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Service Quality in the Public Sector Hospitals: A Study in India

NANDAKUMAR MEKOTH, BABU P. GEORGE, VIDYA DALVI, NIRMALA RAJANALA,
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Abstract. Most studies on service quality have been conducted in the context of the private sector of the economy. In fact, in the healthcare setting, for a long time, public-sector hospitals were not expected to excel in the provision of service quality. In a country such as India, even now, public-sector hospital staffs enjoy relatively higher salaries, flexible work schedules, and secure employment until retirement. Because patients do not pay for most services, normally they are concerned only about the quality of the core product. The authors indicate that, even in the public sector context, the quality of the physician and that of the clinical support staff significantly impact patient satisfaction. However, the quality of nonclinical support staff is not found to have any significant effect on patient satisfaction.

Keywords: clinical staff, nonclinical staff, outpatient, physician, quality, satisfaction

The Indian healthcare industry is seen to be growing at a rapid pace and is expected to become a US\$280 billion industry by 2020 (World Health Organization 2006). India has got a largely functional universal healthcare system, mostly run by the states and the union territories. However, the federal government directly manages some of the best known hospitals in the country. After gaining independence, this began as a part of nationalizing essential services. Treatment, including doctors' services, lab services, and drugs are given free to patients. However, in the recent past, many public hospitals have introduced a multitiered system according to which patients who are willing to pay can opt for add on facilities such as air-conditioned and multimedia-equipped rooms (Bhat

1993). The Ministry of Health and Family Welfare is in the overall charge of administering healthcare in India: it discharges its authority through the Department of Health, the Department of Family Welfare, and the Department of Ayush (alternative medical systems such as Ayurveda, Homeopathy, and Siddha).

As in every other matter, India is a paradox in the matter of its healthcare facilities, too: it has got some world-class hospitals and at the same time hosts some of the least equipped clinics as well. According to Mullan (2006), India's position is 171 out of 175 countries in terms of the percentage of gross domestic product spent on healthcare. It is to be noted that that expenditure on health by the government has not correlated well with the overall economic prosperity of the country and that private out-of-pocket expenditure is on a constant the rise (Guruswamy, Mazumdar, and Mazumdar 2008). Dummer and Cook (1998) noted that there existed virtually no time when India did not face the threat of severe infectious diseases. As many as 3.1 million people are infected with HIV and roughly 800,000 contract an infectious form of tuberculosis each year (Bagchi 2008). The life expectancy of citizens has almost doubled since India got independence in 1974. The World Health Organization (2006) estimated that the present life expectancy in India is 68 years. Mani (2006) observed that even though India has a population distribution skewed

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toward the younger ones, the sheer size of the total population (more than 1 billion people) means that it cannot neglect issues related to the care of the aged.

Within India, marked differences exist in the usage of healthcare facilities between regions. For instance, utilization of maternal health care services is much higher in the southern states, Kerala in particular (Navaneetham and Dharmalingam 2002). This is an issue of not only income but also education and differences in the general worldview. North Indians are generally more fatalistic in their worldview and do not often consider healthcare services as something that can determine life or death. Again, especially among older people in India, there exists a preference for alternative medical systems in general and ayurveda in particular. The ayurvedic system of medicine is intertwined with ancient Indian philosophy and is a part of the Hindu way of life itself. In general terms, the interrelationship between the Western and the native medical system is a function of the interplay of social, economic, and political forces in the community. Historically, Western medicine was used as a political weapon by the colonialists to strengthen the oppressing classes and to weaken the oppressed classes and the class divide in terms of medicine use continue even today, observed Banerji (2002).

For a long time, policy makers have neglected the role of private healthcare facilities in India (Bhat 1993). Even so, with the capacity constraints that the public healthcare system began to face, the increased expectations of the burgeoning middle class, and the newly identified opportunities for promoting health tourism, significant changes can be seen in the mindset of India's healthcare policy makers. In fact, this understanding began to prevail upon the policy makers in the mid-1990s and many of them took the position that the strategy to develop a National Health Service type model of healthcare provision was misguided and wasteful (Berman 1998).

