



Do Demographic Characteristics Affect Patient Satisfaction?

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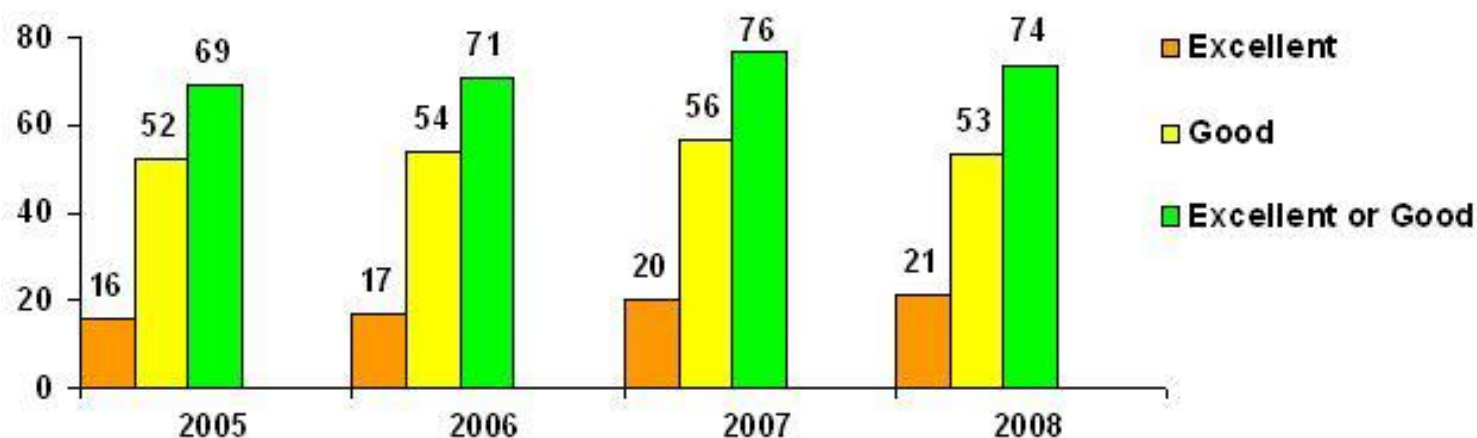
Outline

- Background
- Objective & Rationale
- Method
- Findings
- Discussion
- Implications

Background

- Since 2005, the Ministry of Health (MOH) carries out an annual Patient Satisfaction Survey among public hospitals and polyclinics every year to
 - assess the **level of patient satisfaction**,
 - **compare performance** among the healthcare institutions
 - gather suggestions for **future improvement**.

CHART 1 – OVERALL SATISFACTION (HOSPITALS, NATIONAL SPECIALIST CENTRES AND POLYCLINICS)



Background



First drop in the past 4 year

Health-care satisfaction levels dip

74% polled rate service standards as excellent or good – down 2 points

■ BY LEE HUI CHIEH

PATIENTS were slightly less satisfied with the service standards of health institutions last year than in the previous year, a Health Ministry-commissioned survey has found.

The annual survey found that 74 per cent of patients rated the public hospitals, national specialist centres and polyclinics as excellent or good last year, down from the 76 per cent who said the same the year before.

It is the first time satisfaction levels have taken a dip since the survey became an annual affair in 2005, when 69 per cent of patients were pleased.

The Health Ministry said the dip squared with the overall drop in customer satisfaction for the service industry as a whole; it cited a separate study by Singapore Management University last month which found that customer satisfaction



Changi General Hospital (above) says it is concerned about its low ranking, with only two-thirds of patients pleased with its service, and would heed feedback and implement improvements. Alexandra Hospital topped the survey for the fifth consecutive year. ST FILE PHOTO

How the hospitals fared

- **Alexandra Hospital:** 83 per cent of patients rated it good or excellent
- **KK Women's and Children's Hospital:** 75 per cent
- **National University Hospital and Singapore General Hospital (tie):** 69 per cent
- **Tan Tock Seng Hospital:** 68 per cent
- **Changi General Hospital:** 63 per cent

Its spokesman said CGH was "concerned" over its ranking and would heed feedback and implement improvements.

