A STUDY OF GAP ANALYSIS IN HOSPITALS AND THE RELATIONSHIP BETWEEN PATIENT SATISFACTION AND QUALITY OF SERVICE IN HEALTH CARE SERVICES.

K.Francis Sudhakar*

M.Kameshwar Rao**

T.Rahul***

ABSTRACT

Marketing is vital to the survival of any organization including health care delivery organizations. Assessment of quality of services provided by the hospitals in these days has been a serious concern for hospitals and health care organizations owing to the excessive demands imposed on them by users, consumers, government and society at large. In addition to the quality of services, measurement of patient satisfaction also has been encouraged by growing consumer orientation in health care, especially since it yields information about consumer views in a form which can be used for comparison and monitoring. The present study attempts to understand the dynamics of quality of health care and its impact on patient satisfaction in public and private hospitals in the twin cities of Hyderabad and Secunderabad, Andhra Pradesh. This study provides the data which show that the centrality of any hospital effectiveness which is measured using patient satisfaction approach is the patient's perception about the quality of services provided. Apparently, the point of emphasis here is what aspects of quality of services are subjected to the assessment of patient satisfaction. A comprehensive service quality measurement scale SERVQUAL is given a focal attention in the present study.

Keywords: *GAP analysis, Healthcare Services, SERVQUAL Model.*

* Faculty in School of Management, National Institute of Technology, Warangal.

** Faculty in Department of Management Studies, National Institute of Technology, Trichy.

*** Research Scholar in School of Management, National Institute of Technology, Warangal.

INTRODUCTION

The external health care environment is often described as hyper turbulent, which means managers cannot find and implement solutions to a particular problem before the nature and scope of the problem changes. This type of decision-making environment results in managers collectively turning their attention to those matters with which they are most comfortable or that are the most visible or best understood. Although a focus on internal, day-to-day concerns may seem natural and comfortable, unfortunately an internal-only approach means that the all-important external decision-making arena may be neglected. At this juncture the concept of healthcare marketing comes in the picture. In the past, health marketing professionals were quite concerned about assessment of customer satisfaction. In the recent times, quality of healthcare services is considered to be the precondition to the quality of healthcare.

Quality information is important to consumers and providers alike. However, the essential elements of "quality" may be understood in quite different ways and ranked with different priorities among various consumer and professional groups. For example, health professionals may relate to objective and technical measures of quality, such as statistical measures of clinical performance. Lay consumers of health services may base quality on less technically complex and more measures.

Assessment of quality of services provided by the hospitals in these days has been a serious concern for the hospitals and health care organizations owing to the excessive demands imposed on them by the users, consumers, government and the society at large. As a result, many hospitals have resorted to such assessment not only for the reasons of compliance but for the improvement of the services to the satisfaction of the users. Nevertheless, such efforts have not been much strengthened by research perspective owing to the lack of adequate qualification on the part of the providers and also lack of time to scientifically carry out such assessments by the executives. Hence there is a need to do some scientific analysis in this area of patient satisfaction.

The present study represents some progress in this direction. The services gap analysis was done and presented in order to know, the quality service gaps existing in the study hospitals. The analysis for the gaps was made using the SERVQUAL approach as suggested by Parasuraman, Zeithanl and Berry (1988). Service gap was computed as the difference of the ideal and the actual services perceived by the patients.

Finally, it was studied whether any relationship exists between quality of health care services and patient satisfaction as reported by patients.

OBJECTIVES:

Thus, keeping in mind the gaps existing in the literature and the SERVQUAL model in the context of hospitals, the following objectives were formulated.

1. To conduct service gap analysis using SERVQUAL approach for all the hospitals in the study.
2. To find out the relationship between perceived quality of services and patient satisfaction as reported by the patients.

HYPOTHESES:

While keeping in mind the objectives stated, the following null hypotheses were formulated.

