovation of the 1990s (Coughlin et al. 1999). Between 1991 and 1996, enrollment of Medicaid clients in managed care increased by a factor of six (Thompson and Dilulio 1998). Many reasons accompanied the assertion that the AFDC population would benefit the most from managed care. The women and children of AFDC could take advantage of the preventative side of managed care such as yearly physical exams. Also, placing the AFDC population in managed care was attractive because they are one of the largest groups of Medicaid enrollees. The total savings was attractive even though the overall percentage saved was small. States were eager to save whatever they could.

While managed care saves money, not all states were quick to adopt it, and the extent to which they did varied widely across states. Why states chose to adopt the programs they do has been the topic of much research, the most groundbreaking being by Walker (1969) and Gray (1973). They claim that each region of the United States has within it one or two states that are more likely to adopt new programs before others. Managed care adoption began in earnest in 1993. To use 1993 as a starting point for examining managed care adoption would confuse innovativeness with those factors which genuinely may make managed care a more appropriate policy choice. Hence, this paper focuses on the year 1996.

Hypotheses and Measurement

Due to variations in state public policy, several different independent variables will be used to examine the extent to which states have enrolled Medicaid recipients in managed care. The elderly and disabled require skilled nursing care, which has proven very expensive. Since the Boren Amendment, interpreted by the Supreme Court, refused to allow states to freeze their reimbursement rates to nursing homes and hospitals, states have seen the cost of long-term care rise rapidly. As the Baby Boom generation ages, it is expected that Medicaid expenditures in the area of long-term care will rise to even higher levels. States already spending a large amount on long-term care will be desperate for savings of any amount from any program that does not sacrifice entitlements. My first hypothesis is that Medicaid managed care enrollment will be higher in those states already spending large amounts on long-term care.

Managed care began in 1993 as a way of moving many of the new AFDC enrollees who came into the program between 1990 and 1992 from an increasingly expensive fee-for-service plan into a plan which would manage their access to healthcare, thereby decreasing unnecessary or redundant treatments. My second hypothesis is that states with a larger percentage of their Medicaid population eligible for AFDC are more likely to have a greater percent of their Medicaid population enrolled in managed care. A change variable capturing the increase in AFDC enrollment between 1993 and 1995 has been created for the purpose of measuring this influx of enrollees.

To better understand why a state may adopt a particular policy, the political factors operating in the states should be considered. The first political variable to be examined is the ideology of the electorate. Traditionally, liberals look more favorably upon social welfare programs than do conservatives. One of the benefits of managed care is that eligibility will not have to be curtailed to produce savings. Therefore, the third hypothesis is that states with liberal electorates will have a larger percentage of the Medicaid population enrolled in managed care than states with conservative

electorates. The variable will be calculated by subtracting conservative identifiers in the electorate from liberal identifiers. My fourth hypothesis is that as the margin Democrats hold over Republicans in a state's electorate increases, the larger the percentage of the state's Medicaid population enrolled in managed care programs will become. Democrats are assumed to champion social welfare programs. They would, therefore, be more likely to approve of managed care because it maintains enrollment levels. This variable will be calculated by subtracting Republican identifiers in the electorate from Democratic identifiers.

The model also includes the party in control of each of the states' houses. The fifth hypothesis is that states with both houses controlled by Democrats should have a larger percentage of their Medicaid population enrolled in managed care than states with both houses controlled by Republicans. Variables will be created for legislatures controlled by Democrats and for legislatures controlled by Republicans. The reference category will be states that have split partisan control of the legislatures. Divided legislative control may make it more difficult to pass legislation. State houses controlled by Democrats should be more likely to approve of managed care because it will save the states enough money to allow them to maintain current enrollment levels.

Region is another variable that could have a large impact on managed care enrollment. The sixth hypothesis is that Southern states will have a lower percentage of their Medicaid populations enrolled in managed care than non-Southern states. Southern states have lower levels of per capita income and smaller proportions of their populations in metropolitan areas than do most non-southern states. Due to the South's low ranking in each of these categories, it is reasonable that the South would not have as high a percentage of their Medicaid population enrolled in managed care as non-southern states. A dummy variable will be used to measure the dichotomy of south and non-south based on V.O. Key's (1999) identification of Southern states.

Demographic characteristics of the fifty states must also be taken into account. Health maintenance organizations (HMOs) are one of the most popular delivery methods of managed care for Medicaid clients. Operating best when in competition with other HMOs, they are more likely to be concentrated in urban areas where it is not uncommon to find multiple organizations. Managed care would be less beneficial in rural areas since there is often only one hospital or sometimes only one physician from which to choose. Without competition, the HMO has no incentive to hold down costs. Metropolitan areas will have multiple organizations all competing to be the least expensive. Therefore, the seventh hypothesis is that states with large metropolitan populations would be more likely to have a higher percentage of their Medicaid population enrolled in managed care than more rural states. Hence I include in the analysis a measure of the percent of a state's population living in metropolitan areas.

Income is also important in determining whether or not a state is likely to adopt a new policy such as managed care. Research has shown that larger, wealthier, more industrialized states adopt new programs earlier than smaller, less well-developed, poorer states (Walker 1969). Based on Walker's work, states with a higher per capita income would be more open to adopting managed care programs than those who have lower per capita incomes. The eighth hypothesis is that states with higher per capita incomes will have a higher percentage of the Medicaid population enrolled in managed care. However, income and metropolitan population may be related as metropolitan areas contain large numbers of wealthy individuals.