Research by Das and Hammer (2007) revealed that doctors who studied in government medical colleges free of cost with taxpayer money did not show any greater compassion to patients when it came to treating patients in government hospitals. This does not mean the private sector alternative is to be glorified: In many cases, with a view to maximize profits, private clinics make patients to buy avoidable medicines and make them undergo totally unnecessary examinations. The nexus between the pharmaceutical sector and private medical practitioners and clinics should make patients look at

the private alternative with a lot of suspicion. Also, the scams and scandals associated with student admission for medical degrees in privately run medical colleges are numerous and these come up in the mass media on an everyday basis (Bagchi 2008).

The health insurance sector is a relatively new entrant to the healthcare landscape of India. Insurance companies started entering the marketplace after the government of India initiated its liberalization, privatization, and globalization (LPG) policies in 1991 (Ellis, Alam, and Gupta 2000). However, some primitive forms of social security have always existed in rural India: for instance, the community comes forward to help people who are ill by gathering money and extending patient support services. Also, federal and state government employees and their wards often get the treatment related expenses reimbursed once the claim is submitted.

SERVICE QUALITY: A BRIEF REVIEW

In the service marketing literature, many researchers have examined the relationship among service quality, customer satisfaction, and behavioral intentions in context with several service industries, namely hotels and restaurants (Cronin and Taylor 1992; Matzler, Renzl, and Rothenberger 2006; Luk and Layton 2004; Lehtinen and Lehtinen 1991); banking (Lee and Hwan 2005); healthcare (Shemwell and Yavas 1999; Chang, Wei, and Huang 2006; Kim et al. 2008; Priporas, Laspa, and Kamenidou 2008; Labiris 2005; McAlexander, Kaldenberg, and Koenig 1994; Boshoff and Gray 2004; Akter, Upal, and Hani 2008); transportation (Taylor and Baker 1994); sports and Leisure Centre (Murray and Howat 2002); and, credit cards, repairs, and maintenance (Parasuraman, Zethaml, and Berry 1985).

Service quality is viewed as a unique construct (Taylor and Baker 1994). Service quality is perceived as a customer's subjective interpretation of his or her experience (Lehtinen and Lehtinen 1991). Service quality should be conceptualized and measured as an attitude (Cronin and Taylor 1992). Extensive research has been done to conceptualize service quality as perceived by the service provider (hospital) and the customer (Zeithaml, Berry, and Parasuraman 1988; Brady and Cronin 2001; Marley, Collier, and Goldstein 2004).

Lehtinen and Lehtinen (1991) applied a two-dimensional approach, that is, process quality (production process) and output quality (result of production process) in dance restaurants. Marley,

Collier, and Goldstein (2004) divided the service quality framework into clinical quality (medical outcome and that which is delivered) and process quality (how the service is created and delivered) in hospitals. Lehtinen and Lehtinen (1991) also applied three dimensional approach (i.e., physical quality, interactive quality, and corporate quality in dance restaurants). The SERVQUAL model developed by Parasuraman, Berry, and Zeithaml (1988) has five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. The authors also developed a 10-dimensional model (i.e., credibility, security, access, communication, understanding the customer, tangibles, reliability, responsiveness, competence, and courtesy) and a perceived service quality model based on four gaps (i.e., knowledge, standard, delivery, and communication gap; Zeithaml, Berry, and Parasuraman 1988). Based on theoretical and empirical evidence, researchers still claim that service quality construct is complex.

