The impact of non-health attributes of care on patients' choice of GP

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Abstract

After completing a structured evaluation of their general practitioner (GP) in terms of non-health factors, 128 people who had visited their GP in the past six months for treatment of a minor condition were administered a discrete choice experiment (DCE) designed to evaluate their preferences for non-health attributes of care within a general practice consultation. SAS and SYSTAT were used to analyse responses. Trust, legitimation, recognition of and support for emotional distress, dignity, reassurance and information (whether it is asked for or not), were the attributes respondents valued most highly. In general, participants were unwilling to change GPs.

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Introduction

Health outcomes are changes in health status which occur in part as a result of contact with health care services. Such outcomes are regarded as the main reason individuals consult health care providers and their measurement has been advocated as a means of establishing the value of health services (Leeder, 1995, Hall, 1996). However, individuals may value attributes of health care other than health outcomes. Patients' decisions about whether to consult a doctor, which doctor to consult, whether to change doctors and their level of satisfaction with the care provided by the doctor may be influenced by such factors as information, reassurance and participating in decisions about their health (Mooney, 1991, Mooney, 1994, Hall, 1996,Williams, 1996).

Previous qualitative research by the author indicated that patients regarded the following characteristics of doctors as being important: being able to provide reassurance, being trustworthy, taking note of patients' concerns and ideas about their health and illness, supporting patients' emotional distress, being open to patients' participation in decision making, giving information and treating patients with dignity (Haas, 2001). However, these results give no indication of either the relative importance of these attributes or to what extent factors such as health care setting or demographic characteristics influence individual's preferences.

In Australia, general practices operate as independent small businesses. Individuals are free to choose which GP they visit, may visit more than one GP during the same period of time and may change GPs as often as they like. Approximately 90% of Australians visit a GP each year and, through them gain access to diagnostic, pharmaceutical and specialist services (Commonwealth Department of Health and Aged Care, 2000).

This paper reports the results of a stated preference discrete choice experiment (DCE), which was designed to evaluate individual's preferences for the non-health factors listed above. The theory behind DCE and the methods used in a DCE are described before the results of the experiment are presented and discussed.

Discrete Choice Experiments

Consumers are said to make discrete choices when the options available are indivisible; that is, the choice is to consume or not. Everyday examples include consumer goods (such as cars, fridges, cups of coffee etc), residential location, occupation and travel mode (Lancaster 1974, Louviere, Hensher and Swait, 2000). The methods are consistent with Random Utility Theory (RUT) in economics and psychology, (Manski, 1977) and with Lancaster's consumer theory (Lancaster, 1974). RUT states that utility (satisfaction or happiness) is comprised of a systematic (observable) component and a random (unobservable) component, both of which need to be taken into account when investigating utility. Lancaster's theory states that a consumer good can be disaggregated into a number of characteristics or attributes, each of which contributes to utility. For example, characteristics of a car which consumers may take into account when making a decision to purchase might include size of engine, safety features, colour and time to delivery. Although utility is not directly observable, if the choice to consume a good can be observed from either actual (revealed preference) or hypothetical (stated preference) data, discrete choice methods can be used to estimate an index of utility from the observed choices. In this way, preferences for complex multi-dimensional goods can be studied and the contribution each attribute makes to the choice can be estimated.

DCE has been widely used in marketing and transport and environmental economics. Its use in health economics and health services research is relatively new, but expanding.

So far, it has largely been applied to direct evaluations of different policy relevant attributes of health care interventions. In general, the attributes evaluated have been health service or program-specific factors such as waiting times, type of operation (keyhole versus other), day versus overnight stays, pain management and environmental or convenience factors (Graf al., 1993, Ryan and Hughes, 1997, Markham, 1999, Ryan, 1999, Ryan, 2000, Vick ,1998, Bate,1998, Ratcliffe, 1999, Turnbull et al 1999, Hall 2001). Factors specific to individual-level consultations such as those listed above have not been evaluated using this method.

