The Long-term Coercive Effect of State Community Benefit Laws on Hospital Community Health Orientation

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Abstract
This study is an examination of the long-term coercive effect of state community benefit laws (CB Laws) on the provision of community health activities in U.S. acute care hospitals. The sample included all the not-for-profit and investor owned acute care hospitals for which 1994 and 2006 AHA Annual Survey data were available. A panel design was used to longitudinally examine the effect that state CB Laws had on hospital community health orientation activities and the provision of health promotion services, after controlling for the influence of other organizational and environmental variables that might affect these activities and services. The authors found that both CB Law state and non CB Law state hospitals increased their number of orientation activities and promotion services from 1994 to 2006. However, there was no significant difference in the gains in these activities and services between these two groups of hospitals. These results suggest that other environmental and organizational factors may mediate the effect of the state CB Laws over time.

Keywords: hospitals, community health orientation, health promotion, multivariate statistics

Introduction

The purpose of this study is to evaluate the long-term impact of state community benefit laws in coercing acute care hospitals to increase community health orientation activities and health promotion services. We conducted a longitudinal study using a panel design with the passage of a community benefit law/guideline (CB Law) as the treatment variable. A longitudinal design provides an appropriate approach to examine the effect of the community benefit laws, because it may take time for the hospitals to respond to the laws. This paper contributes to the literature by allowing the researchers to assess the long-term effect of coercive isomorphic pressures on acute care hospitals with regard to community orientation activities and health promotion services.

Many states have passed CB Laws to ensure that hospitals have a sufficient community health orientation to justify their tax-exempt status (Noble, Hyams & Kane, 1998). The spectrum of community benefit activities may include any of the following: 1) uncompensated care, 2) services that have benefits beyond the direct recipients of services, (e.g. health promotion services) 3) research and education, 4) open access to services, 5) non profitable services, and 6) community health orientation (Catholic Hospital Association of the United States, 2006; Schlesinger, Mitchell & Gray, 2003; Schlesinger, Gray & Bradley, 1996).

Most of these CB Laws require a process oriented approach that is focused on the reporting of services to improve the health of the community (Catholic Hospital Association of the United States, 2006). In other words, hospitals are required to engage in certain processes that are designed to ensure that they are aware of and responsive to the health needs of the community such as health promotion activities. A few states do not have CB laws, but they do have process oriented guidelines spearheaded by the state hospital associations (Noble, Hyams & Kane, 1998). In this article, states with community benefit guidelines will be included as CB Law states, because the authors are not aware of any evidence

that indicates that state community benefit guidelines have a different impact on hospital community health orientation than CB Laws do.

The CB Laws requiring hospitals to report their community health-oriented benefits vary as to scope, reportable activities, reporting requirements and sanctions. With regard to scope, all of these CB Laws cover not-for-profit hospitals. Some of the CB Laws also cover investor owned hospitals, and a few cover local public hospitals. With regard to reportable activities, all of these CB Laws require the reporting of some basic community health orientation activities, e.g., 1) listing the improvement of community health status in mission statements, 2) participation in the assessment of community health status, and 3) participation in conducting planning to improve the community health status.

Many CB Laws also require that hospitals report their health education and health promotion activities and services. In this regard, we might expect that CB laws had more of a direct impact on hospital community health orientation activities than they did on the provision of health promotion services. Reporting requirements and sanctions for noncompliance vary from state to state. However, this variation in potential coercive pressure is not expected to affect the levels of community health orientation activities and health promotion services in the CB law states, since state enforcement of state CB Laws was reported to be weak in general (Ginn & Moseley, 2006).

Whether sufficient community benefit is provided is an important issue as federal, state, and local governments incur millions of dollars in foregone tax revenue and out-of-pocket expenses to support not-for-profit (NFPs) hospitals. Policy makers want to be certain that NFP hospitals are meeting their obligations to their communities. Studies have examined the effect of laws on the provision of uncompensated care (Davidoff et al. 2000). However, there is only one study in published literature that has examined the coercive impact of state community benefit laws and guidelines on the community health orientation or the provision of health promotion services by hospitals (Ginn & Moseley, 2006).

