

## What kind of specialized services attract patients?

Yong-wong Lee<sup>1</sup>, Yeong-sik Jeong<sup>1</sup>, Yun-ji Kim<sup>1</sup>, Eun-hae Baek<sup>1</sup>  
and Hyun-sill Rhee<sup>1\*</sup>

<sup>1</sup>Healthcare management, Korea University

### 환자유치를 위한 특화서비스에 대한 연구

이용웅<sup>1</sup>, 정영식<sup>1</sup>, 김윤지<sup>1</sup>, 백은혜<sup>1</sup>, 이현실<sup>1\*</sup>

<sup>1</sup>고려대학교 보건과학대학 보건행정학과

**Abstract** Background: Competition among hospitals has intensified, because hospitals and beds are oversupplying and the global medical market has opened in Korea. Method: we developed questionnaires of the patient's satisfaction about 20 items. We surveyed 297 out-patients and 302 in-patients. We analyzed the descriptive statistics and regression by SPSS(Version 17) and Excel. Results: The relations with the patient's loyalty and the specialized hospital service are 1) Recommend to other person: FHR use and the assistant for follow-up treatment were related positively for out-patient and PHR and FHR use were related positively for out-patient. 2) Revisiting: PHR use and the need of an assistant for follow-up patients were related for them and the PayTV were negatively related. Conclusion: FHR, PHR and assistant system for follow-up patient's condition were very useful factors to increase patient's loyalty.

**요약** 본 배경 : 병원들과 병상 수들의 과잉공급과 의료시장 개방으로 인해 병원들 사이의 경쟁이 매우 심화되고 있다. 더 많은 환자 유치를 위해 환자들이 선호하는 특화서비스에 대해 조사하게 되었다. 방법 : 환자만족도를 조사하기 위해 약 20개 항목의 설문지를 개발하여 병원들 방문한 외래 환자 297명과 입원환자 302명을 조사하였으며 Excel 과 SPSS를 이용하여 기술통계와 회귀분석을 하였다. 결과 : 환자의 충성도와 특화된 병원서비스의 관련성이 지인에게 이 병원 이용을 추천하겠다고 관련이 있으며 1) FHR사용과 지속적인 치료 및 관리를 위한 도우미는 외래환자와 PHR사용에서 양의 관련성을 가지고 있었고 FHR은 외래환자에서 양의 관련성을 갖고 있었다. 2) 병원의 재방문 : PHR사용자와 환자치료 도우미의 요구가 있었으며 TV사용료 지불은 부정적 관련성을 가지고 있었다. 결론 : FHR, PHR과 환자치료 도우미들은 환자의 충성도를 증가시키는데 매우 중요한 요인들이었다.

**Key Words** : Specialized hospital service, Hospital loyalty, CRM, PRM, PHR, FHR

### 1. Introduction

By joining WTO and OECD, Korea has become more open to the international medical market and has brought about changes in the national medical system. Competition among hospitals in Korea has intensified, due to increasing costs and expectations of the quality of service[1,2]. Published articles recognize the competitive

environment in hospitals. 82.9% of responders recognized competition within hospitals[1]. Our medical market does not compete in medical price except for uninsured medical service. To gain a larger market share, hospitals need to raise the quality of medical service[3]. To promote the services of medical institutions, to improve convenient follow-up and to provide convenient medical service, the government introduced a medical evaluation

\*Corresponding Author : Hyun-sill Rhee(pridehyun@korea.ac.kr)

Received June 9, 2010

Revised November 30, 2010

Accepted December 17, 2010

program in 1995. Present Medical service is more patient-centered, and medical service quality should be improving and equitable[4]. Because of the sharply increasing aging population, the disease pattern is changing into more chronic diseases. Changes in medical delivery systems and new medical services are needed[1]. Because of an oversupply of medical institutions and beds, a patient's choice of hospital is greater, and the demand for high quality care is increasing. Also with the advent of the Information Age, accessibility to medical information is easier and the education level of the medical consumer is high. The development of new information is constant, and the consciousness level is higher[1,5-7].

