

## **Title**

Unorthodox perspectives on consumer preference:

Contributions to health policy and optimal planning in primary care

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## **Abstract**

Accounting for consumer preference in health policy and delivery system design makes good economic sense since this is linked to outcomes, quality of care and cost control. Probability trade-off methods are commonly used in policy evaluation, marketing and economics. Increasingly applied to health matters, the trade-off preference model has indicated that consumers of health care discriminate between different attributes of care. However, the complexities of the health decision-making environment raise questions about the inherent assumptions concerning choice and decision-making behaviour which frame this view of consumer preference. In this article, we examine the concept of 'consumer preference' from different perspectives within economics and discuss the significance of how we model preferences for health policy makers using the example of primary care in Australia. In doing so, we question whether mainstream thinking, namely that consumers are capable of deliberating between rival strategies and are willing to make trade-offs, is a reliable way of thinking about preferences given the complexities of the health decision-making environment. Alternative perspectives on preference can assist health policy makers and health providers by generating more precise information about the important attributes of care that are likely to enhance consumer engagement and optimise acceptability of health care.

**Key words:** Preferences; health consumer, choice, primary care

## **Introduction**

Accounting for consumers' needs and preferences in health policy and delivery system planning makes good economic sense. Benefits include adherence to treatment, improved health outcomes and levels of satisfaction [1], optimal provider/consumer discussions [2], greater efficiency and cost control [3]. Interest in the consumer perspective first emerged in the 1970s along with greater emphasis on value for money in relation to public expenditure [4]. However, the concept of 'consumer preference' when applied to health care is acknowledged to be both conceptually and empirically challenging [5]. In the health context, patient satisfaction surveys are often employed but it is argued that these have inherent theoretical and methodological weaknesses, namely relating to examination of what is in essence a highly individual and personal construct [6]. In-depth interviews, though useful in yielding the individual experience, do not often reveal the complexities of how consumers value different attributes of care [7]. Methods such as discrete choice experiment [8] and conjoint analysis [9] address some of the empirical challenges. Known as probability trade-off methods [10], they are commonly used in policy evaluation, marketing and economics but are increasingly applied in health [11]. The application of such methods in the health context has indicated that consumers of health care discriminate between different attributes of care. For example, consumers with chronic knee pain prefer physiotherapy over surgery [2]; in the management of angina there is a preference for medication over invasive treatments [12]; for asthma management consumers prefer to trade-off some improvements in symptom relief for simple treatment regimes such as use of inhalers [13]; in the case of diabetes, consumers prefer information to come from an expert [14]; and consumers often have a preference for a familiar rather than unknown physician [15], and are willing to pay for a thorough examination from a familiar physician [16].

On the positive side, trade-off methods can elicit consumers' priorities by showing the relative importance of different attributes of care [10] and how valuations differ in relation to willingness to

pay. However, when applied to health matters and the complexities of the health decision-making environment trade-off methods are problematic, namely due to the assumptions about choice and decision-making behaviour which frame such models of preferences. For example, the notion that the consumer is a rational agent with a specified set of preferences who, when faced with many possibilities will select the highest-ranking option does not adequately account for the values and internal conflicts that underpin choices [17], or situations of considerable complexity and ambiguity that trigger more instinctive emotional choices that are not easily articulated but do feature in decision-making [18]. In the end, it might be the case that one option is preferred over another simply because it is and the reasoning is not readily apparent. In conjunction with this, the nature of health care is such that consumers' valuations of different care options are likely to be complicated by the uncertainty of the situation, volume of options and complexity of the decision-making environment, and the reliance on expertise. For this reason it is important to re-examine how we model preferences and to consider whether the more established trade-off preference approaches provide sufficient detailed information for health policy aimed at designing health services that fully engage consumers.

