

## Public Perceptions of Healthcare in Singapore

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### Abstract

**Introduction:** Understanding public perceptions of healthcare delivery is important to guide policy formulation and practice as well as to identify areas where public health communication needs to be strengthened to overcome misconceptions and allay unfounded concerns. We conducted a survey of Singapore residents to determine perceptions of the affordability and quality of healthcare in Singapore. **Materials and Methods:** A sampling frame was drawn from the 2005/2006 edition of the telephone directory. One thousand seven hundred and eighty-three respondents were interviewed via telephone and asked to rank their agreement with statements pertaining to healthcare cost and quality on a 5-point Likert scale. **Results:** Respondents were representative of the general population in ethnicity and housing type but lower income households were over-represented. 79.6% of respondents agreed that Singapore had a good healthcare system and 57.5% agreed that the government provided good and affordable healthcare to Singaporeans. The majority agreed that healthcare was generally affordable, especially at polyclinics (78%) and restructured hospitals (50%) and that the quality of healthcare in Singapore was high. Comparing primary and tertiary care, there was uniformity in the perception of quality at both levels but respondents assessed tertiary healthcare to be less affordable ( $P < 0.0001$ ). **Conclusion:** Singaporeans are confident in the healthcare system. The quality of Singapore healthcare is generally regarded to be high although there are growing concerns regarding the affordability of healthcare.

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**Key words:** Health survey, Healthcare financing administration, Quality of health care

### Introduction

Healthcare is increasingly dominating the policy agenda in developed countries. In the United States, healthcare has been ranked only behind the war in Iraq as the issue the American public would “most like the president and Congress to act on next year”,<sup>1</sup> while 19% of Canadians deemed healthcare the “most important issue facing Canada”.<sup>2</sup> The Prime Minister of Singapore, Mr Lee Hsien Loong, has identified rapidly growing demand for healthcare services as a key challenge and has further emphasised the necessity of getting “the economics of healthcare right”.<sup>3</sup>

Healthcare by its nature is emotive and understanding how the public rightly or wrongly views healthcare services can provide valuable insights for policy makers, ensuring policy decisions are made with cognizance of the concerns felt by the average citizen. A deeper understanding of public perceptions of the cost and quality of healthcare can also help identify areas where communication of policy or practice may need to be strengthened for more appropriate utilisation of services and obviating of unfounded anxieties.

We sought in this survey to ascertain public perceptions of the Singapore healthcare system in general, paying special attention to issues related to cost and quality of primary healthcare vis-a-vis tertiary healthcare.

### Materials and Methods

A sampling frame comprising 6146 random telephone numbers from the 2005/2006 of the Singapore telephone directory was generated. Trained interviewers then conducted the survey via telephone using a questionnaire that was purpose designed for this survey. Respondents were asked to rank their agreement with statements pertaining to healthcare cost and quality on a 5-point Likert scale. Demographics on household income, healthcare services utilisation, ethnicity and type of housing were also collected. The survey was carried out in August 2006.

### Statistical Analyses

The chi-square test was used to determine statistical relationships between variables and *t*-tests and ANOVA for comparison of differences. *P* values of  $< 0.05$  were

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Table 1. Characteristics of Survey Respondents Compared to General Singapore Population

Variable	Survey respondents (N = 1783) (%)	General Singapore population (%)
<b>Race</b>	missing 1.7%	
Chinese	74.2	75.56
Malay	12.6	13.64
Indian	10.5	08.70
Others	02.6	02.10
		(From General Household Survey 2005 <sup>4</sup> )
<b>Monthly household income (S\$)</b>	missing 11%	
<1500	17.92	19.06
1500-3000	36.54	22.26
3000-5000	28.49	18.72
5000-7000	9.1	19.12
7000-10,000	5.69	10.60
>10,000	2.83	0.09
		(From Singapore Census of Population 2000 <sup>5</sup> )
<b>Housing type</b>	missing 8%	
Public flats	86.7	87.15
Private flats	6.7	8.11
Private houses	6.7	4.74
		From Singapore Census of Population 2000)

taken as statistically significant.

## Results

### Survey Population

There were 1783 respondents to the survey. Of the 4363 non-respondents, approximately half were uncontactable at the number listed and the other half declined to participate. There was no difference with respect to ethnic group (directly queried for respondents and presumed as Chinese, Malay, Indian or Others based on the last names for non-respondents) and housing type between respondents and non-respondents.