Recently, various efforts of hospital enterprises are being achieved by competitive advantage and higher performance[2] Seoul National University Hospital declared 'Vision 21' and began marketing to provide tailored service for each patient in 1999. Won-Kwang University Hospital began providing civil service assessors to raise customer satisfaction in 2001[7]. Thus the principle of competition is being introduced in the medical market. Sixty-five percent of the staff in surveyed hospitals said that the medical consumer is the biggest factor affecting competition between hospitals[1]. So, hospitals should analyze medical consumer needs. Customer loyalty by positive word of mouth and repurchase develops long-term consumer relationships[3]. Customer satisfaction means customer loyalty[4]. The medical provider must aim to satisfy customers, provide a convenient setting, relaxation, parking facilities[7]. It is hard for customers to analyze medical technology service, but they are able to analyze external services of medical technology, the factors that attract patients and help to establish customer-oriented strategies[7]. To shorten waiting time, hospitals are using a booking system for reservations, prompt lab and result notification, and simplified administrative procedures. For information about a patient's effective diagnosis and treatment, hospitals need ways to provide information such as adequate explanation from doctors, new facilities, equipment, and service[1]. Several factors besides medical technology have an effect on competition among hospitals. Patients want more comprehensive explanations from doctors (Mean=4.66) hospitals which are closer to

them (M=4.23) and shorter waiting time(Mean=4.17). They expect accessibility, convenience, and proper equipment(M=4.40). Physical environment is also an important factor: parking facilities(M=3.95) and waiting rooms(M=3.76). In human resources, patients expressed a need for kindness(M=4.72) from doctors, nurses(M=4.62), and administrative staff(M=4.36).

This research was to analyze the relationship with specialized hospital services and customer loyalty by a survey from visiting out-patients and in-patients in one general hospital in Seoul. Specified hospital services involve an assistant to follow-up patient's condition by telephone instead of a doctor or nurse, PHR(Personal Health Record) is written by each person about individual health. PHR is a set of tools for managing personal lifelong health records provided by various medical facilities as well as those created by the individual from the integral and comprehensive perspective[8]. FHR(Family Health Record) is the information about the patient's family health history. It is useful for diagnosis and treatment of their diseases. In our research, we asked what kind of specialized service do patients like?, we also asked, what is the relationship with the specialized hospital service and patient loyalty?

## 2. Methods

We developed the questionnaires to research the title. The questionnaires were composed of 20 items. The collection of data was from May 1 to 14 in 2009 for 2 weeks at one general hospital in Seoul by 20 surveyors who were students of Korea University. We collected 623 replies and used 599 to research the subject. There were 297 out-patients and 302 in-patients. We used the Likert's scale to determine the satisfaction of patients and the regression to show the relationship between a patient's loyalty and the specialized hospital services and descriptive statistics by Excel and SPSS ver. 17.

## 3. Results

### 3.1 Demographic Characters

Among surveyed patients, there were a greater number of female than male. By age groups, 30 age group(30.0%), 40 age group(23.2%), and 20 age group(21.2%) for out-patient, and 50 age group(27.5%), 30 age group(21.2%), and 40 age group(19.9%) for in-patient. By job, the largest number were home makers(30.6%), followed by professional(14.1%) and self-employed(13.1%), as out-patient, but home maker(28.1%), self-employed(14.2%) as in-patient(see table 1).

[Table 1] Demographic characteristics

		Unit: %	
		Out-patient	In-patient
Sex	Male	37.0	35.0
	Female	63.0	65.0
Age Group	20 Group	21.2	13.6
	30 Group	30.0	21.2
	40 Group	23.2	19.9
	50 Group	15.2	27.5
	Over 60 Group	10.4	12.9
	Non-reply	-	4.9
Job	Professional	14.1	8.6
	Administrator	4.0	4.6
	Government Agency	3.4	2.0
	Secretary	9.4	7.3
	Constructor	3.0	7.0
	Sale/Retail	3.4	3.0
	Self-employed	13.1	14.2
	Home makers	30.6	28.1
	Student	12.5	8.6
	Unemployed	4.7	8.0
	Others	1.8	8.6
	Total	100.0	100.0

Out patients participated in a survey, and there was 48.9% IM(Internal medicine) and 13.5% of people who were involved in the surgery department. In-patients also participated in a survey, 33.7% IM and 35.3% for surgery(see table 2).