Methods

The DCE designed for this project consisted of seven attributes, five with two levels and two with four levels (see Table 1). This represents a total of 512 possible scenarios (2^5 x 4^2). However, as individuals are unlikely to be willing or able to respond to all 512 scenarios, experimental design principles were used to determine that the smallest number of respondents needed to ensure that all 512 scenarios were evaluated was 128 (Louviere, 2000). The experimental design used in this DCE ensures that the effect of each attribute can be estimated independently from the effect of all other attributes. The context chosen for this study was a consultation with a general practitioner (GP) for one of four reasons: check-up, upper respiratory tract infection (URTI), vaccination (e.g. for 'flu or travel) or minor injury. These conditions were chosen because they have been cited as common reasons for consultation with a GP but at the same time represented a range of reasons which meant that a wide range of respondents would find the situations realistic.

The DCE was operationalised as a self-complete survey consisting of three parts. First, respondents were asked to evaluate their last visit to their GP (for one of the test

conditions) in terms of the attributes of interest (see Table 1). Then they were shown 24 hypothetical situations created by varying the same seven attributes. The first eight scenarios were the same for all participants and used only the end-points or extremes of the levels (i.e. yes or no). The next 16 scenarios seen by each respondent were chosen randomly from among the 512 versions of the full factorial design. At the end of each scenario, respondents were asked to choose between their current GP, the hypothetical GP (i.e. the one described in the scenario) or another (unspecified) GP (Table 2). Offering consumers the choice of another (unspecified) GP as a possible choice mirrors a realistic situation where a person needing to consult a GP might decide not to visit either their current or the hypothetical GP. In the third section of the survey, respondents were asked to supply demographic details (age, sex, marital status, educational level achieved, and personal income) and health care information (how many times they had visited the GP in the previous 12 months and how long they had been a patient of their GP).

A market research company was commissioned to recruit participants and provide trained interviewers to answer any questions respondents had about the survey. A random sample of English speaking people aged 18 and over, living in the Sydney metropolitan area, were approached and included in the study if they had visited the doctor within the past 6 months for any one of the four reasons listed above and agreed to participate. Responses were anonymous as consent forms and surveys were not attached to each other or dealt with together. A description of each attribute was included in the survey instructions, which respondents read before they completed the survey. The study was approved by the Human Ethics Committee of the University of Sydney.

Analysis

The aim of the analysis was to determine whether the preferences of respondents for the specified attributes of health care were consistent with the model specified (in this case, a multinomial logit model (MNL). In an MNL model one of the choices must represent the "base case" and be set to zero in order that the other choices can be compared to it. In this case the choice labelled "another doctor" was set to zero, because the probability of choosing either the current GP or the hypothetical GP were of most interest. This means that a choice of either current or hypothetical GP is judged as the probability of an individual choosing their current GP or the hypothetical GP relative to another (unspecified) GP. The software packages SAS (SAS Institute Inc, 1989) and SYSTAT (SPSS Science, 1995) were used for the analysis.

Results

A total of 208 individuals were approached to participate. Of these, 145 were eligible (i.e. had visited their GP in the past 12 months for one of the conditions) and completed questionnaires were obtained from 128 respondents (response rate 88%). Equal numbers of responses were obtained for each of the 4 reasons for consultations, and an almost equal number of male and female respondents were recruited. Most people were married and reported a personal (own) income of under $40,000 per year. On average, respondents had consulted their GP more than 5 times in the past 12 months and had been a patient of their current GP for an average of 11 years (Table 3).

Evaluation of last visit to GP

Predictably, most respondents evaluated their last visit to their GP positively. All respondents (100%) considered that their GP treated them with dignity and nearly all indicated that their GP listened to them, took notice of what they said about their health

(98%) and was trustworthy (99%). More than 80% of respondents also believed that their GP recognised the pain and distress associated with being ill and provided them with reassurance. Nearly half (49%) of the respondents perceived that they received information from their GP if they asked for it and 45% perceived that they received information whether they asked for it or not. However, it is not clear if respondents preferred either of these scenarios. Nearly 80% of people believed that their doctor respected their decisions about their health, with more indicating that this occurred in conjunction with the GP offering his or her advice or opinion about the individual's health. Thus, 21% of respondents indicated that they did not participate in decision making when consulting their GP.

