Measures of Effectiveness: The Impact of External & Organizational Beliefs, Values, and Interests.

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Abstract

Organizations usually consist of multiple internal constituencies and are dependent on numerous external constituencies. Each constituency tries to produce, promote and institutionalize measures of effectiveness that conform to its values and beliefs, and also meet its interests. The measures of effectiveness that are accepted and institutionalized in the organization reflect most closely the values, beliefs and interests of a dominant coalition, which consists of representatives from powerful internal and external constituencies. The study described examined the complex relationship among the values, beliefs and interests and the measures of effectiveness used in hospitals in a province in Canada. It reaffirms the notion that measures of effectiveness are outcomes of a process of negotiation among various internal and external constituencies of an organization, and that the measures reflect the values and beliefs of the dominant coalition and serve its interests. The results indicate the need to integrate the arguments of resource dependence and institutional theories in order to provide a more comprehensive explanation of organizational actions, and suggest that there is a need for more research to examine processes of institutionalization and deinstitutionalization in organizations.

Descriptors: measures of effectiveness, beliefs, values, and interests, institutional theory, resource dependence

Introduction

The idea of effectiveness is central to research on organizations (Cameron 1986; Goodman & Pennings 1977; Quinn & Rohrbaugh 1983). Despite the importance of the concept, the literature on effectiveness is fragmented and contradictory (Cameron 1986; Quinn & Rohrbaugh 1983). There have been several attempts (e.g., Scott 1977; Quinn & Rohrbaugh 1983; Cameron 1986) to resolve the confusion in the literature. Despite some variation and disagreement among the several frameworks, there is a consensus on certain issues (Cameron 1986). Three areas of agreement relevant to this study are: (i) There is no absolute measure of effectiveness (Cameron 1986; Scott 1977), (ii) Measures of effectiveness reflect the values and beliefs of those who develop and/or use them (Rohrbaugh & Quinn 1983; Zammuto 1982), and (iii) Measures of effectiveness support the interests of those who develop and/or use them. (Pennings & Goodman 1977; Pfeffer 1981; Scott 1977; Zammuto 1982).

External Values, Beliefs and Interests, and Effectiveness

As an open system, an organization is influenced by, and influences, the environment in which it operates. Institutional theory has conceptualized the external impact on organizations and organizational processes by distinguishing between two ideal types of environments: technical and institutional (Meyer & Rowan 1977; Alexander & Scott 1984; Scott & Meyer 1991). In a technical environment the technologies of production of a product or service are well developed and organizations operating in these environments can be evaluated based on their outputs. On the other hand, institutional environments are

> "characterized by the elaboration of rules and requirements to which individual organizations must conform if they are to receive support and legitimacy. The requirements may stem from regulatory agencies authorized by the nation-state, from professional or trade associations, from generalized belief systems that define how specific types of organizations are to conduct themselves" (Scott & Meyer 1991:123).

The output of an organization in an institutional environment cannot be easily evaluated so it acquires its necessary resources by conforming to the norms of institutions. An institution prescribes practices that an organization should follow and proscribes practices that an organization should not follow (Douglas 1986; Hinings & Greenwood 1988; North 1990). In Kuhn's (1970) terms, an institution provides the paradigmatic framework or constellation of beliefs, values, techniques, and so on shared by a given community that directs organizations towards goals and offers criteria to evaluate effectiveness.

Hospitals operate in a strong technical--strong institutional environment (Meyer & Scott 1991). Medicine has a strong scientific and technical foundation that provides some standards against which a hospital's effectiveness can be assessed based on the technical evaluation of its output (Meyer & Scott 1991), for example, the extent to which the health status of a patient is restored to normal function (Donabedian 1980). However, unlike other organizations that operate under a similar combination of external pressures, e.g., banks, even the technical pressures for a hospital, as explained below, can also be conceptualized as emerging from an institution.

The technical environment of a hospital is different from that of other organizations. While the technical criteria used to evaluate the effectiveness of a typical organization in a technical environment is developed in the 'market', hospitals have normally been shielded from market forces in North America, especially Canada. Also, unlike the output of other organizations that can be evaluated by consumers, the output of health care organizations cannot easily be evaluated by them (Roos & Roos 1982). The appropriateness of medical interventions or services is based on

"the work of the leading exponents of that science and technology; through their published research, their teachings, and their own practice these leaders define, explicitly or implicitly, the technical norms of good care". (Donabedian 1980: 80)

Ever since modern medicine gained dominance over the health care arena it has provided the guiding principles for developments in the health care industry (Friedson 1985). Medical professionals, especially physicians and physician organizations, have had control over nearly all

health care related activity within hospitals (Friedson 1970) and even outside them (Alford 1975; Taylor 1960). It is for these reasons that even the technical pressures can be conceptualized as arising from a 'paradigm', and hence from an institution which we label 'Medical Institution'. The Royal College of Physicians and Surgeons and Canadian Council for Healthc re Facilities Accreditation (CCHFA) may be seen as two key agents through which the medical institution imposes its norms on hospitals.

However, in recent years the health care arena has been influenced by a 'new' institution formed around a different set of values, beliefs and interests. In terms of Alford's (1975) labels, while the medical institution was dominated by the values, beliefs and interests of "professional monopolists," consisting of medical practitioners and allied health care professionals, the new institution, which is labeled 'Administrative Institution', is built around the values, beliefs and interests of a coalition of "corporate rationalizers," comprising health care administrators, public health planners, educators, and analysts (Scott 1983). Government funding offices and insurance companies are agents that exert pressures on hospitals to conform to the norms of the administrative institution.

The beliefs and guiding rules that form the core of these two institutions emphasize divergent principles and hence suggest different criteria for the evaluation of hospitals (Alford 1975; Havighurst & Blumstein 1975; Scott 1983). Table 1 provides a comparison between the characteristics of the two institutions. The descriptions in the table may be seen as representing ideal types that facilitate the comparison of distinctive features of two dominant institutions in health care, rather than an exact description of beliefs and values held by a specific individual or profession.

