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An exploratory assessment of willingness to pay for health care in Hong Kong

Key Messages

1. Focus groups are useful in eliciting information on willingness to pay for health care.
2. Conjoint analysis is a valuable technique to evaluate health economic data.
3. Information derived from these techniques is useful to both policy makers and health service providers for reference and to researchers for future hypothesis generation studies.

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Introduction

Willingness to pay has developed into an invaluable research tool to investigate public preferences for goods that do not have a free market price. In particular, it has commonly been used in environmental and transport economics.[1,2] The two major variations of this form of assessment are known as contingent valuation (CV) and conjoint analysis (CA).

Contingent valuation involves asking individuals how much they would be willing to pay for certain goods or services. This sum can be elicited in a number of ways: open-ended (name your sum), iterative bidding (increase/decrease to find the cut-off), payment card (choose the card with the sum closest to your maximum), and closed-ended (answer yes/no, with the sum varied across respondents).[3] Contingent valuation has been commonly used in environmental economics and is increasingly used in health economics.[4]

Conjoint analysis involves presenting individuals with hypothetical scenarios containing different levels of attributes (eg convenience, perceived quality of service) believed to be important, with price treated as just another attribute. Preferences can be elicited by ranking or rating all scenarios independently or by pairs. This technique is very popular in market research and transport economics.[5] So far, health economists have primarily used CV rather than CA.[4,6]

Studies conducted in other countries have assessed the importance of individual, household, and facility level variables in an individual's health care choices.[7] Several local studies have identified social and demographic characteristics of private and public health care users, their general health, needs, level of satisfaction and expectations.[8-12]

Aims and objectives

The purpose of this study was to identify the interacting explanatory variables associated with an individual's choice of health care in Hong Kong and to develop an in-depth understanding of the underlying reasons for the association. An individual's preference among the attributes in making health care choices was also examined. The specific objectives were to:

1. Identify how people rate the relative importance of health care attributes by CA.
2. Identify the explanatory variables affecting an individual's choices of health care and the underlying reasons for their association.
3. Identify what kind(s) of satisfaction/dissatisfaction is/are actually experienced from the existing medical care service.
4. Suggest the aspects of medical care service that can be improved (where possible).
5. Identify how people perceive the quality of health care that can help structure survey items in this study area.
6. Test the appropriateness of using focus groups to collect data.
7. Generate hypotheses for further testing in a later survey.

Table   Attributes of hypothetical private clinics used in the conjoint analysis

Option	Consultation fee (HK$)	Waiting time	Opening hours	Doctors' years of experience
A	$100-199	10 minutes	9am-7pm	<5
B	$200-399	30 minutes	9am-5pm	<5
C	$400-600	2 hours	24 hours	<5
D	$100-199	30 minutes	24 hours	5-9
E	$200-399	2 hours	9am-7pm	5-9
F	$400-600	10 minutes	9am-5pm	5-9
G	$100-199	2 hours	9am-5pm	≥10
H	$200-399	10 minutes	24 hours	≥10
I	$400-600	30 minutes	9am-7pm	≥10

Methods

This study was conducted from March 1997 to February 1998.

Focus groups

Quota sampling was used and telephone numbers were generated randomly by changing the last digit of directory numbers. An incentive (HK$500) was provided to assist recruitment. Participants (n=29) were divided into four focus groups and discussions (lasting 2 hours) were held at the University of Hong Kong School of Continuing and Professional Education. In order to make the scope of the discussion more focused, five common health disorders representing different degrees of severity were introduced:

- Respiratory: you will have coughing spells, fever; chest tightness and difficulty in breathing and your sleep may be disrupted
- Asthma: you will have difficulty in breathing
- Angina/heart disease: you will feel tightening and pain in your chest possibly radiating down your left arm
- Musculoskeletal: pain in arm or leg
- Digestive: pain in stomach

Each respondent had to recall their experience of suffering of these health disorders/symptoms and comment on each medical option for handling them.

The focus group data (transcribed into English) were analysed with a software program used for development, support and management of qualitative data analysis projects (NUD*IST 4, QSR International, Cambridge, MA, US). The data were indexed to allow linkages between categories and data to be identified.

Conjoint analysis

At the end of the discussion, focus group members were asked to imagine that they suffered from a respiratory disorder (that gives them pain for 1 day). By using a fractional factorial orthogonal array, each member was presented with nine private clinic descriptions, such that each description contained four attributes (consultation fee, waiting time, opening hours, doctors' years of experience) and each attribute was assigned one of three possible levels

of the respective attribute (Table). Focus group members had to rank-order nine private clinics, indicating their preference for alternative ways of treatment.

Based on the rank order data, a market research statistical package was used to calculate the relative importance of each attribute using standard CA techniques.[5,13] The results helped identify the effect that these attributes had on medical care choices.