[Table 2] Specialty

		Unit: %	
		Out-patient	In-patient
Internal Medicine		48.9	33.7
Surgery		13.5	35.3
Family Medicine		2.7	0.7
ENT		9.1	7.9
OB & GYN		7.4	-

Dentistry	3.4	0.3
Dermatology	3.0	0.7
Psychology	1.7	-
Eye	3.0	1.7
Urology	1.7	2.7
Neurology	0.7	4.0
Plastic Surgery	2.0	3.0
Emergency	1.0	-
Rehabilitation	1.3	1.7
Others	1.3	8.3
Total	100.0	100.0

First time, out-patients visitors consist of 23.9% and first time admitted patients showed 59.6% in the in-patient (see table 3).

[Table 3] First time visiting and admission

		Unit: %		
		Y	N	Total
Visiting		23.9	76.1	100.0
Admission		59.6	40.4	100.0

### 3.2. Reason for choosing this hospital

In multiple replies, the survey showed that out-patients visited the hospital because of proximity to his residence(27.0%), and the reputation of the hospital(17.7%). In-patients chose the hospital based on proximity to their residence(20.7%) and medical service team(13.8%) (see table 4).

[Table 4] Why did you visit this hospital?

		Unit: %	
		Out-patient	In-patient
Recommended or persuaded by someone		10.6	10.5
Medical service team		12.3	13.8
Transferred from another hospital		7.6	11.3
Proximity to residence		27.0	20.7
Renovation of the facilities		0.8	5.0
Reputation of the hospital		17.7	12.5
Through the emergency		4.2	-
The tertiary hospital		7.7	8.2
Lower cost		0.7	-
Kindness of all staffs and medical service team		0.8	3.5
No-reply		10.6	14.5
Total		100.0	100.0

With out-patients, the important factors in choosing the hospital were waiting time(3.86), making appointment(3.70) and receipt process(3.40). For in-patients, quality service of admission(3.78), the facilities and other services except medical technology(3.62) and admission procedure(3.39) received high scores (see table 5).

[Table 5] If you choose hospital, what factors are considered?

		Mean±S.D
Out-patient	Waiting time	3.86±0.857
	Making appointment process	3.70±1.662
	Receipt process	3.40±0.864
In-patient	Quality service of admission	3.78±0.871
	The facilities and other services except medical service	3.62±0.829
		3.39±0.848

### 3.3 For patient, preceding focused service

For out-patients, this hospital should have focused services, such as, doctor's adequate explanation(17.3%), the additional services during waiting time(12.7%), conventional reservation service(11.6%) and doctor's kindness(11.3%). For in-patients, kindness of medical teams(19.0%), consideration of the patient's family visitors(15.0%), and the service of rounds visits(13.9%) are important (see table 6, 7).

[Table 6] What kind of services does this hospital have preceding focused services for out-patients?

		%
Conventional reservation service		11.6
Conventional reception service		8.2
Staff kindness		8.4
The additional service for waiting time		12.7
Adequate explanation of disease and treatment		17.3
Doctor's kindness		11.3
Nurse's kindness		5.4
Automated prescription service		2.4
Facilities(Cafeteria...)		0.8
Parking(Space...)		8.3
No reply and Others		13.6
Total		100.0

[Table 7] What kind of services does this hospital have preceding focused services for the in-patients?

		%
Service of a rounds visits		13.9
Kindness of medical teams		19.0
Kindness of medical staff		11.3
Meal		8.0
Activity for spare time		7.3
Consideration of the patient's family visitors		15.0
Incidental facilities management(Cafeteria...)		7.5
Facilities service(Elevator...)		5.5
Others		12.5
Total		100.0

The assistant service system is a follow-up on individual patient's disease by telephone as medical assistants or counselors instead of a doctor or nurse. Most of the respondents expressed for assistant service, over 60%, had a positive reaction(see table 8,9).

[Table 8] Do you like the assistant service for follow-up patient's condition?

	Y	N
Out-patient	87.3	12.7
In-patient	86.9	13.1

[Table 9] What do you think about the assistant service system?

	Out-patient	In-patient
Strongly disagree	0.3	0.7
Disagree	1.0	1.0
Average	34.0	34.0
Agree	56.4	54.1
Strongly agree	8.2	10.2
Mean ± SD	3.71±0.64	3.72±0.68

Most responders had a highly positive reaction to wireless internet use in the hospital(see table 10).