Of the 17 polyclinics assessed last year Bedok came out tops, with 85 per cent of patients pleased with it, and Geylang last with 63 per cent.

Source: The Straits Times, p B1, dated 11 May 2009, ©Singapore Press Holdings Limited

Background



- Part of a larger study to investigate **contribution factors** of patient satisfaction based on the survey data
 - “Good customer service is ...essential for business survival. In the healthcare sector, good customer service is a bit more complicated...Satisfying patients remains a challenge...” (Speech by Mr Khaw Boon Wan, **Minister for Health** at the Launch of the **Customer-Centric Initiative** (CCI) for the **Healthcare Sector** on 19 September 2008)
 - Quality of care from **patients’ perspective** is an important aspect in the assessment of health services (Rahmqvist, 2001)
 - Help identify **areas for improvement**

Objective & Rationale

- **Objective**

- Explore if patients' **demographic characteristics** affect **overall satisfaction** of the public healthcare services in Singapore

- **Rationales**

- Understand **intrinsic** patient factors
- Make the **comparisons reliable**

Method

- **Study design**
 - **Cross-sectional** study based on **secondary** data
 - Data Collection
 - Data Analysis

Data Collection

- **Extracted from the data repository**
 - MOH Customer Satisfaction Annual Survey
 - An instrument used to evaluate public healthcare institutions in Singapore since 2005
 - A snapshot of 4-year data from 2005-2008
 - N=19,235 covering both inpatients, outpatients and A&E patients across the following public healthcare institutions
 - 3 public tertiary hospitals
 - 5 national specialist centers
 - 9 primary care institutions

Data Collection (cont'd)

- **1 overall Patient satisfaction measure**

- “On the whole, how satisfied are you with the Institution?”
- 5-point scales
 - 5: Excellent, 4: Good, 3: Satisfactory, 2: Poor, 1: Very poor
- Convert to 2 levels: **High** (4-5) vs **Low** (1-3)

- **11 demographic characteristics**

Gender	Education level	Residence zone
Race	Occupation	Subsidy status (private vs. subsidized)
Age	Personal monthly income	Payment mode (cash, medisave...)
Marital status	Housing type	

Data Analysis – General characteristics







Total: 19235 patients	N	% of Total
Overall patient satisfaction level		
Low	5252	27.3%
High	13930	72.4%
Race		
Chinese	13060	67.9%
Malay	3359	17.5%
Indian	2317	12.0%
Other	499	2.6%
Age		
0 - 16 years	2321	12.1%
17 - 19 years	788	4.1%
20 - 29 years	2509	13.0%
30 - 39 years	2383	12.4%
40 - 49 years	2882	15.0%
50 - 59 years	3426	17.8%
60 - 64 years	1450	7.5%
65 years and above	3463	18.0%

Occupation		
Top Management (CEO, MD, GM, VP, Director, etc.)	123	0.6%
Middle Management (department manager, supervisory level)	893	4.6%
Executive Clerical (Clerks, Admin Assistant etc.)	664	3.5%
Blue-collar (Construction, Renovation, Hawker, Driver, Technician etc.)	1055	5.5%
	2066	10.7%
Professionals (Doctor, Lawyer, Architect, Consultant, Engineer etc.)	1045	5.4%
Free-lancer (Tuition / Music Teacher, Artist, Designer, etc.)	277	1.4%
Housewife	3615	18.8%
Student	2015	10.5%
Retired	3088	16.1%
Sole Proprietor / Businessman	463	2.4%
Others	2730	14.2%
Subsidy status		
subsidized	8113	42.2%
private	3635	18.9%

Data Analysis (cont'd)

- **Chi-square tests**
 - To test association between **each** of the 11 demographic characteristics **versus patient satisfaction** level
 - One characteristic at one time

Findings

Group of patients	Level of satisfaction	p-value	Odds Ratio
Chinese		<.0001	1.412
Middle-aged (40-59 years old)		.003	1.164
Executives		.006	1.265
Subsidized*		.015	1.120

***Subsidized patients:** who choose the heavily subsidized ward classes such as those wards with 5 or more beds

Private patients: who pay the full cost or only receive minimal subsidies for choosing private class wards such as the 1-2 bedded rooms (Class A) or 3-4 bedded rooms (Class B1)