Insert Table 1 about here

The medical institution is based on the norms and conventions that emerge from scientific medicine, while those of the administrative institution are based on a combination of market and bureaucratic principles. While the agents of the former institution, e.g., physicians, emphasize life-enhancing values and often neglect economic values, those of the latter, e.g., hospital administrators, stress economic values without necessarily rejecting life-enhancing values (Rushing 1984). Also the clinical mentality of medical professionals (Friedson 1970), along with their training and work experience, causes them to develop a sense of obligation to their individual patents. As a consequence, they evaluate hospitals based on their ability to provide clinical assistance for the treatment of their individual patents. On the other hand, administrators, who are responsible for the overall effectiveness of the hospital and lack a one-to-one relationship with patents are more likely to evaluate effectiveness based on a population of patients (Scott 1993). Further, most medical professionals in hospitals have to deal with patients that are already ill and hence their focus is on treating illnesses, rather than maintaining wellness in a community Waitzkin 1989). However, administrators, especially those in the ministry of health, have a greater interest in maintaining wellness in a community than paying attention to the treatment of specific illnesses or patients. It is because these reasons that medical professionals are more likely to use micro-care criteria rather than macro-care criteria used by administrators (Havighurst & Blumstein 1975; Scott 1983) and neglect the impact of non-medical factors on health status when compared to administrators (Waitzkin 1989).

Hospitals try to adapt their internal operations and evaluation procedures to meet the external institutional pressures in order to continue to receive resources and support from society. In the past, the medical institution was clearly the dominant institution so hospital systems were designed and run to conform to medical requirements. However, with the increased prominence of the administrative institution, hospitals are having to respond to conflicting norms. Some specific government initiatives, since 1990, by the government in the province in which the study was

conducted that indicate the increased prominence of the administrative institution in the province include the implementation of the Acute Care Funding Plan, the Hospital Role Statement Process, and the Management Information System (MIS) Guidelines. The Acute Care Funding Program changed the method of funding for hospitals from global budgets based on the cost of inputs to funding based on outputs and cost-efficiency relative to other hospitals in the province. The Hospital Role Statement Process is an attempt to coordinate the activities of various health care organizations within geographical regions in the province in order to eliminate unnecessary duplication of services. The Management Information System (MIS) Guidelines were implemented to facilitate the other two efficiency programs.

Organizational Values, Beliefs and Interests, and Effectiveness

An organization is composed of several internal constituencies (Pennings & Goodman 1977; Young 1989). Each constituency shares a belief system that is distinct and in some way in conflict with the beliefs of other constituencies. In a hospital, the two most dominant internal constituencies are the groups of personnel that provide health care and those that perform the administrative duties (Wahn 1987; Young & Saltman 1985). There are further sub-groups (e.g., doctors and nurses) within these broad categories and often there are overlaps in administrative and functional areas. However, as concluded by Young and Saltman (1985) in their review of the literature and their own study, despite the existence of multiple groups and shifts in power, the medical staff and the administrators are still the two most dominant constituencies. Therefore, the focus of this study was on the differences in values, beliefs and interest of the members of these two constituencies.

Due to socialization outside the confines of a hospital, professional groups develop different perceptions about the goals of a hospital and norms to measure its effectiveness (Bucher & Stelling 1969). These different perceptions are further reinforced by the roles they have within hospitals. Medical professionals normally have a one-to-one relationship with their patients which draws their

attention to particular situations and hence encourages the use of micro medical criteria. On the other hand, administrators are responsible for costs and lack a one-to-one relationship with patients encouraging them to use macro administrative criteria that are qualitatively different from micro medical criteria (Havighurst & Blumstein 1975). Since a hospital's structure and systems reflect the beliefs and values of the dominant coalition (Pennings & Goodman 1977; Pfeffer 1981), there are variations depending on the balance of power between medical professionals and health care administrators. As a result, a hospital that has a dominant medical constituency is more likely to emphasize micro medical criteria in its internal evaluation than other hospitals.

Conceptual Framework

Figure 1 represents pictorially the interactions among the constituencies and institutions of a hospital as conceptualized for this study. The two institutions, labeled Medical Institution and Administrative Institution, are respectively underpinned by medical and administrative values, beliefs and interests. The arrows between the two institutions represent the fact that the beliefs and values, and hence rules and norms of each institution, are influenced by those of the other. The two arrows between the institutions and the hospital indicate that institutions are also influenced by the hospitals on which they impose constraints. Each institution exerts pressures on hospitals to conform to its own norms. However, these norms are not independent of influences from the hospitals. Often, the agents of the institution who develop and promote the norms are also members of hospitals. As a consequence, the perspective of their hospital is likely to be reflected in the institutional norms. At other times, powerful hospitals can apply pressure on institutions to change norms that are not favorable to them.

The institutions create an arena in which the hospital's constituencies try to establish measures of effectiveness that conform to their beliefs and values, and meet their interests. The two dominant constituencies in a hospital also espouse medical and administrative values, beliefs and interests

respectively. Their interactions are represented by arrows between the constituencies and the measures of effectiveness.

Insert Figure 1 about here

The health policy changes described above represent an increase in the legitimacy of the administrative institution in the health care arena. These changes have created an imbalance between the pressures exerted by the administrative and medical institutions and the practices within hospitals. As a consequence, hospitals have to respond to these external changes to re-establish a new equilibrium. According to the framework depicted in Figure 1, an increase in the legitimacy and hence power of the administrative institution should result in changes in the medical institution, hospital constituencies and measures of effectiveness within hospitals.

Since the literature reviewed to develop the framework was largely based on research developments in the United States which has a health system that has some significant differences with that in Canada, it was used to guide the research rather than provide testable hypotheses. Some of the expected changes as hospitals respond to the new pressures are presented as propositions in the next section.

Propositions

When faced with new institutional pressures that do not fit with its current systems, a hospital can choose response tactics that can be categorized into one or more of five strategic responses--manipulation, defiance, avoidance, compromise, and acquiescence--which go from active resistance in the case of manipulation to passive conformity in the case of acquiescence (Oliver 1991). These responses are also influenced by the hospitals internal constituencies.

The recent government initiatives in the province encroach on areas that were considered the domain of the medical staff. Since they force providers to include economic criteria in their evaluation of treatment procedures resistance from them can be expected. As a consequence, if a hospital has a dominant medical constituency it would actively pursue tactics to deter the implementation of new administrative norms. Murray, Jick and Bradshaw (1983) describe some of the external tactics used by hospitals in Ontario, Canada.