[Table 10] What do you think about lineless internet use in the hospital?

	Out-patient	In-patient
Strongly disagree	1.0	0.7
Disagree	4.5	4.0
Average	27.1	29.3
Agree	45.9	45.1
Strongly agree	21.6	20.9
Mean ± SD	3.83±	3.81±0.83

PHR is very useful information for individual healthcare. If the hospital uses the PHR, the out-patient(75.6%) and the in-patient(69.0%) replied a willingness to write the PHR. However, below 50% of respondents agreed with using PHR(see table 11,12).

[Table 11] If this hospital uses your Personal Health Record(PHR) Will you record your PHR?

	Unit : %	
	Y	N
Out-patient	75.6	24.4
In-patient	69.0	31.0

[Table 12] If this hospital uses your PHR what do you think about it?

	Out-patient	In-patient
Strongly disagree	1.0	2.0
Disagree	5.8	7.4
Average	44.0	44.5
Agree	43.7	39.5
Strongly agree	5.5	6.7
Mean ± SD	3.47±0.73	3.41±0.80

They have experienced Family Health Record for their diagnosis or treatment for out-patient(43.0%) and in-patient(32.2%), and the out-patient(60.1%) and the in-patient(54.0%) had a positive reaction(see table 13, 14).

[Table 13] Have you ever used your Family Health Record(information) for your diagnosis or treatment?

	Unit: %	
	Y	N
Out-patient	43.0	57.0
In-patient	32.2	67.8

[Table 14] If the hospital used the detailed FHR for patient's diagnosis or treatment, what do you think about their efficacy?

	Out-patient	In-patient
Strongly disagree	-	1.0
Disagree	3.1	6.7
Average	36.9	38.3
Agree	55.3	47.0
Strongly agree	4.8	7.0
Mean ± SD	3.62±0.63	3.52±0.77

In PayTV, 76.3% of in-patients were against PayTV in wards(see table.15).

[Table 15] What do you think about PayTV in the ward?

	%	Mean±S.D
Strongly disagree	36.3	1.94±0.91
Disagree	40.0	
Average	18.0	
Agree	4.3	
Strongly agree	1.3	
Total	100.0	

### 3.4 Relationship of the specified hospital service and customer loyalty

To analyze the relationship of the specified hospital service and customer loyalty, we used regression as the independent factors of the specified hospital services, such as, the assistant system for follow-up patient's condition, wireless internet use, PayTV, PHR and FHR. The dependent factors are customer's loyalty of recommendations to other people, revisiting and continuously using the hospital.

#### 3.4.1. Recommend to other person

1) Out-patient

$$AF1=2.162 + 0.164AG7 + 0.296AG1$$

[AF1: Recommend to other person, AG7: Family Health Record use, AG1: Follow-up assistant service]

In out-patient case, FHR use and assistant service, are two factors that were related positively for recommendation to other people.

2) In-patient

$$AF1=1.365 + 0.169AG5 + 0.105AG7$$

[AF1: Recommend to other person, AG5:Personal Health Record use, AG7:Family Health Record use]

For in-patient case, PHR and FHR use were related positively with recommendation to other people.

#### 3.4.2 Revisiting

1) Out-patient

$$AF2= 1.437 + 0.171AG5 + 0.155AG2$$

[AF2: Revisiting, AG5: Personal Health Record use, AG2: Follow-up assistant service]

In revisiting, PHR use and the Follow-up assistant service were related in out-patient .

2) In-patient

$$AF2= 1.313 + 0.119AG5 + 0.148AG2 - 0.103BD4$$

[AF2: Revisiting, AG5: Personal Health Record use, AG2: Follow-up assistant service, BD4: The satisfaction degree of PayTV]

In-patient, use of PHR, the degree of need follow-up assistant and the satisfaction degree of PayTV were negatively related by revisiting patients.

3.4.3. Continuously using this hospital

1) Out-patient

$$AF3= 1.677 + 0.229AG2$$

[AF3: Continuing to use this hospital, AG2: Follow-up assistant service]

The follow-up assistant service was positively related for continuing to use this hospital.

