Cost versus quality: In the balance

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THE TRADITIONAL economic model for health care suggests that effective health care decisions are made by maximizing quality and quantity variables within a budget constraint.[1,2] Gray and Steffy[3] suggest there is a health care myth that relates increasing productivity to decreasing quality. This belief supports the notion that costs can be contained and the organization streamlined only at the expense of quality.

Compatibility between quality and costs has been tested by the advent of prospective payment, which assumes that the two variables can be influenced simultaneously. This assumption varies from previous assessments that defined excellent hospitals as those that have provided the highest quality of care to all patients. The Social Security Amendments Act of 1983, H.R. 1900 (P.L. 98021) initiated prospective payment as a method of determining reimbursement based on 467 predetermined diagnosis related groups (DRGs). If treatment exceeds the payment rate, the hospital absorbs the loss; if the rate exceeds the cost, the hospital retains the difference. Thus, this new method of payment creates a strong incentive for hospitals to keep costs within the diagnostic categories' range.

Some researchers have investigated the relationship between efficiency and quality by looking at correlations between costs and indicators of quality, such as average length of stay (LOS) for Medicare patients, medical/surgical death rates, and lower postsurgical complication rates.[4–7] These studies suggest that there are no trade-offs between efficiency and high quality of care. The findings, however, were concluded prior to prospective payment.

The enactment of prospective payment across the hospital industry provides the

This article was funded by the Research and Education Trust of Colorado Hospital Association and the Colorado Foundation for Medical Care, Denver, Colorado.

Nurs Admin Q, 1990,14(3),31–40
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opportunity to explore how hospitals under pressure to cut costs have managed the cost/quality balance. Using success on DRGs as an outcome measurement, this author did an in-depth analysis of values and themes found in the rhetoric of personnel and physicians in a sample of high-, moderate-, and low-performing hospitals. Defining DRG success by denial rates provides a narrow view of performance; however, they offer an outcome measurement that can be compared between hospitals. Although various cost and quality engineering methods have evolved since 1973, none have been applied nationally prior to prospective payment or DRGs. Because peer review organization (PRO) physicians define medical standards, the obstacle of nonphysicians determining the quality of medical decisions is bypassed.

On the other hand, using this single measurement turns weaknesses of the DRG system into inherent weaknesses within the study. In support of this study, however, DRG research has found the amount of reimbursement per DRG to be positively correlated with the amount of nursing care allocated to patients with that diagnosis. For example, in one Health Care Financing Administration (HCFA) study, only two categories—DRG 320 and DRG 14—out of 21 common DRGs required more nursing care than suggested by the DRG reimbursement level.[8] In the other direction, three categories—DRG 125, DRG 148, and DRG 468—required fewer nursing care hours than the given level of reimbursement.

Although physicians have control over much of the allocation of hospital resources, Pellegrino argues that "the simplicity of the dyadic patient–physician model can no longer dominate the decision making process." [9(p. 327)] He purports that when a patient enters the hospital, his or her contract is no longer with the physician but with the institution. In fact, Flood et al.[10] found that the hospital site was more important than individual physician attributes in predicting quality differences. Therefore, this study investigates the relationship between organizational values and DRG success.

METHODOLOGY

This study provides a description of the contextual factors present in six hospitals that display a range of DRG performance. These data were collected in 1986 when DRGs were a recent change; thus the findings represent initial reactions. However, as Burns[11] points out, outstanding organizations are revealed during times of great change and uncertainty. Public, teaching (those with primary responsibility for medical students), specialty, and long-term hospitals were excluded.

The sample hospitals were selected by their annual DRG denial rates—highest, lowest, and median. Hospital personnel had no perception of their performance in comparison with that of other hospital staffs because denial-rate figures are not released by the PRO. These data were made available to this researcher for the study, but participants were not informed of the criteria for sample selection.

Three samples were compared:

1. low performers—one large (200 beds or more) and one small (150 beds or less) hospital with the state's highest annual denial rates;
2. moderate performers—one large and one small hospital with the state's median annual denial rates; and
3. high performers—one large and one small hospital with the state's lowest annual denial rates (see tables 1 and 2).