The findings are distinct in different service environments. The situational context of the service may influence the quality dimensions that most affect consumer satisfaction (Mowen, Licata, and McPhail 1993). These represent empirical evidence of the variability in findings relating to other service industries and healthcare. Taylor and Baker (1994), in their study relating to four different services, found that the positive influence of service quality on behavioral intentions is greater when satisfaction is also greater in communication services, transportation services, and recreation services, but not in healthcare service. In another study concerned with spectator sport, participative sports, entertainment, healthcare, and long-distance and fast-food services, the service value-behavioral intentions relationship was significant, whereas satisfaction influenced behavioral intentions directly in all industries except healthcare. The indirect relationship involving service value (i.e., SV-SAT-BI) was found to be significant in industries other than healthcare (Cronin et al. 2000).

Perceived service quality is heavily culture-centric: Nilchaikovit, Hill, and Holland (1993) observed that many Western studies on Asian healthcare systems do not take into account the patients' self-concepts and patterns of self-other relationships, which are largely culturally determined and are essential for an objective understanding of the patients' experience of illness, expectations, and perceptions of available healthcare services. Self-concepts can profoundly affect the quality of the

physician-patient relationship and medical care, too. Research by Donthu and Yoo (1998) shows that those consumers from cultures high on power distance and high on collectivism exhibit lower levels of service quality expectations. They also pointed out that individuals from long-term-oriented cultures do not demand high service quality in comparison with their counterparts from short-term-oriented cultures. Indian culture scores high on all three of these dimensions (Hofstede 1984). Because providing service quality involves cost, differentiating based on cultural differences does make sense.

Process quality is also referred to as functional quality. *Functional quality* refers to how well the service delivery system is geared up to serve the customer needs. It is the way the service is delivered. It is mostly a qualitative, subtle, and intangible part of the service (Srinivasan 2004), but at the same time contains procedure, interaction, and outcome dimensions (Parasuraman, Zeithaml, and Berry 1985). Moments of truth, as the service encounters are rhetorically called, play a significant role in determining customer satisfaction and other outcome variables such as repeat patronage and recommendation. Service encounters contribute a great deal to the judgment of quality in the case of experience attributes of the service. A service encounter is a period of time during which customers interact directly with a service (Lovell, Writz, and Chatterjee 2006). Researchers have considered specific single or multiple elements of process quality to assess the effects of process quality on customer satisfaction and determined which specific elements of their blend contribute most to customers' behavioral intentions.

It is necessary to understand the role to be played by consumers and their level of involvement in the service delivery process. Understanding the role played by the customer during service interaction is a proactive strength rather than reactive weakness (Webb 2000). Researchers have emphasized the need to realize the importance of role played by employees (Akter, Upal, and Hani 2008) and patient and staff behavior in the service delivery process (Otani, Kurz, and Harris 2005; Kattara, Weheba, and El-Said 2008). Otani and Kurz (2004), in their study on healthcare settings, found that nurses' care is more important in improving overall satisfaction and behavioral intentions.

Behavioral intentions are favorable when customers say positive things about the company, recommend the company to others, preference of the company over others,

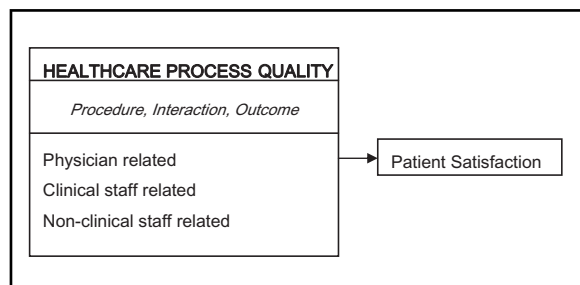
remain loyal to the company, spend more with the company, pay premium price and unfavorable intentions are, when they leave the company or spend less with the company. (Zeithaml, Berry, and Parasuraman 1996, 34)

Many studies have examined the relationship between the constructs of service quality and behavioral intentions (Cronin et al. 2000; Taylor and Baker 1994; Zeithaml, Berry, and Parasuraman 1996; Carrillat, Jaramillo, and Mulki 2009; Lee and Hwan 2005; Headley and Miller 1993) and customer satisfaction and behavioral intentions (Babakus and Mangold 1992; Lymperopoulos and Chaniotakis 2008). The casual relationship between these constructs is that service quality leads to customer satisfaction, which in turn leads to behavioral intentions.