Proposition 1: Hospitals that have dominant medical constituencies are more likely to resist the norms of effectiveness that emerge from the administrative institution than other hospitals.

When the institution applying the new norms has significant societal legitimacy, hence is powerful, non-compliance is likely to be detrimental to a hospital's survival. In such situations, even hospitals that oppose the changes are likely to maintain at least 'ceremonial' conformity with institutional norms by making external changes even if they do not make internal changes. Hospitals may continue to use only medical criteria for evaluating hospital effectiveness, but make references to administrative criteria in public documents. Since all hospitals in Alberta are almost entirely dependent on the government for funding, it is expected that all hospitals will make changes to their public documents even as they avoid real internal changes to improve economic effectiveness.

Proposition 2: Hospitals will portray greater compliance with norms of the administrative institution (economic effectiveness) in public documents even if they avoid internal changes.

Hospitals may respond by acquiescence and compromise. This will result in changes in the measures used in the public documents as suggested above, but also result in changes in measures used within the organization. These will ultimately lead to changes that improve cost effectiveness. Hospital administrators will have to negotiate internal changes with those who oppose them. Changes that conflict with the evaluation by the medical constituency of a hospital will be difficult to implement if it is powerful. In other words, one would expect a greater degree of change in measures of effectiveness in a hospital that has a dominant administrative constituency rather than a dominant medical constituency.

Proposition 3: Changes in measures of hospital effectiveness to conform to the norms of the administrative institution will be more pronounced in hospitals dominated by the administrative constituency than in other hospitals.

As the emphasis on administrative issues in external evaluation of health care organizations increases, there may be change in the relative power of different constituencies. Members with administrative skills who can handle the new uncertainties will gain in power (Hickson et al. 1971; Pfeffer 1981). In other words, as the importance of administrative values and beliefs increases, there will be a shift in the composition of the dominant coalition to reflect this -- there will be an increase in the power of the administrative constituency.

Proposition 4: With an increase in pressures from the administrative institution, there will be an increase in the power of the administrative constituency in a hospital.

When organizations are faced with changing institutional environments, they have to make choices between the conflicting demands that the situation presents In addition to managing the external environment, they have to manage their organization belief system. Organizations are likely to re-emphasize the values and beliefs of the institution that most favors them (D'Aunno et al. 1991). As Starbuck, Hedberg & Greve (1978) suggest, organizations that have been effective in the past will re-emphasize the old beliefs while neglecting the impact of the new institutional pressures. In other words, hospitals that have acquired their legitimacy from conforming to the requirements of the medical institution, are likely to attempt to re-emphasize those beliefs and values among their members.

Proposition 5: Hospitals that have dominant medical constituencies will increase efforts to revive the effectiveness norms of the medical institution while others will introduce efforts to enhance the norms of the administrative institution.

Research Methodology

The propositions described above were based on research outside the province in which the study was conducted. Hence the propositions were used to guide the study rather than as hypotheses to be

tested. Since this was primarily an exploratory study, the case study methodology was adopted. The methodology used for this research followed closely the description provided by Yin (1984).

Selection of Research Sites. The literature on hospitals suggested that there were significant differences among hospitals on the basis of size, and involvement with teaching and research (Fennell 1982; Greer 1986). Two hospital sites that were polar opposites based on size, teaching and research were selected. They were selected in order to produce theoretical replications, i.e., contradictory results but for predictable reasons. The first hospital, which will be referred to as University Hospital, is one of the oldest and largest hospitals in the province with a significant focus on high end tertiary and quaternary level services. It was established as a 15 bed hospital in 1906. It expanded to a 150 bed hospital in 1914. In 1991/92 it had approximately 1000 acute care and long term care beds in operation. It is associated with the local university and by virtue of this association, teaching is an essential and significant portion of its role. The hospital established a formal relationship with the Faculty of Medicine of the local university in 1922. In 1991/92 the hospital had 610 students and residents, 153 nursing students, and 142 other health related students. It is considered a premier medical research hospital. In 1991/92 the hospital was involved with 25 medical research projects and had 118 projects that had been approved in principle.

Community Hospital is a much younger and smaller community hospital. It was established in 1965 and began operating in a 100 bed facility in 1970. In 1992 it moved to a new 200 bed facility but was asked by the government to bring into operation only 150 beds. The hospital is not involved in formal teaching. It does act as a site for preliminary training for some category of health care providers, but this is not recognized by the government in its planning and funding for hospitals. Further, research is not considered part of the hospital's mandate. Some physicians and nurses do conduct internal research to improve care, but this does not play a role in the government's understanding of the role of the hospital.

Data Sources. Data was acquired through a variety of ways. Details of the data sources are provided in Appendix 1. Interviews were the main source of data. A sample interview guide is shown in Appendix 2. Thirty-six people were interviewed. Nineteen were from University Hospital, thirteen from Community Hospital, one was the president of a provincial hospital association, one was a senior executive of a long-term care hospital group, and one a senior bureaucrat in the ministry of health. Within each hospital at least three doctors, four nurse managers, and four administrators, all of whom were aware of the impact of changes in government policy and were involved in various capacities in responding to the changes were interviewed. The formal interviews, which varied in length from thirty-five minutes to over two hours and on average lasted for forty-five minutes, were recorded and transcribed. In addition to the recorded interviews, the researcher had the opportunity to have informal conversations with the interviewees and others in the hospital system. While these conversations were not treated as formal data for the analysis, they were very helpful in providing clues to the analysis of the interview data. These conversations also led the researcher to raise new issues in the formal interviews.

The information acquired during the interviews was triangulated with data accumulated from documents and archival records. Newspaper articles were used extensively during the early stages of the formulation of the study. Government documents that explained the purpose of the new policies, the schedule for their implementation, and expected impacts were used to understand the government's interpretation for its recent actions. Some correspondence with the government, communication within the hospital, and reports on specific issues were also acquired. Background information about each organization was acquired from two unpublished case studies that had separately researched the two selected sites.

Data Analysis. As mentioned above, the main data analysis focused on interview data. The interviews were transcribed soon after they were conducted. In addition to facilitating accurate

transcription, this allowed preliminary examination of themes in the interviews, in order to revise the interview guides for further interviews.

