International Journal of Innovative Research in Computer Science & Technology (IJIRCST)
ISSN: 2347-5552, Volume-6, Issue-1, January-2018
DOI: 10.21276/ijircst.2018.6.1.1

Measurement and Implementation of Patient Satisfaction in the Healthcare Industry: Part 2

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***Abstract*—Increasingly knowledgeable consumers, with rising demands to have information available for them to make appropriate health care decisions, have driven healthcare managers and administrators to focus on an improvement of the service quality to increase patient's satisfaction. As efforts, many of them are trying to adapt well-established, successful business models like total quality management (TQM), and quality function deployment (QFD) and also trying to learn in what aspects of the health care service provision generate or inhibit patient satisfaction. The primary objective was to discuss issues when employing the models to health care industries.**

***Index Terms*— Healthcare, Measurement, Satisfaction, Patient. Evaluation**

I. INTRODUCTION

The rapid growth of service sector was accompanied by dramatic changes in the environment, challenging health care managers and administrators to search for alternative ways of maintaining competitiveness (Andaleeb, 1998). As an outcome, many providers, with help from the research community, are beginning to realize that providing customer satisfaction is a key element of strategy and a crucial determinant of long-term viability and success (Andaleeb, 1998). Customer satisfaction has shown to be a profitable competitive strategy variable because the public is convinced to spend more on healthcare from quality institutions that are willing to fulfill customers satisfaction (Boscarino, 1992; Hays, 1987) and, also, hospitals with better images have been able to translate these into increased utilization in attracting more patients and increased market share among competitors (Boscarion, 1992; Gregory, 1986). Delivering patients a good care is also essential because today's buyers of health care services are more informed or educated by private insurance companies, health maintenance organizations (HMOs), and preferred provider networks (PPOs), and more aware of healthcare system than in the past (Andaleeb, 1998). One of the primary changes that exist today in the health care industry is an increasingly knowledgeable consumer with intensifying demands to have information available to help them make appropriate health care decisions.

Manuscript Received November 10, 2017

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These buyers carefully study and monitor the options available to them (Andaleeb, 1998). These changes are being driven by the abundance of information that is available to them from public and private sources (Andaleeb, 1998). Healthcare consumers include not only individuals but also private insurance companies, health maintenance organizations (HMOs), and preferred provider networks (PPOs) (Smith and Swinehart, 2001). These consumers are demanding complete, accurate, detailed information about patient satisfaction with the health care providers. The information often must be network specific, physician_specific, and provider specific (Smith and Swinehart, 2001). A primary outcome of concern to the knowledgeable health care consumer is information on the quality of the health care provider. Such healthcare consumers can influence the policy, strategy, operations, and investment decisions of healthcare entities across the country (Smith and Swinehart, 2001). Petersen (1988) suggests, "It really does not matter if the patient is right or wrong. What counts is how the patient felt even though the caregiver's perception of reality may be quite different". Furthermore, successes in implementing total quality management (TQM) in the global marketplace have stimulated interest in the non-manufacturing arena, especially in healthcare management (Smith and Swinehart, 2001). These strategies from TQM are being implemented by US healthcare providers to prepare for the challenges over a rapidly changing healthcare industry in the future (Smith and Swinehart, 2001).

These trends, such as changes in customer's characteristics, and healthcare provider's attitude, in healthcare industries have been attributed to consumers' preference for better healthcare program (Pham, 1998) and less restrictive forms of managed care (Wechsler, 2002). Consumers today are more aware of alternatives on offer, and healthcare providers' rising standards of service have increased customer's expectations (Lim and Tang, 2000). Consumers are also becoming increasingly critical of the quality of the service they experience_(Lim and Tang, 2000). In healthcare industry, service providers offer the same types of services; therefore, what distinguishes among them is the quality of service (Youssef et al., 1996). In order to sustain competitiveness among healthcare providers, and to continue to grow and thus increase profitability, healthcare providers should therefore be interested in examining what represents "better healthcare" from a consumer's point of view (Braunsberger and Gates, 2002). Furthermore, a healthcare provider can use service quality as a strategic differentiation to gain a unique

competitiveness among healthcare providers (Lim and Tang, 2000).

II. Literature Review

A. Patient Satisfaction: Measurement

Quality of care from the consumer's point of view was generally defined and measured as patient/consumer satisfaction (Beatty et al., 1998; Dansky and Miles, 1997). In order to establish relationships between customer satisfaction and healthcare providers' performance, firstly, researchers (Beatty et al., 1998; Dansky and Miles, 1997; Davis, and Heineke, 1998; Zabada et al., 2001) have done numerous attempts to define patient satisfaction. Secondly, they attempted to identify measurement dimensions to find out what needs to be improved in healthcare systems in order to satisfy patient needs and to improve overall competitiveness.