Conceptual Framework

Consistent with previous research (Proenca, Rosko, & Zinn, 2000), we used institutional theory as our theoretical framework. Institutional theory is an organizational theory perspective that views organizations as manifestations of powerful institutional rules that confer legitimacy (Meyer & Rowan, 1977). Organizations often respond to coercive isomorphic forces in an effort to secure legitimacy in the eyes of society (Ginn & Moseley, 2006).

DiMaggio & Powell (1983) refer to this as "isomorphism," and they identify the phenomenon of "coercive isomorphism." Coercive isomorphism would describe the direct effect of state CB Laws had on hospitals within states that were covered by these laws. Because of resource dependence (Pfeffer & Salancik, 1978), hospitals receiving a large portion of their revenue from Medicaid reimbursement, would be likely to respond to state CB Laws, even though the enforcement of these laws was rather weak.

Thus far, only one study has examined the coercive impact of CB Laws on the community health orientation of hospitals, and the inferences that could be made from that study were limited by its cross-sectional design (Ginn & Moseley, 2006). This study contributes to the literature on this issue by using a longitudinal study design to examine the impact of state CB laws on hospital community health orientation over time. The study panel design allows the researchers to examine the impact that the CB Laws had on hospital community health orientation behavior over a period of years following the passage of state CB Laws. The authors hypothesized that the hospitals in states with CB Laws, when compared with hospitals in states without CB Laws (non CB Law states), were more likely to increase both their community health orientation activities and their health promotion services in the period following the implementation of CB laws in their states.

Methods

We used a panel design for this study. The panel design observes the same subject (i.e., an individual hospital) at two different points of time. This design is often used to examine changes in the measure of research interest (i.e., community health oriented activities of acute hospitals). We used the panel design to investigate whether changes in community oriented activities between hospitals in CB Law states and hospitals in non-CB Law states between 1994 and 2006 differed statistically significantly. Although some states passed laws that only focused on the provision of uncompensated care, this study focused only on states that had implemented community health-oriented CB Laws, and the implementation of a community health-oriented CB Law was defined as the "treatment." We selected 1994 as the base line year for the panel study as that was the first year when the AHA collected data on community health orientation activities, one of our dependent variables. Eleven states (California, Connecticut, Idaho, Illinois, Indiana, Missouri, Maryland, New Hampshire, Oregon, Pennsylvania, and Rhode Island) implemented CB Laws between

1995 and 2003, so hospitals in these CB law states became the "treatment group" (Catholic Hospital Association of the United States, 2006). We selected 2006 as the end line year for the panel study as it was the most recent data available. We selected 2003 as the final year for implementation of CB Laws so that hospitals would have at least three years to comply after the CB Laws were implemented. Thirty-four states did not have CB Laws before 1994 and did not implement CB Laws between 1995 and 2006, so hospitals in these Non CB Law states became the "control group."

We extracted the data for our sample from the 1994 and 2006 American Hospital Association (AHA) Annual Surveys (American Hospital Association, 2006). We included only not-for-profit and investor owned acute care hospitals. Due to the panel design, we only retained hospitals that did not change their AHA identification numbers during this period in order to exclude hospitals that may have closed, merged or experienced some other significant change. This excluded about 38% of the hospitals; however, Table 1 shows that sample was representative in that the sample hospitals were overwhelmingly not-for-profits, located in competitive environments, and increasingly more involved in networks, systems or alliances. Thus, our final sample was comprised of 954 acute care hospitals in the eleven CB Law states and 1988 hospitals in the remaining 34 Non CB Law states.

There were two response variables. One response variable is an index of hospital community health orientation activities. The index is based on the "yes or no" responses to following nine questions on community health orientation in the AHA Annual Survey: 1) had a mission statement that includes a focus on community benefit, 2) had a long-term plan for improving the health of the community, 3) committed resources for community benefit activities, 4) worked with others to conduct a community health assessment, 5) used health service indicators to design and modify services, 6) worked with others to develop a written assessment of capacity, 7) used assessment to identify unmet needs, 8) worked with others to collect and track health information, and 9) worked alone or with others to disseminate reports on quality and costs. Consistent with Lee and associates (Lee, Alexander & Bazzoli, 2003), we omitted the answer to the first question concerning the mission statement, because there was very little variation in these responses. Our factor analysis showed that the answers to the other eight questions all loaded on one factor. Accordingly, we constructed the community health orientation activities index by summing the positive responses to these eight questions.