The final variable in the model is the percent of the Medicaid population enrolled in managed care in 1993. This lagged dependent variable allows a control for states that had a high enrollment percentage of their Medicaid clients enrolled in managed care in 1993. These more innovative states had an early lead on states that did not begin their managed care programs until 1994 or later. The inclusion of this variable is a standardizing force that places all enrollment figures in the same beginning context. This variable attempts to remove the tendency of the model to measure the innovativeness of the states rather than those characteristics, which by 1996, made managed care a viable, option for states.

Findings

Before these variables can be tested as an explanatory model, they must be examined for collinearity. Running a bivariate correlation will show which variables are essentially parallel measures. The variable entitled 'Republicans' in control of the legislature is correlated highly at -.660 with the variable 'Democrats' in control of the legislature. This same variable also correlates highly (.603) with party ID of the electorate. Republicans in control of the legislature also correlates at -.590 with party ID of the electorate. Due to these high correlations, both variables measuring party control of the legislature will be removed. This should not affect the integrity of the model because the model looks at one point in time. Medicaid managed care was well underway by 1996. The effect that legislatures in 1996 had on the program was minimal because the extent to which enrollment would be decided was voted on in previous meetings of the legislatures and by different legislators. Finally, per capita income and ideology of voters correlate .667. This is

logical since previous research has shown that income affects ideology. Both variables will be left in the model, however, because it is possible that ideology and income work through each other. That is to say,

Table 1: Effects of State Variables
on Medicaid Managed Care Enrollment, 1996

	Percent of Medicaid population enrolled in managed care	1996
Region	.06332 (.072)	
LTC expenditures 1995 (in millions)	-5.702 x 10 ⁻⁶ (.000)	
Change in AFDC enrollment 1993-1995	-6.778 x 10 ⁻⁹ (.000)	
Percent Medicaid population enrolled in managed care 1993	.870*** (.123)	
Per capita income 1996	3.957 x 10 ^{-5**} (.000)	
Percent metropolitan population	8.513 x 10 ⁻⁴ (.002)	
Ideology of voters	-0.01020* (.004)	
Party ID of the electorate	0.004792 (.003)	

Constant	-2.821
N	50
Adjusted R Square	.599
F	10.138***

*** p< .001

** p<.01

* p< .05

communities with higher incomes are also the places with a more liberal electorate, without one you may not find the other.

The model yields an adjusted R square value of .599. This means that 59.9% of the variance in the dependent variable, percent of Medicaid population enrolled in managed care in 1996, can be explained using the independent variables discussed above.

An examination of each of the independent variables, as seen in Table 1, shows that three variables are significant at the .05 level. The lagged variable measuring the percent of the Medicaid population enrolled in managed care in 1993 is significant at the .001 level. With a B value of .870, this is the strongest variable in the model. A 1% increase in the percent of the Medicaid population enrolled in managed care in 1993 will result in a .870% increase in the percent of the Medicaid population enrolled in managed care in 1996. Per capita income is also significant. Though statistically significant, the impact of per capita income on managed care enrollment is very small. For \$1 increase in per capita income, we can expect a .00003957% increase in the percent of the Medicaid population enrolled in managed care. This small B value is the result of very little variance (see Table 2). The final significant variable is ideology of voters in 1996 which is significant at the .05 level. Its B value is negative indicating that for every one percent shift in the conservative direction, a .01020% decrease will be seen in the percent of the Medicaid population enrolled in managed care in 1996. This confirms the hypothesis that liberal electorates are more likely to adopt managed care programs for their Medicaid populations than are conservative ones.

Table 2:

Per Capita Income 1996

N	50
Mean	23182.74
Median	22786.50

None of the other five variables is significant. While research has shown that party ID and ideology have converged over the years, in this model, ideology has a greater effect on the dependent variable than party ID. This may show that while the two have converged, somewhat, they are still different enough to justify the inclusion of both variables in any model that deals with political climate.

Conclusion

Overall, the model performs fairly well at explaining the variation in Medicaid managed care enrollment across the fifty states. The strongest variable was the percent of the Medicaid population enrolled in managed care in 1996. This means that even as a standardizing force, leading states that in managed care enrollment in 1993 continued to be so in 1996. Per capita income was significant which indicates that wealthier states are more likely to adopt Medicaid managed care, giving further credence to Walker's work. Ideology plays a significant role too, confirming the hypothesis that liberals are more likely than conservatives to favor managed care programs for Medicaid.

Even though over half of the variance in Medicaid managed care was explained, there appear to be other factors influencing the adoption of the program. As Virginia Gray noted in 1973, innovations among states are often time- and issue-specific. Each state may have had its own specific impetus beyond the overarching factors considered here for adopting Medicaid managed care. Perhaps state-specific budget concerns required a more aggressive approach to Medicaid managed care in some states or perhaps merely the desire by the party-in-government to be seen as a leader in the field demanded a dynamic adoption of the program. Finally, the extent to which doctors and other health-care providers are organized in a state may affect the willingness of legislatures to adopt Medicaid managed care. All of these factors should be considered in future research.

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