Ethnograph, a software package designed to facilitate the analysis of text data without intruding into the interpretive aspects of analysis, was used for further analysis of the data. First, the raw data files were converted into numbered text files, such that each line of text had a corresponding line number. The interviews were coded 'manually' using hard copies of the numbered transcripts. The initial codes were based on attempts to operationalize dimensions present in the propositions. For example, if a segment of the text referred to the size of hospitals, the code 'HOSPSIZE' was written beside it. The list of first level codes used is shown in Appendix 3. Other codes were developed as new themes emerged. After the complete list of codes was developed, the interviews were re-read to ensure that all interviews had been properly coded. The codes developed on the hard copies were then transferred to the numbered lines in the softcopy to produce coded files.

The first stage of the analysis was to establish the appropriateness of the framework used in the Canadian context. The next stage involved examining the support for the propositions developed prior to the field work. Pattern-matching (Yin 1984) was used to compare the patterns that emerged from the coded data with the predictions from theory. This involved using the software to extract all segments of text that had overlapping codes for dimensions in a proposition. These extracted texts were examined to the assess whether the association between dimensions was as suggested in the propositions. Most patterns matched the theoretical predictions, i.e., there was significant support for the propositions. However, a few patterns that were not expected did emerge. Explanation-building (Yin 1984) was used to analyze the accumulated data to ascertain the cause of such unexpected findings. This involved extracting segments of text that had overlapping codes that represented dimensions that on preliminary examination suggested a new relationship. These segments were assessed to confirm the preliminary conclusion.

The analysis of documents and archival records was used primarily to verify evidence available in the interviews or clarify details that were not clear to the researcher from the interviews.

Findings

The first stage of the data analysis was to establish its appropriateness to the situation being studied. Five significant assumptions underlying the framework were (i) there are significant difference in the values and beliefs held by agents of the medical and administrative institutions, (ii) hospitals were experiencing a change in institutional pressures, (iii) the medical constituency was likely to oppose administrative change, (iv) University Hospital had a more dominant medical constituency than Community Hospital which made administrative changes more difficult, and (v) University Hospital was more powerful than Community Hospital. The analysis suggested that this was appropriate. Appendix 4 indicates some of the representative quotes that suggest that each assumption was appropriate for the Canadian context.

Propositions 1. According to the proposition University Hospital is more likely to oppose the government policies than Community Hospital. The evidence showed that University Hospital has opted to use several tactics to directly influence the government to either change or prevent the implementation of the new policies. For example, the Chairman of the Board of the hospital in a letter to the ministry of health criticizing specific items of the government initiatives wrote:

"... the effectiveness of education, research and specialized treatment programs is threatened by basing funding decisions for these activities on a questionable formula... given the unique nature and role of University Hospital, we would ask you to support the removal of our institution from the project."

The hospital also expressed opposition in committees on which the hospital was represented, and in one case refused to admit a high cost patient if the government did not provide extra funds for such patients. The pediatrician who used this occasion to oppose the governments initiatives to reduce hospital expenditure wrote to an out of province hospital :

"I would like to re-emphasize our commitment to bringing [name] back to [University Hospital]as soon as we have a commitment from the administrative hierarchy that her care costs will be funded by a separate and distinct chronic care program"

On the other hand, Community Hospital has not tried to directly approach the government and express its resistance to changes in health policy. In interviews, members of the hospital suggested that they had tried to influence the government in the past but were never successful. Describing the hospital's experiences in one case, a Director in the hospital said:

"We really have not had a success in having the government change their mind during our planning process. When we tried to have certain things changed because we did not think it was going to meet our needs, we ran into a brick wall."

The hospital had not made any efforts to persuade the government to stop or delay the implementation of the recent programs. For example. the Director of Finance while describing the hospital's response to the recent policies said:

"We are complying with the MIS guidelines so we have not debated or appealed some of the things... Same with the acute care funding. We have not made an appeal or lobbied to any degree."

The notion that University Hospital had opposed the new government policies more that Community Hospital was also supported by an official from the ministry of health, and examination of internal documents of both hospitals. It was concluded that there was strong support for Proposition 1.

While a significant portion of the difference in external resistance between the two hospitals can be attributed to the factors indicated in the proposition, namely dominance of the medical constituency, some of the difference can be attributed to availability of resources. In addition to a dominant medical constituency, University Hospital had the ability to allocate personnel and resources towards challenging the new policies. It also had access to a larger pool of talent and support facilities to scrutinize the new policies and produce a cohesive resistance to the new norms. Community Hospital did not have the benefit of a large resource base, talent or support facilities,

to be able to launch a direct challenge to the new policies. The impact of resources on hospital response will be discussed again after examining the evidence for Proposition 3.

Proposition 2. The data indicated that both hospitals have tried to make a public display of compliance, even as they have tried to avoid real changes. Both hospitals have supported the government's desire to make the hospital system more efficient in annual re ports, brochures, and literature for the public. For examples, in the 1991/92 annual report the Chairman of the Board of University Hospital wrote:

"Funding realities have required that [in University Hospital we] change the way we operate in many areas but we were successful again this year in adhering to our fiscal policy of operating with a balanced budget while meeting the goals of our strategic plan."

On the other hand, a physician from the hospital indicated:

"The quality improvement initiatives have effected us little. There has been a lot of smoke but no fire in our area."

They have also made changes to the way they accumulate and report data to the government such that they are seen to be more efficient, even as actual hospital procedures remained the same. In University Hospital, there were changes to the coding processes so that existing procedures could be reported as being cost efficient in the new reporting system. Further, there were changes to the annual returns submitted to the legislature to indicate improvements in cost efficiency. The Director of Finance said:

"The change has been in the annual returns filed with (the ministry)...That report is used in calculating the hospital's performance index. So a report that used to be just a report is now looked as almost a tax-return... now the report is prepared with the purpose in mind."

Community Hospital planned to install computer software that would prompt coders to select codes that improved their efficiency on paper. According to the Assistant Executive Director:

"We hope to start a new coding system in the new year... You use the diagnosis that gives you the highest severity, but if you do it manually there is no time to do all. The computer system will prompt them to check the code used."

It was concluded that there was very strong support for Proposition 2 in both hospitals.