Nineteen large hospitals had denial rates ranging from .90% to 5.98%. The mean was 3.83%, and the median score was 2.93%. Forty-nine small hospitals had denial rates ranging from 0.0% to 20.51%

Table 1. Description of large urban sample hospitals

Category	Low performers	Moderate performers	High performers
Profit status	Nonprofit; subsidiary of umbrella health corporation	For profit; owned by large national chain	Nonprofit; subsidiary of umbrella health corporation
Number of beds	306	465	318
Medicare coverage (%)	40	40.8	No response
Average length of stay—Medicare (days)	6.6	8.0	8.3
Average length of stay—all patients (days)	3.9	7.6	5.08

with a mean of 4.55% and a median score of 4.08%.

A total of 51 interviews was completed using both individual and group formats. Approximately nine interviews associated with each hospital were completed: administrator, DRG coordinator, director of nursing, small group of unit nurses, two physicians (one who had many denied cases and one who had few denied cases as determined by the DRG coordinator), coordinating PRO regional manager, coordinating PRO reviewer, and coordinating physician assistant with the most reviewing experience in each hospital. The staff nurses were selected by nursing administration from the nurses who were working on the day of scheduled interviews.

Interviews were open-ended, semistructured conversations containing questions meant to tap perceptions about the hospital and DRGs. The interview questions were derived from a range of responses gathered in a pilot study. Examples of interview questions included: "What is your image of this hospital and how would you describe its purpose?" and "Describe the situation and outcome the last time you felt a conflict between providing quality services and DRGs."

Data analysis

Six hundred ninety-eight pages of interview transcripts were subjected to rhetorical analysis using Bormann's fantasy-

Table 2. Description of small rural sample hospitals

Category	Low performers	Moderate performers	High performers
Profit status	Nonprofit	Nonprofit	Nonprofit
Financial status	Tax supported	Financially independent	Tax supported
Number of beds	17	32	16
Medicare coverage (%)	25	60	40
Average length of stay—Medicare (days)	4.2	5.6	4.0
Average length of stay—all patients (days)	3.8	5.1	3.4

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theme analysis technique.[12] The transcripts were coded for main characters, their actions, and the context, to identify how employees personify their attitudes. The unified analogy of themes found in each organization described their group identity or vision—shared patterns of thought, belief, feelings, and values that result from shared experience and common learning.[13] Thus, the characteristics common to the group identity of both high-performance hospitals were compared with those of hospitals with moderate and poor performance. Because fantasy-theme analysis uses verbatim language, the analysis is 313 pages long. For the sake of brevity, the findings are summarized here; the complete analysis can be found in the author's doctoral dissertation.[14]

Credibility

Qualitative research and quantitative research view validity differently. Traditional quantitative research is evaluated by the degree to which the findings are determined to be objective; this method has presented communication as something that can be isolated from context. In contrast, the interpretive paradigm suggests that all communication is subjective symbolism. The interpretive perspective "centers on the study of meanings, that is, the way individuals make sense of their world through their communicative behaviors."[15(p. 31)] Thus, researchers become familiar with contextual factors to describe what they are observing. The basic purpose of qualitative analysis is to provide useful, meaningful, and credible answers to the evaluation of questions of decision makers and information users.[16] Qualitative research provides "one perspective.... The perspective gained through careful qualitative analysis is not arbitrary, nor is it predetermined, but it does fall short of being Truth."[16(p. 327)] This research is not meant to be predictive but is intended to contribute descriptive information found from comparing six specific hospitals that have performed differently on DRGs. The findings in this study present one interpretation of the data—the researcher's. Other perspectives are possible and may offer new or different insights.

Semantical validity, sampling validity, and confirmation of the findings are some of the measures that can be used to assess the credibility of qualitative research.[16–19] This study was found to have high semantical validity, high sampling validity, and additional confirmation of findings.[14]

There may be unexplored variables within the hospital system with the potential to influence the DRG denial rate. For example, the mix of DRG categories used by each hospital would be useful data to collect in future studies. Further, there may be unknown factors related to performance on DRGs; thus sample hospitals may not be equally capable of performing on DRGs. On the other hand, discovery of internal factors common to hospitals with different circumstances was encouraged by sampling large urban hospitals and small rural hospitals.