1. There is no gap in the perceived and the expected quality of healthcare services in the hospitals as reported by the patients.
2. Perceived quality of healthcare services is not correlated with the patient satisfaction as reported by the patients from the hospitals.

Gaps in Quality of Expected and Perceived Health Services in Public Hospitals

It was found that as regards tangibles in public hospitals services, there was a wide gap by 3 counts which was statistically significant. With regard to reliability, by 3 counts there is the gap. Such gap or difference in the quality scores was statistically significant. As regards responsiveness it was found that the gap found between them was by 3.0 units. Such gap was statistically significant. With regard to assurance, it was found that the gap was 3.0 units. Such gap was statistically significant. Lastly, with regard to empathy, it was found that the gap was found to be 3.0 units. Such gap was statistically significant.

Gap in Quality of Expected and the Perceived Health Services in Private Hospitals

It was found that in tangibles the gap was by 2.0 units approximately. yet such gap was found to be statistically significant. As regards, reliability a gap of 1.8 units was found. Such gap was also found to be statistically significant. With regard to responsiveness, it was found that the gap between them was found to be 1.74 units. Such gap was also found to be statistically significant. With regard to assurance, it was found that the gap between them was 1.71 units. Interestingly such gap was found to be statistically significant. Lastly, with regard to empathy, the gap was found to be 2.0 units. Such gap was also statistically significant. There were more gaps existing in perceived and expected quality of services in case of public hospitals on all the dimensions of services quality when compared with those of private

hospitals. thus the null hypothesis that "there is no gap in the perceived and the expected quality of healthcare services in the hospitals as reported by the patients" is rejected.

Relationship between Quality of Services and Patient Satisfaction

In this part an attempt has been made to present the results pertaining to the relationships between perceived quality of healthcare services and the satisfaction with the hospitals services as reported by the patients. Thus, the hypothesis "Perceived quality of healthcare services is not correlated with the patient satisfaction as reported by the patients from the hospitals" has been tested. Dimensions of SERVQUAL were treated as independent variables and patient satisfaction is treated as dependent variable. Results in this regard are presented in Table 6.37 and Table 6.38.

Table 6.37: Perceived Quality of Healthcare Services and Patient Satisfaction

A Correlation Analysis

	Tangible	Reliability	Responsiveness	Assurance	Empathy	Satisfaction
Tangible	1	.674(**)	.637(**)	.664(**)	.662(**)	.434(**)
Reliability	.674(**)	1	.612(**)	.919(**)	.878(**)	.790(**)
Responsiveness	.637(**)	.612(**)	1	.574(**)	.571(**)	.429(**)
Assurance	.664(**)	.919(**)	.574(**)	1	.891(**)	.692(**)
Empathy	.662(**)	.878(**)	.571(**)	.891(**)	1	.674(**)
Satisfaction	.434(**)	.790(**)	.429(**)	.692(**)	.674(**)	1

**** Correlation is significant at the 0.01 level (2-tailed).**

It is quite clear from the table that all the dimensions of quality of healthcare services yield a positive and significant correlation with the patient satisfaction, indicating that as quality of services improves, patient satisfaction increases significantly.

Further, it could be seen from the results that of all the five dimensions of services quality, reliability ($r=.79$, $p<.01$) was found to be the strongest correlated of patient satisfaction, followed by assurance ($r=.69$, $p<.01$)and empathy ($r=.67$, $p<.01$). the remaining of them namely, tangibles ($r=.43$, $p<.01$) and responsiveness ($r=.42$, $p<.01$)yielded moderate correlations. This results further validate that the service quality dimensions are the positive and significant correlates of patient satisfaction validating both the variables for running regression analysis. Results in this regard are presented in Table 6.38.