Lower income groups were over-represented in the survey. However, the survey population was comparable to the general population in terms of ethnicity and housing type (Table 1).

### Perceptions of Healthcare in Singapore

Respondents were generally satisfied with healthcare in Singapore with 76.9% of respondents agreeing or strongly agreeing with the statement “Singapore has a good healthcare system”. Sub-group analysis by household

income revealed that higher household income was negatively associated with agreement with this statement ( $P = 0.021$ ). 57.5% of respondents agreed with the statement “The government provides good and affordable basic medical care to Singaporeans” and higher household income was again negatively associated with agreement ( $P < 0.0001$ ) (Fig. 1).

The quality of healthcare was generally well regarded by respondents. 55.9% and 65.7% agreed or strongly agreed that they could receive good medical treatment at polyclinics and private general practitioners respectively, while 65.5% and 46.7% agreed or strongly agreed they could receive good medical treatment at restructured and private hospitals respectively. It should be noted that 42.1% of respondents were neutral regarding their perception of quality of treatment in private hospitals as opposed to 26% for restructured hospitals (Fig. 2).

With regard to the cost of healthcare, 45.1% of respondents agreed or strongly agreed that healthcare was affordable while 29.3% disagreed or strongly disagreed. Sub-group analysis by household income revealed that higher household income was positively associated with agreement that healthcare was affordable ( $P < 0.001$ ).

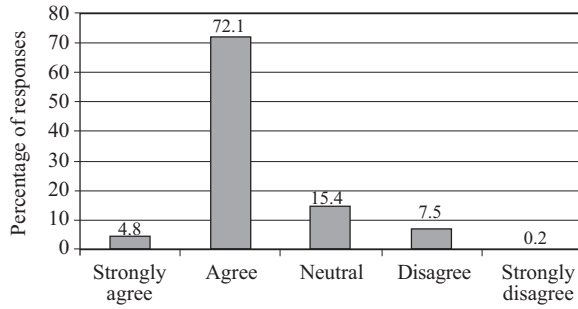
When asked specifically about the cost of healthcare by facility, 78%, 45.8%, 50%, and 11.9% of respondents perceived polyclinics, private general practitioners, restructured hospitals and private hospitals affordable respectively (Fig. 3). Respondents were almost equally divided on whether the cost of medicines in Singapore was affordable (39.7% agreeing versus 34.2% disagreeing with 25.9% being neutral).

### Perceptions of Primary and Tertiary Healthcare Services

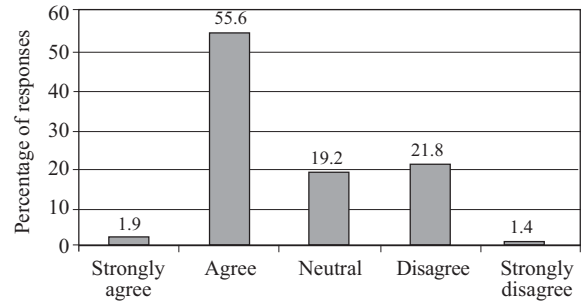
When aggregated on a 10-point scale (Strongly agree = 5, Strongly disagree = 1) combining polyclinics and private general practitioners as primary healthcare and restructured and private hospitals as tertiary healthcare, there was little difference in the perception of quality of care between the 2 categories ( $P = 0.62$ ). However, respondents assessed primary healthcare to be more affordable than tertiary healthcare ( $P < 0.0001$ ) (Fig. 4). Households with income <\$1,500 per month had lower scores than households with income >\$1,500 per month ( $P = 0.024$ ) but respondents regardless of household income had common perceptions of the affordability of tertiary care. Increased age groups (>40 years of age versus <40 years) also had lower scores for affordability of care but this may be related to lesser exposure to tertiary care for those <40 years of age.

## Discussion

Singaporeans are generally satisfied and confident in the Singapore healthcare system. 76.9% agreeing “Singapore has a good healthcare system” is an achievement in itself,

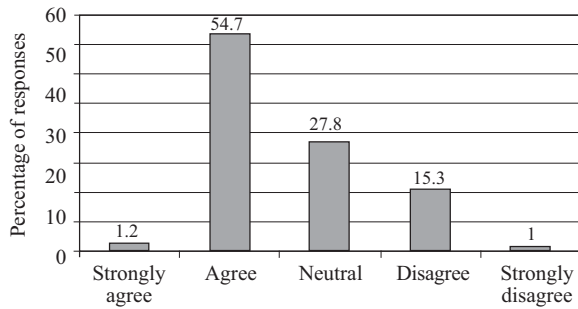


Singapore has a good healthcare system (N = 1760).