MAJOR FINDINGS

The rhetorical analyses of interview transcripts revealed clusters of themes found for high- and low-performing hospitals, and, as might be expected, the moderate-performing hospitals reflected mixed re-

sults. For example, both moderate hospitals displayed some of the characteristics of the low performers but did not reflect any of the identifiers of the high performers. The results are described, therefore, in terms of characteristics for high performers and low performers. The description of poor-performing characteristics includes examples from the moderate-performing hospitals.

The key motivational force found in the high-performing hospitals seems to be a commitment to providing quality care. This commitment was operationalized by sharing accountability for DRGs without blaming others, coupling humanistic caring about patients with cost-effective behavior by inventing new methods, and fostering teamwork internally and externally.

High-performing hospitals created an organizational vision in which inpatient care was perceived as being provided within the DRG parameters without abandoning patients. Staff members felt they remained committed to their patients because much of the time they were able to be inventive and create new ways to maintain the quality of care and discharge people within the DRG length of stay.

In contrast, these low-performing hospital staffs created organizational cultures that depicted themselves as victims forced to do things that conflicted with their values. Thus, the actors in these hospitals perceived others as either villains or heroes. Competing for scarce resources had become a way of life since the cost-containment emphasis. Responsibility was localized within one group, and its members were blamed when money was lost on DRGs. These professionals were depressed by the changes in the system and felt powerless to influence either internal or external factors. They felt forced to abandon patients because the system did not allow them to provide high quality care. Thus morale was very low and staff members were unmotivated. Detailed findings are described below.

Shared accountability for DRGs without blaming others

High performers

These nurses, DRG coordinators, and hospital administrators share accountability for DRGs. They place a high priority on communicating with all characters in their agency and perceive themselves as a big family.

Hospital staff members do not blame physicians for DRG compliance. Instead, a "commit[ment] to build[ing] up the goodwill with the wonderful medical staff"[14(p. 254)] is expressed by hospital administration, nursing, and the DRG coordination staff. For example, hospital administration listens to medical staff concerns and sends them thank-you letters for attending appeal reviews. Similarly, DRG coordinators work with physicians by "recommend[ing] things to physicians"[14(p. 335)] and asking if they can help physicians with discharge planning. Nurses also suggest discharge alternatives to physicians.

Low performers

In comparison, hospital staff in the low-performing hospitals focused accountability for compliance with DRG parameters on one specific group or person. For example, in one hospital the DRG coordinator is responsible for DRGs, while in another hospital the medical staff members are perceived as ultimately responsible for denial rates and thus are competitive about "winning or losing on DRGs."[14(p. 85)] The nursing staff in yet another hospital is identified as responsible for creating solutions to the DRG problem, yet there is no linkage with the hospital administration or the director of nursing.

Coupling a commitment to quality and caring with cost-effectiveness

High performers

Staff members in high-performing hospitals displayed a willingness to incorporate cost-effective behavior into hospital work without losing humanistic caring for patients. Because of a "definite commitment to quality,"[14(p. 252)] these hospitals are constantly trying to discover more efficient ways of providing high quality care. For example, patients are provided "whatever service is necessary"[14(p. 365)] to maintain high quality of care and meet what they perceive as the DRG parameters.

Furthermore, staff members in these high-performing hospitals perceive that they can empathize with other staff members' feelings yet still expect performance. These people describe a hospital environment that encourages "a willingness to work out issues, a good understanding between people, and no[t] looking over each other's shoulder."[14(p. 233)] Hospital staff members care about each other and expect there will be conflict because that is a fact of life. Resolving conflict is perceived as part of a natural process that one adjusts to. For example, hospital administrators empathize with physicians' feelings and encourage direct communication yet expect them to uphold their responsibilities.

Low performers

In contrast, these hospital staffs perceive that DRGs "force" them to be businesslike and disregard caring about patients. As one member explained, "[DRGs have made health care providers] spend more time worrying about proper documentation and doing . . . things so the patient and hospital doesn't [sic] suffer financially than to be concerned with the things they should be worried about like doing a good job."[14(p. 54)] These staff members perceive that they are shoving people out the door and saying, "I just don't have time to listen to you" or "I understand how you're feeling but there's nothing I can do about it."[14(p. 148)]

Hospital and medical staffs fear that they will be perceived as uncaring; they apologize to the patient and their families and try to make them understand that the early hospital discharge is not the physician's or staff member's wish. Thus, staff members perceive that they are abandoning patients and are not able to show caring when the DRG length of stay is upheld.