2) In-patient

$$AF3= 2.058 + 0.142AG5 - 0.124BD4 +0.212AG6$$

[AF3: Continuing to use this hospital, AG5: Personal Health Record use, BD4: The satisfaction degree of PayTV, AG6: They have experienced using Family Health Record]

In both PHR use and FHR use there was a positive relationship to continuing use in the hospital, but the PayTV was negatively related for continuing to use in this hospital for in-patient.

4. Discussion

The published researches related with this research topic were introduced for discussing the results. As competitive strategies to win between hospitals, there were medical service improvement(93.3%), followed by active hospital marketing(80.9%)[1]. For researching of service improvement and hospital marketing, What factors are affecting the hospital? Is this a very important question. Many references introduce the factors of choosing the hospital.

[Table 16] Factors of choosing the hospital

Researcher	Factors of choosing the hospital
Hulka (1970)	Professional competence, Doctor's personal quality, cost/convenience [9]
Ware (1988)	Technical quality, inter personal manner, waiting time and general satisfaction [10]
Ross (1993)	Interpersonal, technical quality, access, communication, availability of services, finances [11]
Kane (1997)	Quality, hospital care, physician time [12]
Mi Ra Kim (2004)	Human(Doctor, Nurse) & Facilities(care system and environment, and Parking area) [7]
Dong Zoon Jung (2006)	Doctor's explain and kindness, Admission procedures, Bed cleaning, Relaxation, Proximity, and Transfer [13]

In the 1970's, they were interested in cost and doctor's personal quality, and in the 1980's, technical quality and waiting time were major factors in choosing the hospital. In the 1990's and 2000's, there were quality, facilities, and kindness. Depending on time, there are not many different factors. Also, medical expertise is very important when choosing a hospital[6].

The factors for patient satisfaction are the hospital's architecture and the conventional treatment procedure[14].

The results of our research were waiting time, making appointment procedure and receipt procedure for out-patient and medical service in admission, facilities and medical service and admission procedures for in-patient. The hospital should improve the measurement tool of hospital service quality for patient satisfaction to effectively distribute of medical service resource[15]. Medical staffs are an important factor to decide medical service quality and contents[16].

The moment of truth(MOT) of employee's attitudes and behavior between customer and employee is important to assess the quality service and the satisfaction[17]. What factors affect a customer loyalty?: By in-patients, doctor's and nurse's kindness and medical facilities are affected by the loyalty[13]. Therefore, providing high level customer value raises customer satisfaction. Patient satisfaction draws the preceding factor for revisiting, and intervention factor of the relationship with service quality and

revisiting[3]. The satisfaction of waiting time is very low(2.48) and the explanation of disease and treatment is very low (2.57) [7]. In both in-patients and out-patients, the facility factors and human resource factors are affected by the patient's satisfaction and in out-patients, the service level is affected by the patient's satisfaction as well[14]. For out-patient proximity is highest and waiting time is lowest for patient satisfaction[7](See table 16).

## 5. Conclusion

Korean hospitals have intensified economic problems and vigorous competency because low-price and unified reimbursement were introduced in healthcare system through national health insurance system and many hospitals have increased the number of hospital and bed for global medical system. To win the competition, hospitals have made an effort to attract patients. For raising patient loyalty, they have done patient-focused services because patients' satisfaction is very important. The important factors in choosing the hospital were waiting time, making appointment and reception for out-patient and for in-patient, quality of admission service, the facilities, services except medical service and admission procedure.

The assistant for follow-up treatment was replied, over 60% agree and strongly agree. In the result of this data regression, FHR and PHR use and the assistant of follow-up treatment by each patient was a positive relationship with attracting patients, but the PayTV was a negative one. New specialized hospital services have continuously analyzed before or after performances. The hospital should analyze a patient's needs and satisfaction by a more exact measurement tool and build a more efficient strategy, continuously by individual patients.