Responses to scenarios

As participants were offered three choices (current GP, hypothetical GP or another GP), and, as explained in the Methods section, the results can be interpreted as the probability of an individual choosing their current GP or the hypothetical GP relative to another (unspecified) GP. Overall, 81 of the 128 respondents (63%) chose their own general practitioner (GP) in all 24 scenarios. Such responses are termed "non-trading".

The results of the aggregate model are shown in Table 4. Five of the seven attributes are significant with *participation in decision making* the exception and *receiving information whether it was asked for or not* being the only significant level of the information attribute.

Table 4 also illustrates the impact of the reasons for consultation and various socio-demographic variables. The probability of choosing either their current GP or the hypothetical GP (relative to "another GP") decreased if the reason for a consultation

was a vaccination, increased if the reason was a check-up or an upper respiratory tract infection and was not affected if the reason for the consultation was a minor injury.

The longer a person had been with their GP (measured in years), the more likely they were to choose their current GP or a hypothetical GP rather than another GP. However, the probability of choosing their current or a hypothetical GP (rather than another GP) was not affected by the number of visits made to the GP in the past 12 months.

The impact of the socio-demographic variables was mixed. Respondents were more likely to choose their current GP or the hypothetical GP if they had a Bachelor's degree or higher and less likely to make this choice if they had not completed secondary school or had an personal income of between $20,000 and $39,000 per year.

Characteristics of non-traders (those who always chose their own GP) and traders (those who varied their choice) were compared. Non-traders were more likely to evaluate their current GP as giving them the opportunity to make their own decisions, had a higher than average number of visits to the GP in the past year and were older. Although the trends in the data indicate that traders were less likely to evaluate reassurance positively and to be female, the differences between the groups in relation to these variables were not significant (Table 5).

Discussion

The sample of people who participated in this research was generally representative of the population living in metropolitan Sydney (ABS, 1999). Respondents had visited their doctor an average of 5.9 times in the past 12 months, a figure similar to the Australian average of 6.5 (Hynes, 2000). Participants indicated that they had been

consulting their current GP for an average of 11 years. Although not directly comparable, results from another Australian study show that 63% of respondents had been patients of their GP for at least 5 years (Lupton et al., 1991).

Six of the seven non-health attributes evaluated were important to respondents, reinforcing the results of previous qualitative research. However, the relative importance of the attributes to patients is of most interest. It is not surprising that respondents indicated that they preferred a GP whom they perceived as being trustworthy, who legitimated their ideas about their health, treated them with dignity and recognised and supported their emotional distress. It may be useful for GPs to know that participants preferred to be given information rather than having to ask for it or not receiving any at all. Given the extensive literature on the importance of participating in decision making, the fact that respondents were relatively neutral about this aspect may be somewhat unexpected (Degner, 1992, Deber, 1996, Coulter, 1997, Guadagnoli, 1998).

That many participants were unwilling to "trade" indicates a reluctance to change GPs. Those most likely to always choose their own GP were older and had consulted their GP more often in the past year. Interestingly, non-traders were more likely to perceive that their GP gave them the opportunity to make their own decisions regarding their health. This suggests that for older patients, who are more likely to consult their GP about a chronic or complex condition, participating in decision making increased the level of satisfaction they felt with the process of care employed by their GP. Although the differences between the groups was not significant for any other variables, the trends in the data suggest that not being provided with reassurance and/or being female could

contribute to a decision to change GPs. Safran et al (2001) also found that women were more likely to change primary care physicians.

Changing doctors is a difficult decision for many people to make even when it is made necessary by a change of residence. In a study by Lupton and colleagues (1991), 72% of respondents reported that they had never changed GPs. An observational study of adults in the USA (Safran et al, 2001) reported that 20% of patients voluntarily left their primary care physician's practice over a 3-year period and that the quality of the patient-physician relationship (including communication and trust) significantly predicted patient loyalty. In the context of this study, respondents' unwillingness to change may also have been affected by the use of minor, relatively acute conditions as the reasons for consulting a GP. An individual's attitude to search costs may change if they have a chronic condition, for example, arthritis or diabetes. However, Safran et al (2001) found no difference in health status, including the number of conditions and physical or mental functioning between individuals who voluntarily left their primary care physician.