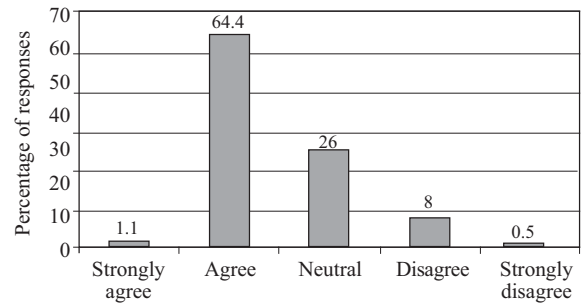


Government provides good and affordable basic medical care to Singaporeans (N = 1777).

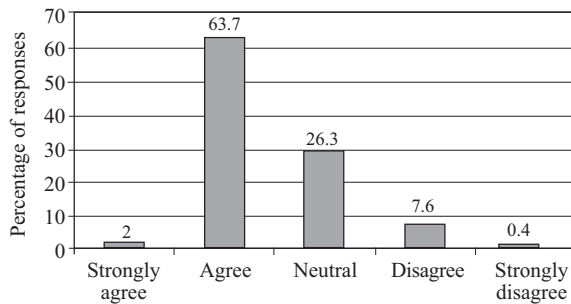
Fig. 1. Survey responses on Singapore's healthcare system in general.



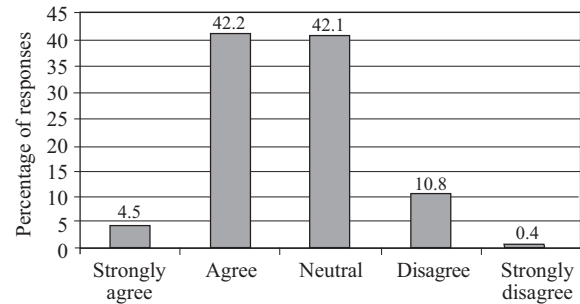
I can receive good medical treatment at polyclinics (N = 1706).



I can receive good medical treatment at restructured (government) hospitals (N = 1772).



I can receive good medical treatment at general practitioner clinics (N = 1768).



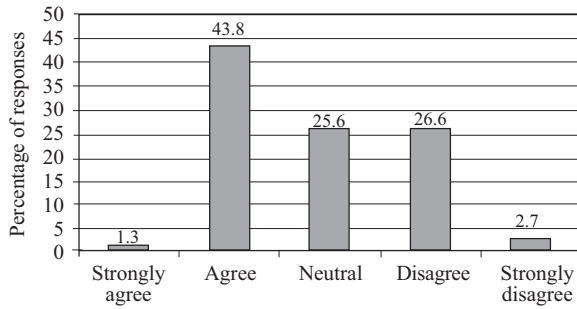
I can receive good medical treatment at private hospitals (N = 1759).

Fig. 2. Survey responses on the quality of healthcare in Singapore.

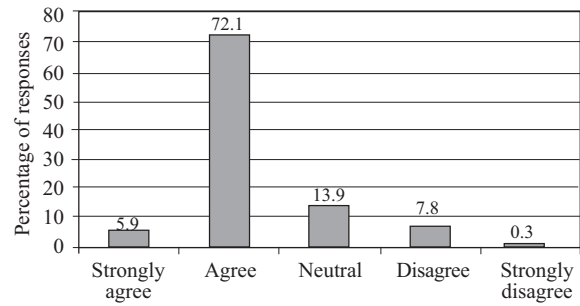
but this figure takes on additional significance when contrasted against results from surveys conducted in other countries. For example, a 2006 nationally representative telephone study revealed that 55% of Canadians opined that their healthcare system needed a complete rebuilding from the ground up or some fairly major repairs,<sup>2</sup> while 76% of Americans felt that the US healthcare system needed fundamental changes or be rebuilt completely.<sup>6</sup> The Employee Benefit Research Institute (EBRI) in publishing its 2006 Health Confidence Survey (a telephone survey of 1000 Americans randomly selected through their telephone numbers) reported that 6 in 10 Americans rated their healthcare system as fair (28%) or poor (31%) and further noted that the percentage rating the system as poor

had doubled since the first survey in 1998.<sup>7</sup> However, there are areas of concern for the Singapore healthcare system – the statement “The government provides good and affordable basic medical care to Singaporeans” was repeated from a 2003 Feedback Unit survey<sup>8</sup> of 2027 respondents to assess changes in public sentiment and we found a 22.4 percentage point difference in respondents agreeing with the statement (80% in 2003 versus 57.6% in 2006).