The other response variable was an additive index of 15 hospital-based health promotion services listed in the AHA Annual Surveys. Fourteen of these services were judged to be basic hospital health promotion services by a panel of experts (Proenca, Rosko & Zinn, 2003). The 14 services were as follows: breast cancer screening, child wellness, community outreach, crisis prevention, fitness center, health fair, health information center, health screening, meals-on-wheels, nutrition program, patient education, psychiatric education, support groups, and teen outreach. The fifteenth service, a tobacco cessation program, was added to the AHA survey after the panel of experts had selected the 14 basic services.

With regard to organizational and environmental variables that should serve as control variables, several studies have reported that hospital size, hospital dependence on managed care, and hospital participation in networks, systems, or alliances were associated with hospital community orientation activities and health promotion services (Proenca, Rosko & Zinn, 2003; Proenca, Rosko & Zinn, 2000; Olden & Clement, 2000). Another study found that dependence on Medicaid revenues and the degree of hospital competition were related to hospital health promotion services (Ginn & Moseley, 2004). We constructed our control variables as follows: 1) hospital size was measured by the number of beds, 2) hospital dependence on managed care was measured by a dummy variable indicating whether the hospital had managed care capitation arrangements (i.e. the hospitals were paid a flat fee per admitted enrollee per time period) or not, 3) hospital participation in a network, system, or alliance was a categorical variable constructed from data reported to the AHA (these three types of hospital interconnectedness were combined into one measure, because they were not reported as separate measures in both the 1994 and 2006 AHA data) 4) dependence on Medicaid inpatient revenues was measured by the square root of the percentage of total inpatient revenues that were Medicaid revenues to correct for nonlinearity, and 5) degree of hospital competition was measured using a Herfindahl-Hirschman index (HHI) based dummy variable with a value of "1" indicating a market being competitive when the HHI was less than 1,000 and a value of "0" indicating a market being moderately concentrated or highly concentrated (Santerre & Neun, 2007).

Since data at the two points of observation (1994 and 2006) for the same subject (a hospital) were likely correlated, we used the repeated measure fixed effect model for data analysis. Since we took measurements at only two time points, we selected the unstructured and the compound symmetry covariance structures to fit the mixed model (Littell, Milliken, Stroup,

Wolfinger & Schabenberger, 2006). To choose between the two models, we compared the fit statistics. The fit statistics for the unstructured model were consistently better than those for the common symmetry model, so we chose the unstructured model as our final covariance structure.

To avoid a potential instrumentation threat to internal validity (Cook & Campbell, 1979), we ran an initial model that excluded those hospitals from the analysis that had already reported the maximum number of community health orientation activities in 1994. We then compared the results with the excluded hospitals to the results without the excluded hospitals, and we found that they were very similar. So, we included the hospitals with the maximum number of activities in 1994 in the final model.

Results

The descriptive results for the hospital variables are displayed in Table 1. From 1994 to 2006, the average hospital bed size decreased about 10 staffed beds, the percentage of hospitals with capitation arrangements shrunk by about one half, while the percentage of hospitals affiliated with a network, system, or alliance increased about 28 per cent. Hospitals increased both their community health orientation activities and health promotion services during the period.

Table 1. Characteristics of Sample Hospitals and Their Community Health Orientation Activities and Health Promotion Services: 1994 and 2006 (n = 2942)

	1994	2006
% Hospitals in a CB Law state	32.4	32.4
Mean number of hospital beds (SD)	178 (160)	168 (161)
% Not-for-profit hospitals	80.4	77.0
% Hospitals in a competitive market	92.9	91.8
% Hospitals with a capitation arrangement	14.7	7.5
% Hospitals in a network, system, or alliance,	61.4	89.5
Mean percentage of total revenues that was Medicaid revenue (SD)	13.9 (12.1)	15.8 (12.4)
Mean community health orientation activities (SD)	4.35 (2.88)	5.20 (3.24)
Mean number of health promotion services (SD)	4.87 (3.53)	6.14 (4.41)

The top portion of Table 2 compares the changes in the Non CB Law state hospitals' community health orientation activities with the changes in the CB Law state hospitals' activities between 1994 and 2006, after adjusting for the control variables. Hospitals in CB Law states reported significantly more community health orientation activities than hospitals in Non CB Law states initially in 1994, but there was no significant difference at the end of the study in 2006. Hospitals in both the Non CB Law states and the CB Law states experienced significant increases in their orientation activities, but the difference between the increases of Non CB Law state hospitals and the increases of the CB Law hospitals was not significant.