Proposition 3. The proposition suggested that University Hospital would make fewer changes than Community Hospital. However, evidence suggested that although both hospitals have increased the emphasis on cost-effectiveness, there were changes of greater significance at University Hospital than at Community Hospital. Describing the changes at University Hospital, the President of the Medical Advisory Board said

"Evaluation has always gone on... (But) the economic implications of the questions that are posed have changed. The spotlight is shifting from more biological issues to social issues, economic issues...."

Through their total quality management (TQM) and Value Improvement Program (VIP) initiatives. University Hospital had modified several treatment programs and made them more cost-efficient Examples of successful projects included a 23% drop in costs associated with an average hip-replacement and a 13.5% drop in costs of a typical coronary by-pass. These changes demonstrate a greater emphasis on economic criteria within the hospital.

On the other hand, Community Hospital had implemented some obvious cost saving decisions, for example, replacing a special U-tube used to provide intravenous medication that cost $ 140.00 with a normal tubing that did the same job and cost only $ 12.00. However, at the time of the research, it was just planning to initiate some cost saving studies. As stated by the Director of Finance:

"We are categorizing and classifying expenditures in more detail. We are also getting into workload measurement reporting and getting into analysis of work loads and cost.."

In summary, while University Hospital had initiated several programs to save costs and some of them had actually resulted in significant cost savings, Community Hospital had just started planning for such programs at the time of the study. In other words, there was a lack of support for Proposition 3.

One of the reasons for this may be a recognition within University Hospital, from experiences in other provinces in Canada, that major changes in government funding were inevitable. The hospital would not be able to maintain its old level of funding without making significant changes to

become efficient. So rather than not make changes with the hope that the government will back out of its policy changes, it has initiated major changes to benefit from the changes. Another factor that can explain the changes is access to resources. Assuming that both hospitals had decided to embark on a plan to become more cost-efficient, University Hospital had more resources to study and implement changes. Therefore, it may be argued that there may have been support for Proposition 3, if there was a perception that the changes in government policies could be stopped and there was equal access to resources in both hospitals. These two factors were mentioned in several interviews in both hospitals and by an official from the ministry of health.

Proposition 4. There was evidence to indicate that there has been a relative shift in power in favor of the administrators. Administrators in both hospitals suggested that recent policy changes towards emphasizing cost efficiency had made it easier to involve physicians in discussions of cost-saving and efficiency than in the past. According to the Vice-President (Operations) at University Hospital:

"Because of the fiscal situation in the province as a whole, it makes it a lot easier for us to suggest that we need to do things in a different way"

Further, all the physicians who were interviewed indicated that they were aware of the need to lower costs and felt obliged to cooperate with the administrators to implement cost saving measures. In other words, Proposition 4 was supported by the evidence acquired in the interviews. However, the evidence was neither strong nor conclusive. There are a few reasons for the lack of strong evidence for, or against, this proposition. First, it was very difficult to frame a question, for either administrators or physicians, that would adequately address the issue of change in power. Further, the interviewees normally did not respond to the indirect questions in a way that can be used as evidence for the proposition. Secondly, other typical measures of power, like changes in salary or changes in decision making authority, that have been used in other studies were not easily accessible to the researcher. Even if they were available it would be difficult to establish a change

in power based on those measures because it will probably take a long time before such changes are significant enough to infer a change in power.

Proposition 5. As predicted in the proposition, Community Hospital has taken several actions to promote cost-effectiveness. Some actions include having seminars for middle management, distributing printed and video articles on how to look for cost savings, and emphasizing the need for cost savings in staff meetings. The hospital had also provided funds for some middle managers to acquire administration degrees so that they could acquire new skills.

However, unlike the predictions of the proposition, University Hospital has also emphasized the importance of the administrative aspects of health care. It has tried to communicate to its members the need to conform to the external changes, rather than oppose them. According to one of the Directors of Nursing at University Hospital:

"We have tried to educate our managers, nurses and even physicians on the acute care funding plan and the meaning of HPI. We are really trying to get people to be more knowledgeable (about the new requirements)"

The TQM and VIP initiatives have emphasized the importance of providing more care with less resources. The hospital newspaper has been used to raise awareness about the need to improve cost efficiency. Staff at all levels have been encouraged to attend internal seminars and external courses on hospital administration. The achievements of staff who worked on cost-saving projects and provided cost-saving ideas were publicized and rewarded in the ceremonies and highlighted in the hospital newspaper. It was concluded that there was a lack of support for the proposition.

As explained in the case of Proposition 3, hospitals have assessed that the changes in government policy are inevitable. Hence, they have decided to do all they can to prepare for the new environment. Therefore, University Hospital has promoted administrative beliefs along with the significant internal changes.

Increased Attention to Medical Outcomes. A significant, but unexpected finding of the study, was the increase in emphasis on measures of medical outcomes as a consequence of increased

pressure from the administrative institution. In developing the propositions for the study, there was an assumption that, prior to the pressures to become cost efficient, hospitals evaluated effectiveness based on the examination of medical aspects of health care. However, the evidence suggested that in many cases there was a lack of evaluation, even from the medical perspective. This was true for both hospitals. With the increase in pressures to become more cost effective, however, there is an increase in the attention given to medical outcomes. This is a result of the desire to save costs without hurting the medical outcome of a treatment procedure. According to the Vice President (Planning) at University Hospital:

"Within the last year in medical units we have been doing morbidity and mortality reviews with every death. We didn't do it with every death."

This opinion was further supported by the President of the Medical Staff Advisory Board:

"The whole idea that work should be evaluated is a change. In the past, there was almost a blind spot--you thought of course this is better. Intuitively this makes more sense, so lets do it. Then you never went back and actually measured whether it made any difference or not. That kind of thinking is changing."

Similar changes happened at Community Hospital, as explained by the Director of Nursing in Community Hospital:

"We have never done outcome audit. That is coming now. We have a program stating in November where we are going to call all our surgical patients-- that's all related to early discharge (to follow up on the outcome of the treatment they received"

One example of the increased focus on medical outcomes is the change in decision making process in the total hip replacement procedure at University Hospital. Total hip replacement is a medically approved procedure that is used on patients with damaged hips. If a patient has a damaged hip, it may be substituted with an artificial hip replacement that performs the same function. If only medical measures of effectiveness are used, there is an incentive for surgeons to use the replacement that provides maximum mobility for every patient. Since these decisions were not challenged by any other measures of effectiveness most patients received the maximum mobility

replacement. The medical outcome of the treatment was not evaluated because the patient had already been provided the best alternative. However, this meant that almost every patient received the costliest hip replacement.