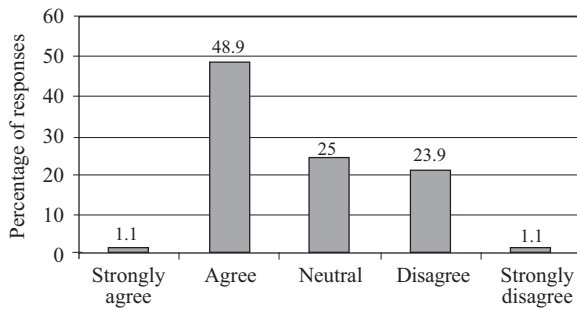
The level of confidence in the quality of healthcare provision in Singapore (respondent agreement of receiving good medical care ranging from 46.7% to 65.7% for the various healthcare sites) falls somewhere between ratings received by the American and Canadian systems: In the United States, the EBRI survey showed that the majority of



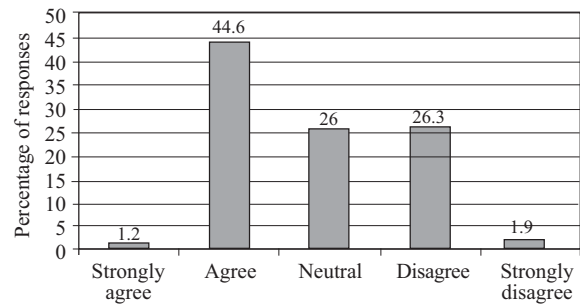
Healthcare in Singapore is generally affordable (N = 1769).



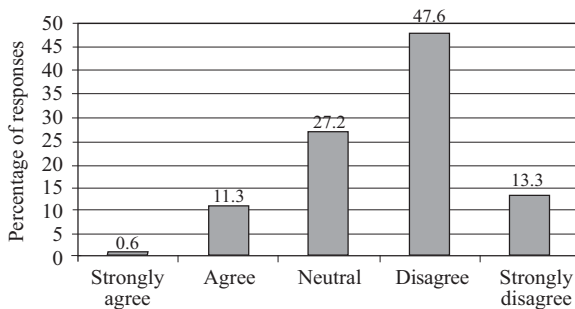
Medical services provided at the polyclinics are affordable (N = 1758).



Medical services provided at the government hospitals are affordable (N = 1750).



Medical services provided at general practitioner clinics are affordable (N = 1740).



Medical services provided at private hospitals are affordable (N = 1757).

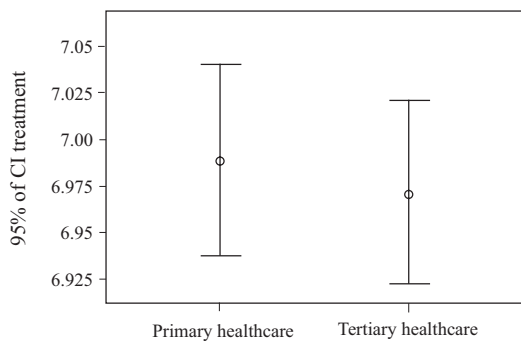
Fig. 3. Survey responses on the cost of healthcare in Singapore.