Overall, there is little evidence that it is common for patients to act as "consumers" in relation to general practice in the same way as they might when choosing other goods. Donaldson, Lloyd and Lupton (1991) found a lack of consumer-oriented behaviour amongst patients attending general practices in Western and Northern Sydney, particularly amongst older patients. Leavey, Wilkin and Metcalfe (1989) suggested that although patients are competent to make choices about some aspects of general practice, including characteristics of the doctor, they are unlikely to value these more highly than clinical competence, which they may not believe they are competent to judge.

In addition, there is some evidence that, generally, health care consumers prefer the status quo. Research has shown that within the context of maternity care, rheumatology and screening for bowel cancer, patients choose the type of care or service they have experience with (Cartwright, 1979, Bate, 1998, Salkeld, 2000). This preference for the status quo has been termed the endowment effect (Thaler, 1980) or the status quo bias (Samuelson, 1988). These effects or biases refer to the fact that individuals are more likely to prefer or value more highly goods or services they own or have experienced. Changing doctors is also made less likely by the fact that most people do not visit the doctor very often and may therefore be more willing to tolerate some less than ideal characteristics or behaviours. Again, this suggests that people with chronic or complex conditions may be more likely to switch GPs.

A labelling effect may also explain preferences for the status quo (Salkeld, 2000). If a labelling effect existed it would mean that despite the fact that the current GP and scenario GP were described in terms of the same attributes, respondents interpreted the descriptions and thence evaluated the options in a different way. This is also referred to as hypothetical bias (Salkeld, 2000). The fact that the experiment included an additional labelled choice (another GP) may have further influenced responses, as participants were free to ascribe any attributes they chose to this choice. Hypothetical bias may occur if respondents do not consider the alternatives to be real choices.

Patients may be reluctant to report that their GP does not attain the high standard implied by the statements in the questionnaire. For example, asking respondents to indicate whether their GP treats them with dignity implies that such conduct is expected of a good doctor. An admission to the contrary may be perceived to reflect badly on an individual's decision to continue to consult their GP, or even to have the potential to cause trouble, if a participant believed that the researcher could identify their GP. While

the first reason may have influenced the responses of participants in this study, the second is unlikely as no questions were asked about the identity of the respondents' GPs.

This study considered minor health conditions in the context of general practice. Health outcomes are likely to be less important in the context of interventions for minor conditions than for chronic or complex conditions. Although many aspects of primary care for individuals with chronic conditions have been studied, it would be useful to investigate the extent to which the presence of chronic conditions influences the relative preferences of patients for health and non-health outcomes (Beutow, 1995, Brady, 1990 Kaplan, Greenfield and Ware, 1989).

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Table 1 Attributes and levels in the DCE survey

Attribute	Level
Doctor treats you with dignity (dignity)	Yes
	No
Doctor recognises your pain/distress (support for emotional distress)	Yes
	No
Doctor takes notice of what you say about your health (legitimation)	Yes
	No
Doctor reassures you (reassurance)	Yes
	No
Doctor is trustworthy (trust in doctor	Yes
	No
Doctor gives you information	If you ask for it
	Whether you ask for it or not
	Only about where you can get information
	No
Doctor accepts your decisions about your health	Yes
	Yes, but also gives advice/opinion
	No, but tells you about his/her decision
	No

Table 2: Example of a scenario from the full factorial design

Scenario Number	*9*
The doctor treats you with dignity	*No*
The doctor recognises your pain/distress	*Yes*
The doctor takes notice of what you say about your health	*Yes*
The doctor reassures you	*No*
The doctor is trustworthy	*No*
The doctor gives you information	*Whether you ask for it or not*
The doctor accepts your decisions about your health	*No, but tells you about his/her decision*

If you need to go to the doctor again for a check-up, would you choose:

Your own GP? 1

The GP described above? 2

Another GP? 3

Scenario Number	*10*
The doctor treats you with dignity	*Yes*
The doctor recognises your pain/distress	*Yes*
The doctor takes notice of what you say about your health	*No*
The doctor reassures you	*Yes*
The doctor is trustworthy	*No*
The doctor gives you information	*If you ask for it*
The doctor accepts your decisions about your health	*No, but tells you about his/her decision*

If you need to go to the doctor again for a check-up, would you choose:

Your own GP? 1

The GP described above? 2

Another GP? 3

Table 3: Characteristics of respondents

Age (years)	Mean: 47.8 (range 18-80) SD: 18.2
Gender (%)	
Female	53.1
Male	46.9
Highest education level (%)	
Primary/some secondary	21.1
Completed secondary	22.7
Trade certificate/diploma/some university	23.4
Bachelor/postgraduate degree	32.8
Income (%) per year	
Up to $19,999	38.3
$20,000-$39,999	29.8
$40,000-$59,999	16.4
$60,000 or over	11.7
Not stated	3.9
Marital status (%)	
Married	60.9
Single	39.1
Number of visits to this GP in past 12 months	Mean: 5.9 (Range 1-48) SD: 6.6
Time going to this GP (years)	Mean 11 (Range 1-40) SD: 8.4
Outcome of GP consultation (%)	
Positive	98.4
Negative	1.6

Table 4: Results of DCE estimation including demographic and health information

Variable	Co-efficient	p-Value
Intercept (other GP)		
Current GP	2.598	0.0000
Hypothetical GP	-0.022	0.9684
Dignity	0.562	0.0001
Recognition of & support for emotional distress	0.700	0.0000
Legitimation	0.807	0.0000
Reassurance	0.429	0.0018
Trust in provider	0.855	0.0000
Information		
• Only about where you can get it	-0.263	0.3280
• Whether you ask for it or not	0.597	0.0065
• If you ask for it	0.113	0.5925
• No	-0.447	
Decision making		
• No, but tells you about decision	-0.245	0.3679
• Yes, but gives advice/opinion	0.201	0.4091
• Yes	0.112	0.5842
• No	-0.068	
Condition	Curr; Hypo*	
• URTI	0.576; 0.742	0.0009; 0.0079
• Vaccination	-1.344; -1.477	0.0000; 0.0000
• Minor injury	-0.102; 0.248	0.5620; 0.3606
• Check-up	0.870; 0.487	
Age		
	0.0098	0.1094
	0.033	0.0054
Sex		
• Male	0.062	0.4938
• Female	0.272	0.0903
Marital status		
• Married	0.014	0.8952
• Single	-0.104	0.5995
Visits to GP in 12 mths	0.042	0.1993
	0.027	0.5759
Years going to GP		
	0.090	0.0000
	0.093	0.0000
Education attained	Curr; Hypo*	
• Did not complete secondary	-1.057; -0.684	0.0000; 0.0427
• Completed secondary	-1.394; -1.699	
• Trade qualification	-0.207; -0.842	0.3881; 0.0116
• Bachelor degree or higher	2.658; 3.225	0.0000; 0.0000
Income	Curr; Hypo*	
• Up to $19,999	0.806; 0.956	0.0007; 0.0102
• $20,000-$39,999	-1.212; -1.002	0.0000; 0.0001
• $40,000-$59,999	-0.151; 0.229	0.4349; 0.4793
• $60,000 or over	0.557; -0.183	

* Curr = Current GP; Hypo = hypothetical GP

Table 5 Comparing non-traders and traders on selected variables

Variable	Non-traders (%)	Traders (%)	p-Value
Dignity*	100	100	N/a
Supports pain/distress*	86	91	0.5700
Legitimation*	98	100	0.5316
Reassurance*	88	77	0.1374
Trust*	100	99	1.0000
Information given whether asked for or not	46	43	0.6272
Opportunity to make own decisions	41	15	0.0090**
Number of visits in past year #	6.7	4.3	0.0129**
Female	57	47	0.3584
Married	62	60	0.8522
Age ##	52	40	0.0002**

*Attribute evaluated positively
Mean number
Mean age
** p=<0.05