With the increase in pressures to be cost effective, the criterion used to decide a hip replacement has changed. The use of administrative measures of effectiveness has caused the hospital to evaluate the cost effectiveness of hip replacements. Now, not every patient receives the costliest hip replacement. The choice of replacement is based on the utility of the replacement to the patient. If a patient is not physically active due to reasons other than a broken hip, the costliest hip replacement which provides maximum mobility may not be the most cost effective choice. A replacement that permits lesser mobility may allow the patient to have the mobility he/she is capable of within the other constraints. This has required the orthopedic unit to focus on medical outcome measures to evaluate the extent of recovery to normal function. In other words, as a result of an increase in administrative pressures to become more efficient there is also a greater use of outcome measures that are underpinned by medical beliefs and values.

A summary of source and strength of support for the findings of the study is provided in Table 2.

Insert Table 2 about here

Conclusions

Power of an institution to influence an organization. This study provides evidence of a linkage between the power of an external institution to impose its norms on an organization and the acceptance of the norms in society. The ability of the administrative institution to force hospitals to conform to its requirements is related to the increased acceptance of its norms in society. The administrative institution in health care existed even before the recent government initiatives. However, as long as society, through the government, did not provide it with the legitimacy to play

a significant role in the health care system, its representatives both within and outside hospitals did not have the power to implement systems that reflected its norms. As society has provide it approval, its agents have been more successful in implementing changes that conform to the requirements of the administrative institution.

Power of an organization to oppose institutional pressures. University Hospital was more able than Community Hospital in opposing some of the changes was its access to large resources. There was evidence that University Hospital was able to allocate resources, both skilled personnel and financial support, to develop its strategies to oppose the recent government policies, while the lack of resources in Community Hospital prevented the hospital from developing sound opposition strategies. It may be concluded that, in addition to societal legitimacy and size, an organization also acquires power to oppose institutional norms if it has access to necessary resources.

Power of a constituency to influence measures of effectiveness. The literature suggests that measures of effectiveness reflect the values and beliefs of powerful internal constituencies. This study shows that the 'power' of a constituency in an organization is influenced, not only by the circumstances within the organization, but also by the extent to which their values and beliefs conform with those of dominant institutions in its domain. If power in an organization is based entirely on internal factors, such as control over resources or criticality of activity (Hickson et al. 1971), then there should not be a decrease in power of the medical constituency because they are still the most critical resource. However, in recent times their ability to oppose internal modifications has been reduced. The change in power has occurred because of the match between the beliefs and values of the administrative constituency and the 'new' dominant institution.

Responses by an institution to challenges from other institutions. The increased focus on medical outcomes in both hospitals provides a useful insight into how institutions are created and sustained. Institutional conventions are sustained when advocates of the institution are able to provide arguments that illustrate a link between the conventions and the 'nature of the universe'

(Douglas 1986). When the 'nature of the universe' changes, it leads to changes in the conventions and also to modifications in the arguments that are required to re-establish a link between them. The change in the norms related to total hip replacement, described earlier, is an effort by representatives of the medical institution to synthesize notions of cost-effectiveness within their procedures to be able face the challenges from the administrative institution. The drive for cost effectiveness is part of the 'nature of the universe' in Alberta, and the change in total hip replacement procedure is an attempt to re-establish the link.

Implications for Research

Resource Dependence Theory and Institutional Theory. Pfeffer and Salancik (1978) in their book "The External Control of Organizations: A Resource Dependence Perspective" argued that organizations should be understood in terms of their interdependence with their environment. However, unlike institutional theory which incorporates the role of external influences on organizational action through the impact of taken for granted societal norms, resource dependence theory suggests that an organization is forced to follow the dictates of persons or organizations that control those resources.

In this study, both hospitals were dependent on the government for their funding, which is a critical resource. If the study had been framed in terms of resource dependence theory, the provincial ministry of health would have been conceptualized as a powerful organization in the environment that had control over a resource that was critical for the survival of hospitals. Hence, when the government made changes to the health care system, both hospitals were coerced into making the changes. While there was considerable evidence for the fact that the need to maintain a flow of funds did pressurize hospitals to make changes, this does not explain why the government initiated the policy changes. It is the change in power of the administrative institution relative to the medical institution that has enhanced the criticality of funds for the hospitals. Prior to the recent changes,

the hospitals were still dependent on ministry for their funding, but funding procurement was not as critical as it is now. Therefore, although some aspects of the changes may be explained using resource dependence theory, a better explanation is provided by drawing insights from both institutional and resource dependence theories.

This implies that institutional and resource dependence theories can complement their explanatory powers. Hence, there is a need for greater integration between the arguments of resource dependence and institutional theory in order to provide a more comprehensive explanation of organizational actions. Oliver (1991) is one example of an attempt to synthesize the two theories.

Influence of Organizational Constituents. Institutional theory has examined the impact of institutions on organizations. However, there has been a lack of focus on the characteristics of the organization that may influence its actions. Oliver's (1991) analysis made reference to the role of organizational politics but her organizational strategies were developed based entirely on characteristics of institutions. This study tried to understand the impact of internal constituents of a hospital on its response to pressures from a 'new' institution.

The impact of internal constituencies was not clearly revealed in this study because both hospitals have decided to conform to the new norms rather than oppose them. However, the idea that the internal composition of an organization affects organizational action in response to institutional pressures has strong logical appeal. Studies that use institutional theory should include these effects in their analysis.

Institutionalization and Deinstitutionalization. Institutional theorists have focused largely on societal processes by which organizations acquire endorsements as a result of compliance with institutional norms. There has been an emphasis on the examination of persistence and endurance of institutionalized practices that do not meet the standards of market efficiency. However, there has been little attention to societal processes that lead to the initial acceptance or ultimate erosion of institutions (Oliver, 1992). DiMaggio (1988) and DiMaggio and Powell (1991) suggested that

institution theory should incorporate interest and agency to understand the dynamic processes of institutionalization and deinstitutionalization rather than focus only on stability and continuity.