Table 2. Changes in Hospital Community Health Orientation Activities and Health Promotion Services: 1994 to 2006

Independent Variables	1994	2006	Changes 1994 – 2006
Mean Number of Community Health Orientation Activities:			
Hospitals in Non CB Law States	3.01	4.06	1.05***
Hospitals in CB Law States	3.21	4.00	0.79***
Difference between Hospitals in CB Law and Non CB Law States	0.21**	-0.05	-0.26
Mean Number of Health Promotion Services:			
Hospitals in Non CB Law States	3.53	4.38	0.85***
Hospitals in CB Law States	3.77	4.65	0.87***
Difference between Hospitals in CB Law and Non CB Law States	0.24**	0.26**	0.02

** $p < 0.05$,
*** $p < 0.01$

The bottom portion of Table 2 compares the changes in the Non CB Law state hospitals' health promotion services with the changes in the CB Law state hospitals' health promotion services between 1994 and 2006, after adjusting for the influence of the control variables. Hospitals in CB Law states offered significantly more health promotion services than hospitals in states without CB Laws both initially and at the end of the study. Again, hospitals in both Non CB Law states and CB Law states increased their services during the period, but the differences in the gains were not significant.

Discussion

The results indicate that the state CB laws passed between 1994 and 2003 did not have a significant impact on the changes in the CB Law state hospitals' community health orientation activities and health promotion services during this period. Both the CB Law and Non CB Law state hospitals increased their

community health orientation activities and health promotion services during the period, but the differences in their gains were not significant. Furthermore, hospitals in CB Law states were no more likely to increase their orientation activities than their promotion services, even though the reporting of community health orientation activities was covered with greater specificity in the state CB Laws than the reporting of health promotion services. These findings appear to contradict the Ginn & Moseley (2006) study that found that state CB laws did positively affect the community health orientation activities of the hospitals in those states. Ginn and Moseley used a cross-sectional design, however, that only allowed them to examine the association of state CB laws with hospital community health orientation activities in the year 2000. The results of this study do provide confirmation, however, for the Ginn & Moseley finding that state CB laws did not affect the provision of hospital health promotion services.

There are several potential limitations to this study. First, as in any study, there is potential measurement error. For example, the data for both response variables do not reflect the commitment of resources in dollars or volume, or, for that matter, the quality of the promotion services; they only reflect the reporting of community health orientation activities and the number of health promotion services offered. Second, there are practical limits to any research design, and our study may not have modeled some variables that would have explanatory power. Third, the data used to measure the continuing impact of the laws is potentially understated for those hospitals in states with the more recent laws. For example, the Illinois law was passed in 2003, thus allowing only two years of community health data following the passage of the law. Finally, hospitals were tracked by their AHA identification (ID) numbers, so, if their AHA ID changed during the study period due to reorganization, they were regarded as a new hospital.

In summary, the results add to the literature in that they show that state CB Laws did not impact hospital community health orientation activities and health promotion services over the period of time covered by the study. However, the effect of the CB Laws may be obscured by other factors that were not available to these researchers and thus not measured in this study. It is possible that the hospitals in both the non-CB law states and CB law states were providing more health promotion services as a marketing strategy to increase inpatient utilization. Another possibility is that the hospitals in the Non CB law states, especially the not-for-profit hospitals, might have increased their community health orientation in an attempt to forestall more stringent CB Law regulation in their states. Still another possibility is that hospital managers may have been influenced to increase their community health orientation to imitate what hospital managers in other parts of the country were doing.

Additional research is needed to address the following questions concerning why acute care hospitals were increasing their community health orientation activities and health promotion services during the study period. Were hospitals simply increasing their health promotion services as part of a marketing strategy to attract new patients? Were hospitals in the non CB Law states increasing their community orientation activities and health promotion services in a preemptive maneuver to prevent their states from passing CB Laws or from passing more stringent laws? Last, was the organizational field exhibiting the kind of "mimetic isomorphism" described by DiMaggio & Powell (1983) whereby large numbers of hospitals were increasing their provision of community health orientation activities and health promotion services to imitate other hospitals in order to secure their social legitimacy?

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