Zabada et al (2001) introduced major instruments (Table 1) that were designed to measure patient satisfaction. They were the Patient Satisfaction Questionnaire (PSQ), Patient Judgments of Hospital Quality Instrument (PJHQ), and adapted Service Quality Instrument (SERVQUAL) to healthcare. PSQ included seven dimensions, and was originally developed by Ware and his colleagues (Ware et al., 1976). The PSQ-III (Appendix 1), an improved PSQ, was a 50-item version that tapped global satisfaction with medical care as well as satisfaction with six aspects of care: technical quality, interpersonal manner, communication, financial aspects of care, time spent with doctor, and accessibility of care. PJHQ, which include 8 dimensions, was developed by Rubin et al. (1990) and was composed of questionnaire of 106 items. Items were rated on a 5-point Likert scale (poor, fair, good, very good, excellent or do not know) covering 6 specific hospital practices: admissions, nursing and daily care, medical care, information, hospital environment and ancillary staff, the discharge and billing. SERVQUAL was originally proposed as a generic tool for measuring service quality by Parasuraman et al. (1985). However, Bowers et al. (1994) introduced a modified SERVQUAL (12 dimensions) for the health care industry. Furthermore, Zabada et al. (2001) developed a four-category classification (Table 2) where dimensions of all the 3 major instruments were present. These four categories were interaction evaluation, competence evaluation, financial transaction evaluation, and facilitating factor evaluation (Zabada et al., 2001).

B. Implementation and Anlalysis

This part would discuss issues in relation to analyzing and implementing category evaluations that were suggested by Zabada et al. (2001).

Interaction Evaluation

Interaction evaluation extends its concerns to the interpersonal manner, the availability, and the continuity of care as perceived by patients (Zabada et al., 2001). Interaction evaluation focuses on how closely physicians and nurses are felt to customers, how readily they are accessible for customers, and how continuously they care customers.

A problem implementing this matter in developing and deploying strategies to improve patient satisfaction comes from different perceptions among different patient groups (Cohen, 1996; Braunsberger and Gates, 2001; Hall and Dorman, 1990; Holocomb et al., 1998). For example, although health care provides same services, a person with poor health status, older, or female may perceive them differently from a person with good health status, younger, or male. Health care provider should be careful in analyzing the data from those patient satisfaction surveys, and in implementing new development. The health care providers must understand factors that can influence perception levels among different groups. However, if the data was correctly understood, it would be good for health care providers to understand patient personal needs (Luther et al., 1997). That personal information could be provided by many ways such as surveys. Physicians with good interest in them as human being could be rated high if physicians spoke to them in personal matter (Zabada et al., 2001). Clinics that used patient sociodemography to show their concerns on patients were able to attract more patients (Boscarion, 1992).

How readily and continuously customers receive assistant from physicians and nurses can make differences in patient satisfaction (Hildman and Fergsuson, 1990). Patients may rate health care providers that can assist them whenever patients need assistant from physicians and nurses. However, it is important for health care providers to allocate cost in term of what is more important to improve patient satisfaction (Carman, 2000). Having physicians and nurses accessible for patients all the time requires hiring more physicians and nurses. However, it costs much more to hire more physicians and nurses to accommodate patient demands. Therefore, health care providers carefully look for the cost-effective way to resolve the problem (Winter et al., 1998). Telemedicine was suggested to reduce cost as well as to improve quality (Zabada, 2001; Watkins et al., 1991). Although telemedicine was found to make as effective diagnosis as physical assessment (Watkins et al., 1991), the lack of proximity to the patient and the pointless of having the traditional physical assessment equipments would challenge the implementation of telemedicine (Russell et al., 2003).

Competence Evaluation

It was suggested that when patients perceive that providers were competent, their satisfaction with care providers were likely to be greater (Woodside et al., 1987; Wilson and McNamara, 1982). Competence evaluation extends its concerns to all the opinions, which, patients feel about the professionalism of their health care providers (Zabada et al., 2001). Traditionally, the improvement of competence for physicians has been on an intellectual level. However, developing a patient-centered consultation style, for example, physician's ability to draw patient's symptoms by asking relevant questions was found to improve patient satisfaction because patients perceived the physician's ability to draw symptoms as more knowledgeable (Inger Holmström and Urban Rosenqvist, 2001).

Theoretically, competence is a result of how people perceive their work. Therefore, competence level should be assessed by physicians themselves not only by customers. Customers can not assess if physicians are asking the relevant questions. Currently, the leaders of the medical profession and the certifying boards have been committed to develop effective and appropriate assessment and are in the process of implementing physician assessments (Inger Holmström and Urban Rosenqvist, 2001).