In this article, we examine the concept of 'consumer preference' from different perspectives within economics and discuss the significance of how we model preferences for health policy makers using the example of primary care in Australia. Strengthening the primary care sector is a common focus of health policy reform in western countries due to the potential to address the dramatic rise in chronic disease. Concomitantly, there is strong emphasis in health policy on consumer participation and encouraging consumers to take a more active role in decisions about health care. In this article the Australian primary care example is used to illustrate an issue that has much wider application. We commence our discussion with a review of the concept of 'consumer preference' from within the perspective of mainstream economics and follow this with a discussion of alternative perspectives often associated within heterodox economics [19]. In doing so we question whether

mainstream thinking about preferences, namely consumers are capable of deliberating between rival strategies and are willing to make trade-offs, is a reliable way of thinking about preferences given the complexities of the health decision-making environment. We use primary care in Australia as a means of developing this discussion and conclude by outlining some of the contributions to health policy if consumer preference is viewed beyond the perspective of mainstream economics.

### **Preference from the perspective of mainstream economics**

The commonly used methods for estimating consumer preferences, such as conjoint analysis, seek to find relative weights for each characteristics/attribute associated with consumption of the products and services in question. These weights are then used, along with the respective ratings on the characteristic axes, to work out total values for each option. From the economist's standpoint, preference modelling involves a presumption that consumers have both *preferences for characteristics/attributes* of, say, different healthcare regimes and *expectations about* what these regimes will entail. When most economists think of preferences what they have in mind is that consumers have the ability to make rankings over rival bundles of goods or bundles of product characteristics produced by goods/production systems. The consumer is thus presumed to be able to say with respect to any two hypothetical bundles whether they are indifferent between them or one is better or worse than the other. A bundle that is being rated can include its monetary cost as one of its characteristics. It is the process of forming expectations about rival bundles that locates them at particular points within the consumer's preference ordering on the basis of what characteristics/attributes the consumer sees them as entailing. Preferences are thus assumed to exist for combinations of particular characteristics/attributes, relative to each other, independently of the products and services about whose prospective performances in these dimensions the consumer tries to form expectations. To talk about preferences regarding products and services presumes the consumers have particular views of what characteristic/attributes these products have to offer. If consumers acquire new information that leads to changes in how they view what particular products

or services have to offer, this may change how they *rank* the alternatives between which they are trying to choose because it changes the overall scores of some or all of the bundles, but it is not normally presumed to change their underlying preferences for one combination of features versus another.

The normal view of the shape of underlying preferences presumes the presence of ‘gross substitution’—in other words, that people are always willing to substitute less of one characteristic/attribute for more of another so long as the terms of the deal are right (‘everyone has their price’). This is really important in relation to health matters because it presumes that money can always compensate for being afflicted with a health problem, so long as the amount of money is big enough. Thus, someone who suffers post-traumatic stress disorder or loses a limb in an accident at work can always be made to feel as good as they did before this happened if we offer them a suitable sum of money. Appropriate therapy or prosthetics plus a smaller sum might produce a similar or better result so the policy question then becomes whether the cost of the intervention is less than the reduction in compensation needed to restore them to where they were prior to the problem.

In some situations, however, consumers seem not to act as if ‘they have their price’. For example, a cost-benefit analyst may ask someone how much compensation they require to let their home resumed for a development and be told ‘My life is in that house, I wouldn’t move for the world’. The usual presumption is that they are trying to extort more than their minimum tolerable level on the basis that if they are the last obstacle remaining they can really exploit the problem they pose for the developers. However, it is possible that the person does not have such a motive and simply is not willing to entertain the idea of moving. Such cases imply that analysts might be wise to consider alternative views of preferences and of how people choose.

## **Alternatives perspectives on the preference concept**

Heterodox economists do not assert that people never make choices in a manner that involves trying to work out the best use of their resources by trading off costs and benefits of alternative strategies. However, they argue that it may be unwise to gather data and analyze choices on the assumption that this is generally what is going on. Preferences do not have to imply gross substitution and choice does not have to involve careful deliberation about alternatives in terms of some kind of preference ordering. For example, it may be the case that some choices do not involve looking at alternative strategies [20] while others ‘rule out’ particular strategies on the basis of particular shortcomings, regardless of how well they perform in other respects. If potential consumers of health services choose in such a manner and keep saying ‘I couldn’t possibly do that’ when presented with alternatives, rather than weighing up the costs and benefits of each option along the lines the mainstream theory presumes, the policy implications could be considerable: there would need to be focus not merely on ensuring that people were aware of what might be good for them but also on ways of getting them to think the unthinkable.