Internal and external teamwork

High performers

Staff members in high-performing hospitals describe collaborative relationships with peers, community constituents, physicians, outpatient programs, and PRO team members. A collaborative relationship with the community is encouraged and hospital services are created to be community focused.

Teamwork within the hospital is associated with a strong nursing management that has influence at the institutional level and is an effective advocate for staff nurses. Nursing managers play a key role in facilitating organizational teamwork, because they provide the critical liaison between hospital executives and the majority of hospital employees.

Other team-building actions include collaborating instead of blaming, empathizing with feelings but expecting performance, and understanding that everyone is human and thus has both good and bad aspects that vary depending on many variables.

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High-performing hospital staffs do not perceive any villains. For example, a physician might be depicted as angry and upset but still capable of agreeing to work as part of a team with the hospital. Similarly, the PRO is considered to have its own perspective on DRGs yet still be part of the same team as hospital personnel.

Low performers

On the other end of the continuum, staffs perceive that DRGs have created a time of scarcity and are a threat to one's survival. Thus, hospital employees and physicians must compete for their share of resources. Organizational cultures in the low-performing hospitals depicted various subgroups as competing with each other and creating major power struggles. For example, in one hospital, the administrator and community physicians compete with each other for their share of outpatient and laboratory services and each faction feels that the other is intruding on its turf. In another case, nursing department influence is discouraged at an institutional level because there is fear that this would set up nurses to receive more resources than other departments. Another hospital is engaged in a competitive battle with the PRO; each group perceives that it is right and is not willing to concede.

EMPOWERMENT OF NURSING

High performers

The role of nursing leadership was significantly different in the high and low performers. The high-performing nursing departments are described as strong, and their leaders as vocal as demonstrated in this quote: "There is [sic] enough of us who get angry enough and who cuss and swear and everything else to the point where we're either . . . heard or fired."[14(p. 244)] Thus, the nursing administration is depicted as communicating caring to the nursing staff through their availability to clarify issues and confront problems by being "very involved in the hospital administration—not just the department of nursing."[14(pp. 241, 331)]

Further, nursing managers are available to the nursing staff on a daily basis and as advocates at the organizational level. The director of nursing in one hospital is portrayed as "able to maintain a closeness with her staff because she used to work on the floor and still does."[14(p. 189)] These nurse leaders are depicted as identifying with their nursing staff and thus feeling "angry" and "frustrated" when they are "told to keep the budget and [their] staff is dying."[14(p. 231)]

The effective allocation of staffing resources was a primary demonstration of advocacy by nursing managers. Thus, in the high-performing hospitals, much energy was invested into effective staffing. Although there were complaints that staffing was too short in these high-performing hospitals, there was the impression that available resources were used effectively. As one administrator said: "We do a forecast of what we need [for] the oncoming shift and we allocate the staff according to the need. If we know we are way over, then we will have to get someone else to work, either in-house pools or agencies, in order to meet the need. It's a constant dynamic process."[14(p. 330)] Further, these nursing administrators "match patients' needs according to the skills [of the nurses] so that [the patient] is getting the most high-intensity service that will lessen [their] stay." A responsible stance is maintained by balancing the "nursing staff on one side . . . [and] having to keep the budget."[14(p. 330)] Thus, nursing leaders assume responsibility for managing nursing care within the budget.

These high-performing nursing staffs were portrayed as achievers in clinical nursing. For example, the staff nurses were characterized as "outstanding," "great," and the "best nursing staff [physicians

have] ever worked with." These nurses are considered to be "all-around better nurses." Thus, the nursing staff are "always rate[d] pretty high[ly]" on patient evaluation questionnaires. Nurses are described as the "best staff anywhere in the state of Colorado," and as "knowledge[able] and caring" people who are also "budget conscious."[14(p. 191)]

The primary shared action theme was keeping patients out of intensive care and out of the hospital because of expert nursing care. The nurses solve patient problems in observation beds so that hospitalizations are alleviated; they "maintain patients out of intensive care units;" and they get "active in the discharge planning, even almost on admission."[14(p. 332)] Thus, nurses hurry along discharges by adding notes to charts to suggest discharge alternatives to physicians. These nurses feel "comfortable" discharging patients quickly "as long as someone's looking in on them, then it doesn't bother [them] so much sending [patients] out early."[14(p. 332)] Thus, home health nursing visits are used to assure that patients will continue to receive quality care.