Table 6.38: Perceived Quality of Healthcare Services and Patient Satisfaction

A Regression Analysis

S.No.	SERVQUAL Dimensions	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.235	.468		13.324	.000
2	Tangible	.253	.050	.259	3.080	.002
3	Reliability	.266	.087	.261	5.068	.000
4	Responsiveness	.049	.082	.028	.597	.551
5	Assurance	.194	.101	.189	1.921	.056
6	Empathy	.038	.098	.031	.384	.701

Model	R	R^2	Adjusted R^2	df	F	Sig.
1	.805	.648	.642	5,299	108.157	.000

In order to examine the influence of the SERVQUAL dimensions in the prediction of the variance in patient satisfaction, a multiple regression analysis approach was used (Cohen and Cohen, 1975). In this way, the independent and cumulative predictive power of dimensions of SERVQUAL and their interaction can be obtained separately for each of the independent variable and dependent variable. Initially a simultaneous solution was performed in which all independent variables were entered at the same time. This allows a determination of the relative predictive power of each independent variable among the set of independent variables. In this analyses, the overall multiple regression was significant for the prediction of SERVQUAL dimensions. Thus the dimensions of SERVQUAL are found to be the most significant predictor of patient satisfaction.

It is quite clear from the table that SERVQUAL dimensions like tangibles, reliability and assurance have yielded significant beta coefficients whereas responsiveness and empathy have not yielded significant beta coefficients. This could be because of the fact that stronger correlates like tangibles, assurance and reliability have dominated the moderate correlates

like responsiveness and empathy. As a result of which the beta coefficients of the later variables is insignificant.

To be more specific, as regards reliability, it was found that this dimension was a significant predictor of patient satisfaction (beta =.26, P=.000). This result indicates that as reliability increases by one unit, patient satisfaction improves by .26 units significantly.

When using tangibles as the criteria, it was found that this dimension was related significantly to patient satisfaction (beta = .29, P=.000). This indicates that as tangibles increases by one unit, patient satisfaction improves by .29 units. Similarly, if assurance increases by one unit, .18 units of patient satisfaction improves significantly.

Lastly, the coefficient of determination yielded a value of 0.64 after adjustment, indicating that 64 percent of variance in patient satisfaction could be explained by the five dimensions of SERVQUAL scale. Such percentage was also statistically significant which is evident from the f-value.

Thus the hypothesis "Perceived quality of healthcare services is not correlated with the patient satisfaction as reported by the patients from the hospitals" has been rejected. In other words, quality of healthcare services provided by the hospitals predict more than 50 percent of variation in the patient satisfaction. Indicating that SERVQUAL dimensions are indeed the power determinants of change in patient satisfaction.

IMPLICATIONS:

In regard to the theory of continuous improvement, (Deming (1985) and Juran (1988) drew a deepened understanding of the general sources of problems in quality. They discovered that problems, and therefore opportunities to improve quality, had usually been built directly into the complex production processes they studied, and that defects in quality could only rarely be attributed to a lack of will, skill or benign intentions among the people involved with the process. Even when people were at the root of defects, they learned, the problem was generally not only of motivation and effort, but rather of poor work system design, failure of leadership or unclear purpose.

In brief, Berwich (1989) says that the real improvement in the quality of health care depends on understanding and revising the process of services planning and the process of service delivery system, which are done on the basis of data elicited about the processes themselves. Thus the implications for practice are stated hereunder.

Implications for Practice

From the perspective of the results, the implications have been drawn separately for closing the service gaps, improving patient satisfaction and an integrated model of total quality management (TQM) in hospitals for improving the quality of health care. Such areas include wide range of healthcare processes.

Addressing the Service Quality Gaps

It is imperative to address an important issue of closing the gaps in the service quality as perceived by the patient community in both types of hospitals. How can these gaps be filled? The following implications address such an attempt to fill the gaps in the quality of services.