Douglas (1986) argued that institutions acquire legitimacy when their proponents present a set of cognitive conventions that provide links between the institutional conventions and the nature of the universe'. Although the processes through which the medical institution acquired legitimacy in the early 1900s and the administrative institution has gained in prominence in recent times were referred to, they were not examined in this study. If institutional theory has to be broadened to understand and explain organizational behavior, these processes need to be examined. A better understanding of how institutions acquire their legitimacy may provide insights into the reasons why they develop and persist.

A conceptual study by Oliver's (1992) focused on the antecedents of deinstitutionalization in organizations to examine the processes through which institutionalized organizational practices are discontinued. However, in addition to examining changes in organizational practices as institutions decline and new ones gain prominence, there is also a need to examine how institutions themselves respond to challenges from other institutions. The change in the criteria used to decide hip replacement may be seen as a response of the medical institution to challenges from the administrative institution that is threatening to erode it. There is a need for more empirical work that examines the erosion of institutions. An understanding of such processes will allow institutional theory to provide a more comprehensive understanding of not only stability and continuity, but also of dynamic organizational and institutional change.

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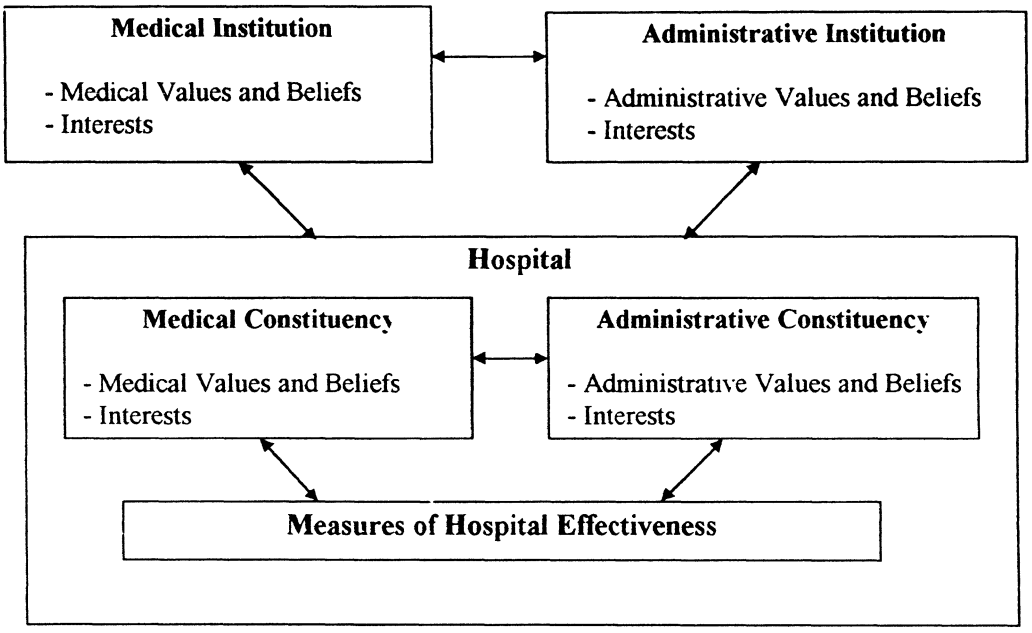
Figure 1

Interaction among Internal and External Values, Beliefs, and Interests of a Hospital and Measures of Hospital Effectiveness



Note: Based on a model presented in Fottler (1987)

Table 1

Comparison of the Characteristics of the Medical and Administrative Institutions

Medical Institution	Administrative Institution
1. Based on the norms of scientific medicine	1. Based on market and/or bureaucratic principles
2 Emphasis on life-enhancing values	2. Emphasis on economic values
3 Focus on individual patients	3 Focus on a population of patients
4. Focus on illness rather than wellness	4. Focus on wellness rather than illness
5 Use of micro criteria to evaluate health care effectiveness	5. Use of macro criteria to evaluate health care effectiveness
6 Relatively low emphasis on the impact of non-medical factors on health status	6 Relatively high emphasis on the impact of non-medical factors on health status

Table 2

Summary of Source and Strength of Support for Findings

	Source and Strength of Support	
Finding	**Interviews**	**Document and Archival Records**
Proposition 1	Strong Support	Strong Support
Proposition 2	Very Strong Support	Very Strong Support
Proposition 3	Support Absent	Support Absent
Proposition 4	Weak Support	Not available
Proposition 5	Support Absent	Support Absent
Increased attention to medical outcomes	Very Strong Support	Very Strong Support

Appendix 1
List of persons interviewed

Name of Organization: University Hospital

Designation

Vice President (Finance & Corporate Information)

Vice President (Medical Affairs)

Vice President (Operations)

Vice President (Planning)

Vice President (Nursing)

Director (Nursing)

Director (Medical Records & Patient Reception)

Manager (Medical Records)

Director (Finance)

Nurse Manager (Orthopedics)

Nurse Manager (Emergency)

President, Medical Staff Executive &
Secretary, Medical Staff Advisory Board

Director, Division of Cardiology

Chairman, Medical Staff Advisory Board

Director (Communications)

Editor (Hospital Newspaper)

Pediatrician

Director (Nursing) -Pediatrics

Nurse Manager (Medicine)

Name of Organization: Community Hospital

Designation

Director of Environmental Services

Nurse Manager (Emergency)

Director of Financial Services

Director of Diagnostic Imaging

Director of Laboratory Service

Assistant Executive Director

Executive Director

Chief of Medical Staff

Former Chief of Medical Staff

President, Medical Staff Association

Director of Nursing

Nurse Manager (Pediatrics)

Nurse Manager (Obstetrics)

Other persons interviewed.

Designation

Executive Director, Institutional Operations Branch, Ministry of Health

President, 'Provincial' Healthcare Association
(Former vice-president at University Hospital)

Vice President (Planning & Support Services) of a Group of Long Term Care Hospitals.
(Former President, Council of Teaching Hospitals of 'Province')

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Appendix 2

Interview Guide for interview with President, Medical Staff Executive, & Secretary, Medical Staff Advisory Board, University Hospital

What are the recent changes in provincial health policy that have had, or may have, a significant impact on University Hospital?

What in your opinion are the reasons behind these decisions? Why has the government made these decisions?