Low performers

In the low-performing hospitals, the nursing department is perceived as unimportant in achieving DRG compliance. In one hospital, the nursing department does not emerge as a major participant. Similarly, in the other hospital the nursing staff members are not conscious of DRGs. They are depicted as having a very narrow view of the prospective payment program because nurses do not see DRGs the way administration does. As perceived by other hospital staff, nurses feel that they are there to take care of a patient and do their job but that they do not have a responsibility in the DRG system.[14]

Nurse leaders were not perceived as influential at an organizational level. Instead, decisions were considered to "go administration's way."[14(p. 306)] Similarly, there were significantly fewer active verbs found in the low-performing nurses' language. More passive forms of verbs were evident. For example, nurses are depicted as "needing" and "wanting" "help" for ways to cope "with a population of greater acuity patients." They express the concern "how do we address [providing care for increased] acuity when the census is dropping and income is decreasing?"[14(p. 79)] Although a pool system is available for staffing, these nurses voice the concern that extra nurses are not there when needed.

IMPLICATIONS FOR CLINICAL NURSING PRACTICE

These findings have two significant implications for nurses. A strong commitment to quality of care combined with a willingness to focus on financial incentives can motivate success on DRGs, and the empowerment of nurses seems to be associated with successful performance on DRGs.

Commitment

Out of a commitment to quality came the determination to do whatever it took to get the job done. Everyone was personally invested in maintaining the financial viability of the organization so they could continue to provide high quality care. The professional value of providing quality care does not have to be abandoned in this era of prospective payment. In fact, keeping alive the commitment to quality can be a primary incentive for nurses to become innovative in dealing with new health care economics. The secret of nurses in high-performing hospitals seems to be their ability to couple humanistic caring with cost-effective behavior.

This research suggests that nurses are in a position to carve out pivotal roles in hospitals' financial successes. For example, high quality nursing care was credited with both shortening stays and decreasing the need for transferring patients into inten-

sive care units. The finding that there can be an effective balance between quality and cost has been replicated in previous research.[5,20,21] For example, a recent study by Helt and Jelinek[20] analyzed over eight million patient days in the Medicus National Data Base. They found that, even in the face of a significant drop in LOS from 9.2 to 7.3 days and with patient acuity rising 10%, quality of care also improved. They attributed these results to the "commitment and ability of direct care nurses, and also to nursing management's ability to respond effectively in a situation akin to walking on ball bearings."[20(p. 36)]

Empowerment

Nurse leaders who empower themselves and staff nurses may gain a financial edge. Nurses can begin to articulate the realization that active, assertive nursing departments who remain advocates for staff nurses and quality care seem to be related to cost-effectiveness. The results of this study suggest that hospitals may benefit from efforts to include nurses in policy decision making. According to these findings, powerful nursing leadership can empower the entire nursing department by being responsive to staffing needs and representing staff nurses at the executive level.

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This study was a qualitative look at the organizational cultures operating in a small sample of hospitals with high, moderate, and low success on DRGs. Similar to previous studies that identified quality and cost-effectiveness to be positively correlated, this study suggested that a commitment to quality may be the primary incentive for productive behavior. Coming from a caring perspective, staffs were determined to provide quality of care to patients and also support the financial viability of the institution. Conclusions include the following:

- Hospital personnel appear to perform better on DRGs when they construct their world view to include shared accountability without blaming others, equate quality care with cost-effective behavior, and demonstrate internal and external teamwork.
- All of the above seems to be facilitated by nurse leaders who have influence in the organization and also remain advocates for staff nurses.
- Hospital staff members appear not to perform as well on DRGs when they depict themselves as victims or competitors who are forced to do things that conflict with their professional values.
- Hospitals that discourage nursing influence within the organization and with DRGs also seem not to perform well on DRGs.