1. **Learn about patients perceptions:** As they are individuals, each patient will perceive things differently in the same situation. While many measurement programs attempt to get at mass averages from which hospitals will build or rebuild their quality and patient's service programmes, it is imperative that the managers at least consider identifying each patient's individual perspective.
2. **The perceptions to be identified:** what patients look for in the hospitals; why they change hospitals; what might make them change again in the future and how soon; what are their criteria for acceptable service quality performance; what must they perceive to be minimally satisfied; what must managers do to make them extremely satisfied; and what must managers do for them so they will continue to be repeat patients in case of their health considerations.
3. **Determination of Patients' needs, wants, requirements and expectations**: Patient satisfaction measurements not only must determine how the patients feel about the services they receive but also assess what they need and want from the hospitals currently and in future.
4. **Closing the Gaps:** there are many gaps that exist between patients and hospitals identified in this study. All the gaps are based on differences in perceptions between what the hospitals believed it has provided and what the patients perceived to have received. Here is a list of the important ones.
    a. The gap between what a hospital thinks a patient wants and what the patient actually wants.
    b. The gap between what a hospital thinks a patient has bought and what a customer perceives has been received
    c. The gap between the service quality the business believes it is providing and what the patient perceives is being provided

d. The gap between the patient's expectations of service quality and actual performance.
e. The gap between marketing promises and actual delivery.

Therefore closing these gaps is critical to the success in satisfying and retaining the patients to the hospitals.

5. **Inspection for improving service quality and customer satisfactions:** hospitals must set standards of performance as stated earlier, inform the staff and the patients of those standards and then measure the actual performance against those standards. Goals are set for the hospital services based on patients; requirements and expectations, and then the hospitals' performance towards those goals are publicly measured. This is a best choice for improving both hospitals quality and the services to the patients.
6. **Improved performance leads to increased profits:** while there is no guarantee that this will occur, it is a safe assumption that if services are improved while delivering them, hospitals will benefit from increased profits. More patients will want to use services from such hospitals. Thereby increasing the bed occupancy and also the volume of diagnostics for the patients, thereby contributing to profits.
7. **Draw Road Maps:** there are many good reasons to measure service quality performance and patients' satisfaction levels. When gaps are identified and then learnt about how to close them, it only gives hospitals an opportunity to learn further how the hospital is doing right here and right now. And also it enables to initiate further steps for the future.
8. **Process of continuous improvement**: If hospitals do not try to continuously improve the services offered, someone else will and then the patients from one hospital will change their loyalty. While asking patients about the how you can do better, ask employees as well for suggestions, and recommendations. This will make incremental improvements.

This idea was also supported by Hammer and Champy (1994) while stating that one of the major themes that reoccur in business process reengineering is reengineering the process involved in organizational improvement. After reengineering, work becomes more satisfying, since workers achieve greater sense of completion, closure and accomplishment from their jobs. Further, they suggest that employee empowerment is an unavoidable consequence of reengineering process; processes cannot be reengineered without empowering the process

employees. In other words, it is clear that to make reengineered work system successful, nursing personnel need to be empowered by their organizations.

Runcie (1980) states that if an employee perceives work experiences positive in the company, he/she will probably work to improve the working conditions, increase production and improve quality of work products/services. As such neglect of their work experiences will tantamount to the neglect of work itself (Monga and Maggu, 1981).

CONCLUSION:

Health care leaders once felt that marketing was only for other industries or had extremely limited use in health care. Today, however, health care marketing is viewed as a necessity that can offer a health care organization a competitive advantage as well as a benefit that can be offered to potential collaboration partners. Historically, in the era of cost-plus reimbursement, health care marketing efforts were put in place for the narrow purpose of increasing the utilization of services. Today's health care leaders, however, understand that reimbursement initiatives from government programs and managed care organizations define organizational success as the ability to control the cost of providing services, and not as the ability to fill beds.

In other words, there has been a shift from doing more procedures for more revenue to controlling costs to retain a fixed amount of revenue. Therefore, the value of marketing today is now understood by health care leaders to revolve around a concept of educating patients, providers, payers, and employers about the unique manner in which the health care organization can legitimately maximize patient encounters through a two-pronged approach: (1) increasing patient compliance and (2) matching an appropriate level of service with the correct diagnosis. In addition, increasing volume will still represent a goal of marketing efforts. However, the volume increases will not be focused on service utilization per se, but will instead be directed toward increasing the volume of patient members.