Some authors have argued that the service quality construct is a moderator in the customer satisfaction-behavioral intention relationship in which, as some have argued, the customer satisfaction is a moderator in service quality-behavioral intention relationship (Taylor and Baker 1994). Some studies have also proved interactive relationship between satisfaction judgments and service quality attitudes in the formation of future purchase intentions (Taylor et al. 1997; McAlexander, Kaldenberg, and Koenig 1994). The form of the service quality-consumer satisfaction relationship may vary across service industries (Taylor and Baker 1994). In the case of hotel service, Matzler, Renzl, and Rothenberger (2006) found that price satisfaction has a stronger impact on loyalty than service satisfaction. The positive influence of service quality on purchase intentions is greater when satisfaction is also greater in case of communication, transportation, and recreation services, but not healthcare services. Customer satisfaction is not a sufficient condition for an intent to revisit, but a necessary condition indeed (Kim et al. 2008).

THE PROPOSED MODEL

In the light of the discussion above, we propose the following model.



In sum, the model proposes statistically significant positive relationships between process quality and patient satisfaction. Patients assess process quality, among others, in terms of the procedures employed by physicians, clinical staff, and nonclinical staff; their interactions with the patients during the process; and the final outcome of these interactions.

THE STUDY

Data for the present study were gathered from Goa Medical College and Hospital in Goa, India, a major healthcare facility owned by the government providing free medical service. Hospitals established by the government are generally less subject to market forces, for they have a captive population to serve. Profit-oriented organizations operate in the market environment and have to survive in the face of competition. To generate profit, the performance has to be equal (if not better) compared with competitors and prices have to be sufficiently higher than their costs (Srinivasan 2004). In the Indian context, there are two types of hospitals: private-sector hospitals, which charge for the services they provide, and public-sector hospitals, which provide mostly free service. The private medical facilities are normally visited by higher income patients who can afford the services while the free medical facility is frequented by lower income patients. However, government-funded medical colleges with expert physicians and costly facilities are at times preferred even by high-income groups (particularly in the case of critical and complicated cases).

The quality of service in the context of measurement of patient satisfaction was found to comprise medical outcome, access to healthcare, personal characteristics, and disease characteristics (Turner and Pol 1995). Medical outcome and disease characteristics have been excluded from this study because the focus of this study is on encountering related process dimensions. In order to identify the determinants, the typical process an outpatient undergoes has first been mapped. In a typical service encounter, a patient passes through a number of service points at the hospital: the registration counter, the outpatient department where the physician is located, and the laboratories.

The interview was administered to patients at the hospital outpatient section. A total of 209 patients were interviewed.

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TABLE 1. Scale Dimensions and Factor Loadings

Dimension	Factor loadings			
	1	2	3	4
Physician quality				
Explanation by doctor	.87			
Doctor's knowledge	.83			
Doctor's confidence	.74			
Doctor's concern	.72			
Courtesy of doctor	.58			
Comfort at OPD	.46			
Clinical staff quality				
Efficiency of lab staff		.81		
Friendliness of lab staff		.79		
Courtesy of lab staff		.74		
Waiting time lab		.68		
Nonclinical staff quality				
Courtesy OPD Staff			.80	
Courtesy of registration Staff			.71	
Location of OPD			.60	
Waiting time				
Waiting at registration				.84
Waiting time OPD				.72
Registration system				.61
Variance explained	20.81	18.32	14.84	12.03

Note. OPD = Outpatient Department.

Measuring Outpatient Process Quality

Unstructured, open-ended interviews were conducted in order to identify variables that determine outpatient process quality. By means of a combination of this process and a review of literature, 16 variables that might be reflective of outpatient process quality were identified.