Results

Focus group profiles and health problem experiences

Overall, the small sample size of focus groups may limit generalisation to a larger population. Discrepancies between the focus groups and the population were not very large, given the small number of persons in each focus group. The focus groups were broadly representative of the Hong Kong population in terms of demographic characteristics.

Focus group participants had mostly suffered from respiratory (80%), digestive (48%), or musculoskeletal disorders (59%) in the previous year. None suffered from asthma. Regarding the last two health problem occurrences, private clinics and patent medicine (ie not prescribed by a doctor) were the most common treatment options for both respiratory and digestive disorders. Chinese medicine practitioners were mostly sought for handling musculoskeletal disorders.

Conjoint analysis

The utilities and the relative importance (RI) each respondent assigned to each of the four attributes of the private clinics are summarised, as follows:

1. The consultation fee (median RI=0.44, mean RI=0.41) is particularly important in affecting preference.
2. There was an almost significant difference at the 5% level in the relative importance of consultation fee among those with different household incomes (P=0.06). There was a significant difference in the relative importance of consultation fee among those with different per capita incomes (P=0.03). The fitted model revealed that the higher the household or per capita income, the lower the relative importance of consultation fee.
3. For opening hours, there was a significant difference in its relative importance among those with different household incomes (P=0.03) and those with different per capita incomes (P=0.05). The fitted model revealed that the higher the household or per capita income, the higher the relative importance of opening hours.
4. There was a significant difference in relative importance of doctors' working experience among the four age-groups (0-29, 30-39, 40-49, ≥50 years) [P=0.04]. Moreover, there was an almost significant difference (at the 5% level) in the relative importance of working experience among those living in the different types of housing (public rental, home ownership scheme,

private) [P=0.07]. The highest relative importance of this attribute was attached by the age-group 30-39 years (median RI=0.36) and those with privately-owned housing (median RI=0.23).

5. When gender was combined with the effect of per capita income, the fitted model for female versus male showed that the relative importance of opening hours for females was higher than for males, and the higher the per capita income, the higher the relative importance of opening hours.

Discussion

It may be argued that in any country personal income may influence the importance of treatment costs to health care choices. However, people may be less concerned about treatment costs in some countries such as Singapore, where there is national medical insurance coverage, than in Hong Kong where there is no such national health scheme.

Among accessibility factors, waiting time and having medical facilities close by may be important in affecting health care choice. The conjoint results suggest that women valued the 'accessibility' attribute (in terms of opening hours) more than men, which may be related to gender roles and obligations, such as responsibility for family matters.

Those having a full-time job and less available spare time than part-time employees or unemployed persons may be more willing to pay for more accessible care (in terms of short waiting times and facilities close by), so as not to obstruct their normal working schedule.

Many people spend an increasingly large portion of their leisure time with friends, colleagues, neighbours, and peers. Family and social networks may influence health care choices by reference to the recommendations of others.

The dominant value of 'science' in a well-educated population and a wide variety of information (including from the media) may influence health care knowledge and approaches to treatment. In general, people are educated to believe in the effectiveness of western medicine. However, some still maintain their beliefs in traditional treatment methods as an integral part of their own culture, and this too may affect their health care choices.

A physician's familiarity with an individual's case history is also important in influencing health care choices. Limited resources in the public sector limit the degree of continuity of care available. Those who are concerned with the continuing relationship between patient and caregiver may be persuaded to pay for higher treatment costs for that convenience (ie choosing their preferred private clinic doctors). The significance of 'continuity' and 'choice of doctor' in health care utilisation has been addressed in other local studies.[14,15]

Some focus group participants complained that private clinic doctors examine each case faster and provide little explanation, while specialist doctors prolong the treatment period. In contrast, private health care is mostly perceived as offering a better quality of service in terms of convenience, comfort, and personal attention. Despite higher treatment costs, those entitled to medical benefits/insurance may still be willing to seek help from this sector. Moreover, the limited coverage of medical insurance does not affect their use of Chinese medicine.

In the public sector, access to heavily subsidised health care is universal and is especially beneficial to those with low incomes and persons needing long-term treatment. The government provides medical fringe benefits to civil servants and their family members, so that their treatment costs are subsidised by the public sector. At the same time, increasing patient loads means that the limited subsidised care services need to be rationed, exacerbating problems of delivery. As derived from the focus groups, there was dissatisfaction with some aspects of health care services in the public sector that need to be improved. These included short consultation times, long waiting times, no stable doctor to facilitate continuity of care, and no freedom to chose doctors.

Conclusions

This study attempted to gain an exploratory insight into how and why people make health care choices in Hong Kong. This information is useful reference material for both policy makers and health service providers. Focus groups and CA are well-established in the socio-medical literature and provide a valuable source of information for hypothesis generation. Further studies, employing both quantitative and qualitative methods, should examine each of the explanatory variables addressed here in more depth, so as to obtain a better understanding of different people's needs and preferences.

Acknowledgement

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