What is the nature of impact of these policy decisions on the work of physicians? Do you think the impact may be favorable? Do you have any concerns?

What are some specific changes? Why have these changes been made?

How well have these changes been accepted by physicians as a group? Why?

Do the changes influence the way in which hospital work is evaluated? How? Or are the changes a result of the way in which hospital work is evaluated?

Do you foresee a change in the method of payment to physicians who work in hospitals? Why?

How do you view the emergence/re-emergence of alternative forms of healing? Do you expect that it will happen?

Appendix 3

List of first level codes developed during the coding of interviews

ADMINBLF	- Administrative Beliefs
ADMININT	- Administrative Interests
ADMINPOWER	- Administrative Power
ATTACK	- hospital challenging government policy
BARGAIN	- hospital negotiating with the government
BUFFER	- hospital avoiding compliance with new policy
CHALLENGE	- hospital challenging government policy
CHILDREN	- Children's Health Center
CODINGDIFF	- Difference in Coding
COMPLIANCE	- compliance with government policy
CONCEAL	- hospital hiding non-compliance
CONFLICT	- conflict
COOPTATION	- hospital seeking help from other people/organizations
DISMISS	- hospital ignoring government policy
ETHICS	- issues related to health care ethics
EXTERNALR	- External response
FACTS	- Facts about hospitals/government policy
FOUNDATION	- Foundation
HOSPPOWER	- Hospital Power
INFLUENCE	- hospital trying to influence others
INSTITUT1	- Medical Institution
INSTITUT2	- Administrative Institution
INTERNALR	- Internal Response
LEGITIMACY	-Legitimacy
MEDICALBLF	- Medical Beliefs
MEDICALINT	- Medical Interests
MEDIPOWER	- Power of Medical profession
MIDDLEMANGR	- Middle Manager
NEWSYSTEM	- Hospital after changes
OLDSYSTEM	- Hospital before changes
OTHERMEDS	- Non-scientific Medicine
OUTCOME	- Medical Outcome
PACIFY	- hospital trying to avoid compliance
PROCESS	- Process
PUBLICNEED	- Public Need
PUBLICWAST	- Waste in the health system caused by patients
TQM	- Total Quality Management
HABIT	- Compliance by habit
USERFEE	- User fee
HOSPITALA	- University Hospital
HOSPITALB	- Community Hospital
HOSPMERGER	- Hospital Merger
HOSPSIZE	- Hospital Size
RESEARCH	- Research

Appendix 4

Differences in values and beliefs between agents of the Administrative and Medical Institutions

"... physicians are taught that their first obligation is to their patients--they have this special relationship, the patient comes to them in a trusting stance and they have an implicit contract to act in the patient's best interest." - Physician, University Hospital

"The individual physician-patient relationship is very sacred. It is difficult to put a physician in the position of deciding "Do I have to cut this off because of money reasons?" - Administrator, University Hospital

"I cannot second guess [a physician] because I am not close to that activity (delivery of care). Sometimes accountants say "This is efficient or not efficient." as opposed to looking at the question "Should it be done or shouldn't it be done?" - Director (Finance), University Hospital

Change in Institutional Pressures

"A big change has been the emphasis on wellness as opposed to sickness... The government is thinking that health is a much bigger issue than merely providing doctors and hospitals to the populations." - Executive in long term care organization

"(There) is a realization that the whole system has been structured around medical treatment, that the Health Care Model of the 50s and 60s was focused on "we can treat anything, we can fix anything after the fact"...But now they are saying that there are two things wrong with that one, we cannot afford the rapid advances in treatment technology...and secondly by working on prevention, chances are that you will produce a healthier populace." Vice-President (Finance), University Hospital

"I think in the past the physicians had a lot more authority with the public...I think as well there is a greater recognition that not everything that the physician may do is proven or is effective. ...People are much more willing to raise questions or challenge the physician... I think the profession has lost a little ground." - Official in Ministry of Health

Power of Medical Constituency to prevent Administrative Changes

"There are some areas still that have a 'we' and 'they' mentality, we are the doctors we know best, they are the administration, they are the enemy, don't cross the line." Physician, University Hospital

"Physicians have traditionally expressed opposition to the major changes in the system... If there are things that result in major losses of income ... I think you can expect some opposition" - Administrator, University Hospital

" I think when it comes down to the direct front line level of saying Dr. Smith this means that your beds will be available to you 5 days a week instead of 7 and it can have these potential impacts on your practice pattern, that's when the resistance tends to come." - Physician, University Hospital

They (physicians) want to be left alone to do their own thing... if they do outcome research they want to it themselves, they don't want...it dictated to them. Director (Nursing), University Hospital

"If they (changes) are imposed, they will not be accepted at all, particularly if they are imposed by non-physicians or non-physician groups...If they are developed internally, they are more readily acceptable." Administrator, Community Hospital

Dominance of Medical Constituency in University Hospital relative to Community Hospital

"Most physicians here are used to some sort of overall control of visits, part of the academic medical institution. There are certain patterns of behavior that are respected. In another hospital, there may be a considerable difference." - Physician, University Hospital

"A lot of the faculty like it here (University Hospital) because they are close to colleagues, and have excellent research resources...The culture of a predominantly private practice hospital would not serve them well " - Physician, University Hospital

"We don't have a powerful medical administration here primarily because no one is paid for it." Physician, Community Hospital

"The medical staff feel that they can say what they feel is right but we don't listen to them in the administration." - Administrator, Community Hospital.

Power of University Hospital relative to Community Hospital

"As far as the government people are concerned the feedback we have had from them, they definitely recognize our visibility..." - Director (Communications), University Hospital

"They (government) are certainly willing to listen to our concerns and make necessary adjustments if need be is my opinion so far...Disagreements with the emergency part of the formula has been discussed internally and with (the ministry). It has been really tuned to listen to those concerns." Administrator (Nurse), University Hospital

"Our facility in particular has frequently been identified as the one that has been treated as special because we are a tertiary level acute care referral hospital." - Nurse Manager, University Hospital

"I think the bigger hospitals carry more clout. I think the teaching hospitals carry a lot more clout with the government than we do." - Director, Community Hospital

"The more money you spend the louder your voice is. I would suspect that [University Hospital] has a louder voice than we do. The government has a greater interest in them because they spend more money." - Executive Director, Community Hospital