Discussion



1. **Chinese** tend to feel less satisfied

- Complaints were about **3** times more likely among the Chinese compared to the Malays, and **1.7** compared to the Indians (Wong et al., 2007)
- **Communication barrier** between healthcare professionals and elderly who mainly speak Chinese dialects (Ng et al, 2009)

2. **Middle-aged** tend to feel less satisfied

- “The middle-aged group of patients in our study were **least** satisfied with physician services.” (Al-Doghaither, 2004)
- “Younger residents are more positive than older residents, with middle-aged the **most critical.**” on perception of public services (UK Cabinet Office’s survey, 1998)

Discussion (cont'd)



3. **Subsidized** patients tend to feel less satisfied

- Private and subsidized patients were reported to have **similar levels of service expectations** despite the price disparity (Low & Lim, 2008)
- **Private** patients are able to receive treatment from doctors or wards of their choice, to enjoy better facility and also experience shorter waiting time during care delivery, probably resulting in **higher satisfaction** (Low & Lim, 2008)

4. **Executives** patients tend to feel less satisfied

Implications



- To what extent can the 4 factors as a whole explain the variation of patient satisfaction score
- Dose each of the 4 factors have the same influence?
- What are the root causes making the 4 groups of patients feel less satisfied? (E.g. communication barriers)
- What are the strategies to better serve these 4 groups of patients?

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Thank you

Motivation

- Part of a larger study to investigate contribution factors of patient satisfaction
- **Alarming signals in FY08**
 - Patient satisfaction score fell from 76.6% to 72.1%
 - Year-On-Year scores declined for the 1st time
 - Its ranking dropped to the 2nd for the 1st time
- **Goals**
 - Determine the reasons for the drop in satisfaction in FY2008
 - Identify the areas for improvement

Motivation

- Part of a larger study to investigate **contribution factors** of patient satisfaction based on the survey data
 - Quality of care from **patients' perspective** is an important aspect in the assessment of health services
()
 - Like other service professions, **customer satisfaction ranking** always make headlines
 - Help identify **areas for improvement**

Findings

- **Chinese** patients ($n = 13026$) were more likely to give a **lower** satisfaction score ($p < .0001$, $OR = 1.412$), compared to non-Chinese ($n = 6156$).
- **Middle-aged** patients ($n = 5672$, 40-64 yrs) were more likely to report a **lower** satisfaction score ($p < .0001$, $OR = 1.164$), compared to other age groups ($n = 8320$).
- **Executives** ($n = 661$) were also more likely to report a **lower** satisfaction score ($p = .006$, $OR = 1.265$), compared to patients of other occupational background ($n = 18439$).
- **Subsidized** patients ($n = 8087$) were more likely to report a **lower** satisfaction score ($p = .015$, $OR = 1.120$), compared to private patients ($n = 3626$).

Data Analysis (cont'd)



- Example**

- To test association between **race** (Chinese or Non-Chinese) and **patient satisfaction level** (low or high)

			Overall satisfaction		
			Low	High	Total
Race	Chinese	Count	3844	9182	13026
		%	29.50%	70.50%	100.00%
	Non-Chinese	%	1408	4748	6156
		%	22.90%	77.10%	100.00%
	Total	Count	5252	13930	19182
		%	27.40%	72.60%	100.00%





	Value	95% Confidence Interval
Odds Ratio for race (low / high)	1.412	1.316 – 1.515
For cohort overall satisfaction = low	.29	1.224 – 1.36
For cohort overall satisfaction = high	0.914	0.898 – 0.93
N of Valid Cases	19182	

Chinese are 1.4 times more likely to report a low level of patient satisfaction, compared to non-Chinese

($p < 0.0001$, 95% CI: 1.316~1.515)

Findings



Group of patients	<i>N</i>	Level of satisfaction	<i>p</i> -value	Odds Ratio
Chinese	13026		<.0001	1.412
Middle-aged (40-59 years old)	6284		.003	1.164
Executives	661		.006	1.265
Subsidized*	8087		.015	1.120

***Subsidized patients:** who choose the heavily subsidized ward classes such as those wards with 5 or more beds

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