In order to determine the dimensionality of the scale an exploratory factor analysis with varimax rotation was performed. The 16 items loaded onto four dimensions, explaining 66.011% of the total variance. An examination of the variables belonging to the four factors revealed that the dimensions corresponded to physician quality, clinical staff quality, nonclinical staff quality, and waiting time, in that order. The scale had an acceptable reliability level ($\alpha = .859$). Table 1 shows the outpatient process quality scale items and the factor loadings.

Testing the Model

A composite questionnaire was prepared with the outpatient process quality instrument developed

TABLE 2. Process Quality–Patient Satisfaction Relationship

Process quality agent	Satisfaction (R^2)
Physician	0.396**
Clinical Staff	0.288**
Nonclinical Staff	0.049
R^2	0.325

** $p = .01$.

previously (minus items related to the waiting time) and with item statements drawn from Ware et al. (1983) that would measure patient satisfaction. The full scale developed by Ware et al. (1983) contained 55 Likert-type items measuring attitudes toward the more salient characteristics of doctors and medical care services, such as technical and interpersonal skills of providers, waiting time for appointments, office waits, emergency care, costs of care, insurance coverage, availability of hospitals, and other resources and satisfaction with care in general. Face validity examination made us think that many of these items are not relevant or significant in typical outpatient situations; thus, we identified 17 items from this scale, which became part of the composite questionnaire for the present study.

Regression analysis was conducted using SPSS (v. 16) to test the strength of relationship between process quality (physician, clinical staff, nonclinical staff) and patient satisfaction. The results are summarized in Table 2.

As the table implies, the process quality associated with the activities of the nonclinical support staff do not significantly predict patient satisfaction. During the qualitative studies that we conducted prior to the survey, we did notice that patients did not have a lot of expectations from the nonclinical support staff such as those who carry out patient registration and file management. It is not that patients would not want superior nonclinical support, but rather that they have given up on such things. Physician-related process quality has the greatest effect on patient satisfaction: this is expected from patients visiting government hospitals who generally expect nothing more than cure. As we highlighted in the review of literature, in most studies conducted in the West, every dimension of process quality emerged as a significant determinant of patient satisfaction and loyalty. The different sociocultural and socioeconomic settings in India could possibly explain

the disparity of the results of this study with other studies.

An alternative explanation for the findings, one that is less culture-centric, is that perceived courtesy of hospital staff and perceived length of waiting time could be hygiene factors that may cause dissatisfaction if staff is discourteous or if the waiting time is too long. Hence, they may not have a positive relation with satisfaction but may be related to dissatisfaction. This conjecture emerges from an adaptation of Herzberg's two-factor theory of motivation (Herzberg, Mausner, and Snyderman 1959): satisfaction and dissatisfaction comprise two different constructs, rather than a continuum, and are influenced by different factors. Herzberg, Mausner, and Snyderman (1959) reasoned that because the factors causing satisfaction are different from those causing dissatisfaction, the two feelings cannot simply be treated as opposites. The opposite of satisfaction is not dissatisfaction, but rather, no satisfaction. Similarly, the opposite of dissatisfaction is no dissatisfaction.

CONCLUDING REMARKS

This study examined the role of service-related processes in generating patient satisfaction. Although the present study affirms that both the physician quality and clinical staff quality are significantly related to patient satisfaction, quite interestingly, quality associated with nonclinical processes does not influence patient satisfaction.

Given that most patients who visit government-run hospitals come from the relatively poor strata of the society, their focus will be more toward the core product than the augmentations to it. However, as Kumar, Kim, and Pelton (2009) observed, the Indian consumer psyche is undergoing a great transition now and it may be just a few years when they become more demanding when it comes to the augmented products related to healthcare.

The thriving business of medical tourism in India has made many private hospitals to upgrade every aspect of service quality to a level at par with that of the West (George and Henthorne 2009). Along with this, an increasing number of people belonging to the middle class in India now go to Western Europe and North America for medical treatments. In addition to this, the recent past has witnessed a massive repatriation of Indian nationals back to home, mainly from the North America.

These trends might cause to heighten the expectations of service quality among Indian patients.

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