Finally, this study emphasizes the economic value of maintaining a commitment to quality and the important role played by nursing leadership in sustaining that commitment. These issues can no longer be dismissed as relating only to moral choices, for they influence the very bottom line that determines agencies' survival. The time has come for nurses to own their financial power base, and to understand that inherent in this process is remaining true to their deeply held values of caring and quality.

REFERENCES

1. Feldstein, M. "Hospital Cost Inflation: A Study of Non-profit Price Dynamics." *American Economic Review* 61 (1971): 853–72.
2. Newhouse, J. "Toward a Theory of Non-profit Institutions: An Economic Model of a Hospital." *American Economic Review* 60 (1970): 64–74.
3. Gray, S.P., and Steffy, W. *Hospital Cost Containment through Productivity Management.* New York, N.Y.: Van Nostrand Reinhold, 1983.
4. Shortell, S., Becker, S., and Neuhauser, D. "The Effects of Management Practices on Hospital Efficiency and Quality of Care." In *Organiza-*

edited by S.M. Shortell and M. Brown. Chicago, Ill.: Blue Cross Association, 1976.

5. Becker, S., Shortell, S., and Neuhauser, D. "Management Practice and Hospital Lengths of Stay." *Inquiry* 17 (Winter 1980): 318–30.
6. Neuhauser, D. *The Relationship between Administrative Activities and Hospital Performance.* Research Series No. 28. University of Chicago, Ill.: Center for Health Administration Studies, 1971.
7. Longest, G. "Relationships between Coordination, Efficiency, and Quality of Care in General Hospitals." In *Health Services Management,* edited by A. Komer and D. Neuhauser. Ann Arbor, Mich.: Health Administration Press 1978, 124–42.
8. McKibbin, R., et al. "Nursing Costs and DRG Payments." *American Journal of Nursing* 12 (December 1985): 1353–56.
9. Pellegrino, E. "The Changing Matrix of Clinical Decision-Making in the Hospital." In *Organization Research on Health Institutions,* edited by B. Georgopoulos. Ann Arbor, Mich.: Institute for Social Research, 1972.
10. Flood, A. et al. "Effectiveness in Professional Organizations: The Impact of Surgeons and Surgical Staff Organizations on the Quality of Care in Hospitals." *Health Services Research* 17 (Winter 1982): 341–66.
11. Burns, J. *Leadership.* New York, N.Y.: Harper & Row, 1978.
12. Bormann, E.G. "Symbolic Convergency." In *Communication and Organizations, An Interpretive Approach,* edited by L. Putnam and M. Pacanowsky. Beverly Hills, Calif.: Sage Publications, 1983.
13. Cragan, J., and Shields, D. *Applied Communication Research: A Dramatistic Approach.* Prospect Heights, Ill.: Waveland Press, 1981.
14. Sandella, D. "A Relationship between Rhetorical Visions of Hospital Staffs and Hospitals' Diagnosis Related Group (DRG) Denial Rates." Ph.D. diss, University of Denver, 1987.
15. Putnam, L. "The Interpretive Perspective, An Alternative to Functionalism." In *Communication and Organizations, An Interpretive Approach,* edited by L. Putnam and M. Pacanowsky. Beverly Hills, Calif.: Sage Publications, 1983.
16. Patton, M. *Qualitative Evaluation Methods.* Beverly Hills, Calif.: Sage Publications, 1983.
17. Poole, M. and Folger, J. "A Method for Establishing the Representational Validity of Interaction Coding Systems: Do We See What They See?" *Human Communication Research* 8, no. 1, (Fall 1981): 26–42.
18. Krippendorff, L. *Content Analysis, An Introduction to Its Methodology.* Beverly Hills, Calif.: Sage Publications, 1980.
19. Miles, M., and Huberman, M. *Qualitative Data Analysis, A Sourcebook of New Methods.* Beverly Hills, Calif.: Sage Publications, 1984.
20. Helt, E., and Jelinek, C. "In the Wake of Cost Cutting, Nursing Productivity and Quality Improve." *Nursing Management* 19, no. 6 (1988): 36–48.
21. Kovner, A., and Neuhauser, D. *Health Services Management.* Ann Arbor, Mich.: Health Administration Press, 1978.