The idea that some courses of action might be ‘unthinkable’ can be readily understood by taking the view that *decisions are made by a process involving the sequential application of rules from a personal repertoire*, such that some possibilities are ‘ruled out’ right at the start of the process and others get knocked out somewhat later, until only one remains. This view of choice underpins the branch of heterodox thinking known as evolutionary economics [21]. Some rule-based choices will not involve deliberation about alternatives in some or all stages in the choice process: for example, a person may simply say to themselves ‘My next birthday is approaching, so it’s time to book my annual medical and dental inspections’. Alternative suppliers of these services may not be considered unless something happened on the previous occasion that was at odds with their rules (for example, they thought their GP did not listen to them enough or their dentist seemed to be booked out too many weeks in advance). If they do need to consider alternatives, this may involve applying rules that limit the geographical area or involve consulting particular people from their

social circles for recommendations. Then, when booking these inspections, the process may involve rapidly filtering out many suggested possibilities in an intolerant manner due to clashes with other activities or because they would be ‘too complicated’ in logistic terms, given other activities to which the person is committed. As the example suggests, some of these rules may involve thresholds of tolerance (‘too...’ as a basis for rejection) and/or minimum requirements (i.e. aspiration levels) that divide possibilities into two sets: satisfactory or unacceptable.

A rule-based view of consumer behaviour can include the mainstream view of preferences as a special case of a system of rules, just as it can include complete close-mindedness as another special case. But the repertoires of rules that people use to cope with the challenges of everyday life can imply ‘preferences’ that take a wide variety of forms. For example, preference orderings may be hierarchically structured with no implied overall scoring for each option, as in the hierarchy of needs proposed by Maslow [22], which provides the underpinnings of the ‘humanistic’ approach to economics proposed by Lutz and Lux [23]. As is evident from a survey by Drakopoulos [24], there is quite extensive literature on hierarchical preferences in economics, but very few of those who work on estimating healthcare preferences have referred or even paid lip-service to it as something that could potentially be relevant or constrain inferences that can be drawn from conjoint analysis (see Scott and Vick [25]; Ratcliffe *et al.*, [26] and other papers by these authors). People may choose using ‘Non-compensatory’ checklists, where a possible action is rejected if it is judged as not meeting one or more of their checklist’s cut-off criteria, with trade-offs only being considered amongst those options that meet all the criteria and offer more than the minimum required in some areas (cf. short-listing of job applicants against ‘essential’ selection criteria). Non-compensatory kinds of decision rules also seem to be brought into play and compensatory rules set aside due to the need to cope with information overload caused by the presence of a wide range of possibilities that differ across many characteristics (the classic study of this is Payne, Bettman and Johnson [27], while Lenton and Stewart [28], report similar findings in a very modern context—being spoilt for choice on an Internet dating site). Failure to use rules that involve computing tradeoffs may also be



associated with what are known by consumer researchers in marketing (e.g. Laaksonene [29]) as ‘high involvement’ contexts. Here, psychological/identity issues may ‘rule out’ some kinds of courses of action because they clash with core notions of self (for example, dignity issues, issues of status, anxiety about aspects of health systems). The rules of some cultures may also give rise to no-go areas in choice.

Clearly, the many different rules that make up an individual’s repertoire of rules may clash in some situations, as when a person feels in ‘two minds’ about how to take a decision. These clashes can be resolved if people organize their decision rules into a hierarchical system rather in the way that a country’s legal and constitutional system has provisions for some rules to ‘overrule’ others [30, 145-7]. If the relationships between different parts of a person’s decision rule system grind slowly, like legal systems, the significance for the health sector may be considerable. For example, rules that manage a person’s sense of self may stand in the way of them presenting at a general practitioner (GP) and instead allow them to believe ideas that their minds throw up that will remove any cognitive dissonance they initially see between their condition (say, a lump or ache) and the prospect of a visit to the doctor. By the time the condition has escalated so far that this part of their rule repertoire is overruled by rules whose role is to ensure self-preservation in a physical sense, it may be too late.