A proactive, well-thought-out marketing plan is a sign of a sophisticated, forward thinking organization. Such an organization has control of its destiny and can succeed in this new era of health care initiatives that strive to simultaneously control costs, maintain quality, and increase access as technology improvements continuously enhance the products and services offered.

REFERENCES:

- Agarwal, K.G (1976). Managing Patient Satisfaction in Hospitals, Indian Journal Of Public Administration, XXII, April-June, P.227.

- Ann Bowling (1996). Healthcare Rationing: The Public Debate, British Medical Journal, 312, 670-74.
- Babakus, E. and Mangold, W.G. (1992). 'Adapting the SERVQUAL Scale to Hospital Services: an Empirical Investigation'. Health Services Research. 26(2), p.767-786.
- Bland,M (1995). An Introduction To Medical Statistics, Oxford, Oxford Medical Statistics.
- Bopp, K.D. (1990). 'How Patients Evaluate the Quality of Ambulatory Medical Encounters: A Marketing Perspective'. Journal of Health Care Marketing. 10(1), p.6-16.
- Brown, S.W and Swartz, T.A (1989). A Gap Analysis Of Professional Service Quality, Journal Of Marketing, April, 92-98.
- Butler, D., Oswald, S.L. and Turner, D.E. (1996). 'The Effects of Demographics on Determinants of Perceived Health-Care Service Quality: The Case of Users and Observers'. Journal of Management in Medicine. 10(5).
- Cleary and Deekes (1996). What Is An Odds Ratio? Bandolier Evidence Based Healthcare 3, 6&7.McNeil (1988)
- Davies, A.R and Ware, J.E (1991). Consumer satisfaction survey and users manual, Washington, group health assocaiton of America.
- Donabedian, A (1989) The Quest For Quality Healthcare: Whose Choice? Whose Responsibility? Mount Sinai Journal Of Medicine, 56, Pp.406-422.
- Fisk, T.A., Brown, C.J., Cannizzaro, K. and Naftal, B. (1990). 'Creating Patient Satisfaction and Loyalty'. Journal of Health Care Marketing. 10(2), p.5-15.
- Goodmand, J.A Et.Al (1988). Converting A Desire For Quality Service Into Actions With Measurable Impact, Journal Of Retail Banking, X, 4, 14-22.
- Hall, M.F. (1996). 'Keys to Patient Satisfaction in the Emergency Department: Results of A Multiple Facility Study'. Hospital and Health Services Administration. 41, p.515-32.
- Higginson, I (1994). Quality of care and evaluation services, international review of psychiatry, 6, 5-14.
- Holmlund, M. and Kock, S. (1995). 'Buyer Perceived Service Quality in Industrial Networks'. Industrial Marketing Management. 24, p.109-121.