Americans were satisfied with the quality of medical care received with only 9% reporting they were “not too satisfied” or “not at all satisfied”, while 55% of the Canadian public believed Canadians were receiving quality healthcare services with 37% disagreeing.<sup>2</sup>

The issue of costs, however, paints a different picture and Singapore emerges far more positively. While 29.3% of respondents disagreeing that healthcare in Singapore was affordable merits some concern, it should be seen in the context of other developed countries’ experience. Nearly 2 out of 5 Americans (38%) reported “somewhat serious” or “very serious” problems paying for their own or their family’s medical care. A similar proportion reported difficulty paying for health insurance in the 2 years preceding the survey.<sup>4</sup> Singapore has far more latitude to spend on healthcare compared to other countries given the current

modest spending on healthcare of 3.7% of Gross Domestic Product (GDP) or 1118 international dollars per capita which compares very favourably with for example, the United States of America (15.4% of GDP; 6096 international dollars per capita) or the United Kingdom (8.1% GDP; 2560 international dollars per capita).<sup>9</sup> The Singapore government has announced increased government spending on healthcare of S\$350 million or an 18.1% increase over the preceding year for financial year 2007/2008<sup>10</sup> and signalled its readiness to accept even a doubling of national health expenditure if necessary to ensure a “nation of healthy Singaporeans”.<sup>11</sup> Hence, healthcare in Singapore can continue to be affordable to the majority of Singaporeans given the current low expenditure, the measures taken to control costs and the government’s preparedness to increase state funding for healthcare.

Drug pricing was highlighted by a large proportion of respondents and we postulate this is related to the costs of prescription non-standard medicines as medicines on the Standard Drug Lists 1 and 2 are generally very affordable. Recent releases of drugs such as Sutent® which is reported to cost between S\$8000 and S\$10,000 per month<sup>12</sup> as well as growing awareness of non-standard pharmaceuticals, such as Herceptin®, which are unsubsidised may have contributed to the perception amongst 36% of the respondents in our survey that the cost of medicines in Singapore is unaffordable. The balance between containing costs arising from prescription drugs and ensuring access to clinically indicated medicines is a global challenge and



Perception of quality of primary and tertiary healthcare medical services (Aggregate of Public and Private Providers) ( $P = 0.62$ ).

Fig. 4. Comparison of primary and tertiary healthcare quality and affordability.

policy makers in Singapore will have to adroitly navigate the competing demands and communicate effectively to the public to allay fears that high drug prices will deny the poor needed medications.

#### Primary and Tertiary Care Comparisons

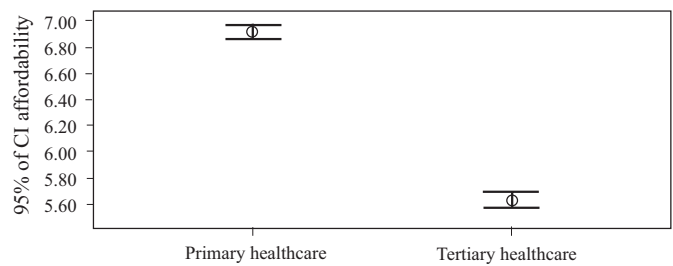
The uniformity of quality ratings through the different echelons of the system with both primary and tertiary facilities receiving high ratings is important as Singapore gears up for “right siting”. The significant differences in perception of the affordability of primary care versus tertiary care are meaningful and can be used to encourage the public through pricing levers to right site their care since confidence with regards to quality appears to be satisfied at both levels.

The disparity in perceptions between public and private tertiary healthcare may not reflect reality and may instead be related to lower income households being overly represented amongst the respondents who may have had no exposure to private tertiary healthcare (42.4% of respondents were neutral regarding the statement “I can receive good medical treatment at private hospitals” and the percentage was greater than half for lower income respondents).

#### Limitations

The survey is limited by the absence of a defined sampling frame and the need to draw random telephone numbers from the Singapore telephone directory which lists only fixed telephone lines. However, this is mitigated by the close approximation of the profile of the respondents to the national profile with respect to ethnic group and housing type.

Direct comparisons with other national surveys are not possible and the comparisons made here should be taken in the appropriate context as many of the cited surveys from Canada and the United States do not provide details of the methodologies of sampling and response rates are often not provided.



Perception of affordability of primary and tertiary healthcare medical services (Aggregate of Public and Private Providers) ( $P < 0.0001$ ).

## Conclusion

Singaporeans are confident in the Singapore healthcare system and sentiments appear to be more positive when compared to other countries. There is assurance that the quality of Singapore healthcare is generally high though there are concerns, albeit not as pronounced in other developed countries, regarding the affordability of healthcare. Primary and tertiary care enjoy equally high quality ratings although there is a perception that tertiary healthcare is less affordable compared to primary healthcare. The confidence in quality across the various echelons of care in the Singapore system can be used effectively in promoting “right siting”.

#### Acknowledgement

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