Financial Transaction Evaluation

Financial transaction evaluation extends its concerns through feelings of patients in how good of service they receive in relation to money they spend on health insurance. A big health insurance company such as HMO tried to reduce medical cost on insurance holder by paying less to hospitals (Yu-Chu, 2003). Sequentially, people thought that reduced cost may have impacts on health care quality **(**Zwanziger and Melnick, 1988). Studies of hospital behavior predicted that a reduction in price would lead to a reduction in quality of care (Yu-Chu, 2003; Cutler, 1995). However, Yu-Chu (2003) stated that the effect of financial pressure on hospital quality differed, based on the type of competition generated by Medicare and HMOs. In the case of Medicare, service quality improvement would be beneficial than price reduction since the government set the price (Yu-Chu, 2003). In the case of HMO's, price reduction among hospital may give superior competitiveness among hospitals (Dranove and White, 1994**).** Price competition may predominate over quality competition especially in highly competitive markets (Yu-Chu, 2003). HMO's cost cutting practices could bring a reduction in service quality among hospitals due to reduction in hospital's profit (Yu-Chu, 2003). Receiving adequate treatment from the hospital greatly depends on how much profit the hospital gain from treating patients. HMO probably would send patients to hospitals that would cost lesser than other without thinking about the quality of care provided by the hospitals. Therefore, I do not think that patient satisfaction does not have a lot to do with financial dimension as described by Zabada (2001). Mostly, it depends on the provider's profit margin and insurance company's willingness of paying good amount of money (Yu-Chu, 2003) to health care providers.

Facilitating Factor Evaluation

Facilitating factor evaluation extends its concern to physical environments (waiting room, consultation room, etc.), and accessibility and convenience (scheduling visits, direction to the clinic, billing, reminder system). It has been said that hospital service comes in both functional care and physician care (James, 2000). Good physical environment, accessibility, and convenience are offered by outcome of functional care. Medical professional prefer to only focus on physical care, whereas, the management argue that patients are more satisfied with the service if their experience with the health care providers included good personal service such as food, noise, temperature, privacy and parking (James, 2000). Relative allocation of resources between these two dimensions is very important since managers need to make proper allocation of resource in two dimensions (James, 2000). An example given by James (2000) is that offering precooked airplane meals is a reasonable place to cut costs if patients are not very interested in food anyway and they disassociate food quality from technical quality. However, if food quality impacts customer evaluations on other aspects of hospital quality, then cutting costs too much in that area may not be wise resource allocation. Nevertheless, hospitals have been criticized for focusing too much on the hotel accommodation dimensions of the stay such as food, noise, room temperature, and cleanliness rather than on outcome of the illness episode (Gronroos, 1990). Many studies (Taylor, 1995; Zhu and Anderson, 1991; Desarbo et al., 1994) suggested that adequate weighing techniques to properly balance resources between two dimensions are very important and it was suggested that it could be done by measuring the importance weighs on them with patient survey.

III. CONCLUSIONS

As engineers, our primary focus studying of customer satisfaction is on improvement of system performance in healthcare system to enhance viability in the market. Attempts to improve customer satisfaction in healthcare industry could be an excellent turnover for the industry. Increasingly competitive market, such as healthcare industry, always has to confront transformations every minute to maintain viable. Smith and Swinehart (2001) states, "These providers of healthcare must identify new methods of obtaining and maintaining market share in order to compete successfully in a market driven, customer focused industry". Health- care providers should implement world-class competitive successes methods, such as TQM and continuous improvement (CI) program, to stimulate strategies to improve the quality of service. However, focus of improvement should be made on what is done (treatments and diagnoses) by physicians more than how it is done (interpersonal skills, and decorations).

ACKNOWLEDGMENT

This research was supported by "Research Base Construction Fund Support Program" funded by Chonbuk National University in 2017.

Table 1: Patient satisfaction dimensions and measuring instruments (adapted from Zabada et al. (2001))

PSQ	PJHQ	SERVQUAL
Personal Qualities	Admission	Understanding or knowing the customer
Interpersonal manner	Daily care	Competence
Technical quality	Nursing care	Access
Competence		
Accessibility/convenience	Medical care	Tangible
Finances/cost	Other hospital staff	Security
Continuity	Living arrangement	Outcomes
	And the hospital environment	
Availability	Discharge	Communication
General satisfaction	Billing	Caring
		Credibility
		Reliability
		Courtesy
		Responsiveness

Table 2: Meaning of the four categories (adapted from Zabada et al. (2001))

Dimensions	Descriptions
Interaction evaluation	Captures patients' feeling about caregivers' behavior and attitude toward them. Through interaction evaluation, patients try to judge how much the caregiver values them as a human being.
Competence evaluation	Captures patients' judgment about how professional the caregiver is. Do caregivers give the impression of knowing what they are doing? Is the outcome of the caregivers' action successful?
Financial transaction evaluation	Captures the feeling of patients about how much value they have got for their money or for the worth of their insurance plan.
Facilitating factors evaluation	Captures patients' evaluation of the administrative system in terms of admission, discharge, scheduling office visits, billing, maintenance of the physical environment, and availability of modern devices that make patients' stay more enjoyable.

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