- Johnston, R. (1995). The Determinants of Service Quality: Satisfiers and Dissatisfiers, International Journal of Service Industry Management, 6 (5).
- Kirkup, B And Forster, D (1990). How Will Health Needs Be Measured In Districts? Implicatios for Variations in Hospital Use, Journal of Public Health Medicine, 12, 45-50.
- Kong, R. and Mayo, M.C. (1993). 'Measuring Service Quality in the Business-to Business Context'. Journal of Business and Industrial Marketing. 8(2), p.5-15.
- MacStravic, S. (1997). 'Questions of Value in Health Care'. Marketing Health Services. 18(4), p.50-53. Chicago; winter. Nelson, C.W. (1990). 'Patient Satisfaction Surveys: An Opportunity for Total Quality Improvement'. Hospital and Health Services Administration. 35, p409-27.
- Mooney,G (1992). Economics, Medicine And Healthcare, Harvester Wheatheaf, London.
- Murray, K.B and Schlacten, J.L (1990). The Impact of Service Versus Goods On Consumers' Assessment Of Perceived Risk And Variability, Journal Of The Academy Ofmarketing Services, 18, 2, 51-65.
- Ogden, J (1996). Health Psychology: A Textbook, Buckingham, Open University, London.
- Parasuraman Et.Al (1985). A Conceptual Model of Service Quality and Its Implications For Future Research, Journal Of Marketing, 49, 41-50.
- Parasuraman, A, (1998). 'Customer Service in Business-to-Business markets: an Agenda for Research'. Journal of Business & Industrial Marketing. 13(4).
- Parasuraman, A., Zeithaml, V.A., Berry, L.L. (1985). "A Conceptual Model of Service Quality and its Implications for Future Research'. Journal of Marketing. 49, p.41-50.
- Parasuraman, A., Zeithaml, V.A., Berry, L.L. (1988). 'SERVQUAL: a Multiple-item Scale for Measuring Consumer Perceptions of Service Quality'. Journal of Retailing. 64(1), p.12-40.
- Parasuraman, A., Zeithaml, V.A., Berry, L.L. (1990). "Guidelines for Conducting Service Quality Research'. Marketing Research. December, p.34-44.

- Pitt, L., Morris, M.H. and Oosthuizen, P. (1996). 'Expectations of Service Quality as an Industrial Market Segmentation Variable'. The Service Industries Journal. 16(1), p.1-14.
- Rathmell,J.M (1966).What Is Meant By Services, Journal Of Marketing, 30, Pp.32-36.
- Reichheld, F.F. and Sasser, W.E. (1990). 'Zero Defections: Quality Comes to Services'. Harvard Business Review. 68 (Sept/Oct), p.105.
- Reidenbach, R.E., and B. Sandifer-Smallwood (1990). 'Exploring Perceptions of Hospital Operations by a Modified SERVQUAL Approach'. Journal of Health Care Marketing. 10(4), p.47-66.
- Roberts, P.M. (1998). 'Nurse Education in Competitive Markets: the Case for Relationship Marketing'. Nurse Education Today. 18, p.542-552.
- Rosenstock, I And Becker (1974). The Health Belief Model and Preventive Health Behavior, Health Education Monograph, 2, 354-86.
- Soliman, A.A. (1992). 'Assessing the Quality of Health Care'. Health Care Marketing. 10(1), p.121-141.
- St.Leger.(1992). Evaluating Health Services Effectiveness, Milton Keynes, Open University Press.New York.
- Stebbling, L (1990) Quality Management In The Service Industry, Ellis Honwood, Chichester Sweeney, 1986)
- Taylor, S.A. (1994). 'Distinguishing Service Quality from Patient Satisfaction in Developing Health Care Marketing Strategies'. Hospital & Health Service Administration. 39, p.221-36.
- Vandamme, R. and Leunis, J. (1993). 'Development of a Multiple-item Scale for Measuring Hospital Service Quality'. International Journal of Service Industry Management. 4(3), p.30-49.
- Ware, J.E., and Hays, R.D. (1988). 'Methods for Measuring Patient Satisfaction with Specific Medical Encounters'. Medical Care. 26(4), p.393-402.
- Ware, J.E., Davies-Avery, A. and Stewart, A.L. (1978). 'The Measurement and Meaning of Patient Satisfaction'. Health & Medical Care Services Review'. 1(1), p.1-15.
- Westbrook, K.W. (1995). 'Business-to-business Service Encounters: An Empirical Assessment of the Underlying Determinants for Industrial Service Quality', in

Enhancing Knowledge Development in Marketing, Stern, B.B. and Zinkhan,G.M. (Eds), Chicago: American Marketing Association, p.10-11.

- Woodside, A.G., L.L. Frey, and R.T. Daly (1989). 'Linking Service Quality, Customer Satisfaction, and Behavioral Intention'. Journal of Health Care Marketing. 9(4), p.5-17.