## References

- [1] Jae-Kwang Yeom, Chang-Yeol Kang, "The Critical factors on Improvement of Medical Institution Competitiveness", Korea Society of Hospital Administration Vol. 12(1), p1~30, 2007.
- [2] An Un-Seok, Choi, Dong-Chun, "A study on the Service Orientation of Medical service Providers", KSMS Vol.6(2) p40, August, 2005
- [3] Mee-Young Joung, Hae-Sool Yang, "Effect of customer value on customer loyalty in primary care: focusing on the mediating role of customer satisfaction", The Korea Contents Association Vol. 8 No. 11 p.225~233. 2008.
- [4] Soon-Ok Gam, Jyung-Rewng Park, Myung-Joo Kim, Mi-Kyung Lee, Kyong-Hee Shin, "Evaluation of Hospital Food service with patients' Condition", Journal of the Korean Dietetic Association, 13(2):101-102, 2007.
- [5] Han Kyung-il, Kim Bok-Dong, "The effects of Medical Service Market upon the Customer's Choice", p60, 社會科學研究, Vol.13, 2007.
- [6] Hoon-Young Lee, Kee-Taig Jung, Eun-Kyu Shine, Young-Jun Han, "The Impact of Health Service Quality Factors on Patient's Satisfaction According to Duration of Hospitalization", Korea Society of Hospital Administration Vol.13(3) p45, 2008.
- [7] Mi Ra Kim, Kee Choon Rhee, "Development of Consumer Satisfaction Scale for outpatients' Medical Services", Korean Society of Consumer Studies Vol.14(2) p197~213, June, 2003.
- [8] Center for interoperable EHRs, Director's welcome message [Korea], cited Nov 16, 2008. available from: <http://ehrkorea.org>
- [9] Hulka, B., Zyzansky, S., Cassel, J. & Thomson. S, "Scale for the Measurement of Attitudes toward Physicians and Medical Care, Medical Care 8", pp429-435, 1970.
- [10] Ware, J. E. & Hays, R. D., "Methods For Measuring Patient Satisfaction With Specific Medical Encounters", Medical Care 26(4), pp393-402, 1988.
- [11] Ross, C. K., Steward C. A. & Sinacore, J. M., "The Importance of Patient Preferences in the Measurement of Health Care Satisfaction", Medical Care 31(12), pp1138-1149, 1993.
- [12] Kane, R. L., Maciejewski, M. & Finch, M. "The Relationship of Patient Satisfaction with Care and Clinical Outcomes", Medical Care 35(7), pp.714-730, 1997.
- [13] Dongjun Chung, Minsoo Jung, Jin-Ok Byeon, "Structural Modeling of Hospital Facilities, Medical human power, Patient Satisfaction, and Behavior Intention in Health Care Service", Korean Association of health and Medical Sociology, 19(2):151-178, 2006.

- [14] Sung Kwon Bae, Eun Woo Nam, Jae Young Park, "A study on Major Factors on Patient Satisfaction of general Hospitals in Korea - Analysis of factors associated with in Health Service Evaluation Program by the Korean Government", Korea Society of Hospital Administration Vol. 10(2), pp.26-44, 2005.
- [15] Choi, K. S., H. J. Lee, C. K. Kim and S.H. Lee, "The service quality dimensions and patient satisfaction relationships in south Korea: comparisons across gender, age, and types of service", Journal of Service marketing, Vol.19(3), pp.140-149, 2005.
- [16] Yu seung-heum, Hospital management theory and practice (1) , Soo Moon Sa:69, 1998.
- [17] Normann, R, "Service Management: Strategy and Leadership in service Business 3rd Edition", John Wiley & Sons, Inc, 2001.
- 

**Yong-woong Lee** [Associate member]



- Mar. 2007 ~ current : Korea Univ., Dept. of Healthcare management , Student

<Research Interests>  
Hospital management

---

**Yeong-sik Jeong** [Associate member]



- Mar. 2006 ~ current : Korea Univ., Dept. of Healthcare management , Student

<Research Interests>  
Hospital management

---

**Yun-ji Kim**

[Associate member]



- Mar. 2007 ~ current : Korea Univ., Dept. of Healthcare management , Student

<Research Interests>  
Hospital management

---

**Eun-hae Baek**

[Associate member]



- Sep. 2009 ~ current : Korea Univ., Dept. of Healthcare management , Graduate Student.

<Research Interests>  
healthcare service management, healthcare information management

---

**Hyun-sill Rhee**

[Regular member]



- Feb. 1990 : Seoul Natioanl Univ., MPH
- Feb. 1995 : Kyeong-san Univ., Ph.D.
- Mar. 1994 ~ current : Korea Univ., Dept. of Healthcare management, associate professor

<Research Interests>  
healthcare service management, healthcare information management