Mainstream preference theory tends to operate as if preferences are innate rather than asking where they come from. From the ‘hierarchy of rules’ perspective just outlined, it may indeed be the case that people are to some degree hard-wired with high-level rules that will only admit particular new kinds of subsidiary rules. These high-level rules may be about the closest thing people have to ‘given preferences’. However, if consumers recognize that in some context they have insufficient means-end knowledge for making good choices, it will be rational for them to out-source their preferences to others [31]. High-level rules will determine the areas in which they are prepared to admit they need to do this, and how they may go about doing it (for example, how many sources to

consult, and how to resolve disputes between different sources of advice about means-end relationships). Clearly, one can apply this in the health context: GPs and other health professionals can remove the need for us to work out our own preferences if we are prepared to let them set out the mean-end relationships and probabilities that are involved with alternative strategies for dealing with our health problems. Some people will have rules that allow them to be open to rival kinds of providers (e.g. naturopaths and homeopaths) and allow particular acquaintances to provide them with rules for resolving disputes between ‘alternative’ and ‘conventional’ suppliers of health services, whereas other people’s rules may preclude this and only allow them to consider what conventional practitioners say, and yet others may employ rules that lead them to view health professionals suspiciously and instead allow them to diagnose for themselves what kinds of non-prescription remedies they may need.

Somewhere between the mainstream economist’s view of preferences and the rule-based approach of heterodox economists, particularly those of the evolutionary school, lies the perspective of the rapidly growing literature of behavioural economics epitomized by works such as Thaler and Sunstein’s [32] book *Nudge*. Here, the focus is on how our minds do not work quite as presumed in mainstream analysis, with departures from rational choice being caused by a mass of ‘heuristics and biases’. If policymakers can learn what psychologists have discovered about these choice-distorting factors, then they can tailor their policies to get round them. For example, consider the ‘framing effect’ and ‘sunk cost bias’. The former causes consumers to see, say, ‘97% fat-free’ quite differently (typically much more favourably) than ‘3% fat’, which has implications for public policy regarding food labelling and advertising. The latter results in consumers persisting with activities that they would not choose to undertake if they had not already committed resources to them. Sunk cost bias implies that long-term gym use is more likely to result from long-term gym membership contracts being offered than pay-as-you go deals with an identical average daily cost; similarly, patients who have been prescribed and purchased a two-month course of tablets are more likely to take the complete course than those who can only buy tablets for one month at a time.

On top of these contrasting views of preferences and the process of choice, heterodox economists recognize the subjectivity of assessments that people make of the options they face rather than assuming they will see them as the analyst does. People may see a ‘given’ set of options in terms of different sets of characteristics and even if they do view them in terms of similar characteristics, they may rate them quite differently on these dimensions either because they have different information or their perceptual processes allow them to see different implications of choosing them. Different ways of seeing the same thing are not merely of significance in the health sector for the health professional/consumer interaction but also for interactions between pharmaceuticals companies and health professionals (cf. the discussion of the basis of anaesthetists’ initial resistance to halothane in Loasby [33], 53). Hence conventional preference modelling techniques are doubly flawed: not only do they tend to impose an additive (trade-off) view of the form that preferences take, they also presume the dimensions in terms of which preferences will be elicited and what consumers will see in respect of how rival scenarios are located in these dimensions.

### **Unorthodox perspectives on preference: application to primary care in Australia**

Primary care in Australia involves a wide range of providers and is financed from public and private sources. Medicare, the national health insurance scheme, ensures universal access to affordable primary care medical services, while private health insurance and/or personal out-of-pocket payments are more commonly the source of funding for non-medical services. The largest component of primary care, general practice, has traditionally operated on a ‘fee-for-service’ payment basis whereby the patient requests and receives a discrete service provided by the general practitioner (GP) and in turn assumes responsibility for payment of service, the cost of which is determined by the GP. However, since the introduction of Medicare in 1984, this market-driven approach has been publicly supported through significant subsidies paid by government, an arrangement that has been questioned due to the potential to create perverse incentives [34, 35] and inequities in care [36, 37]. Although there is provision for a bulk billing option, providers are

permitted to charge above the government subsidy. Consumers often incur out-of-pocket costs at the point of delivery and moreover, tend to underutilize services that rely heavily on private health insurance such as allied health services [38].

Over the past two decades there have been many policy initiatives aimed at enhancing efficiency and quality in primary care general practice, enhancing access to non-medical professionals, and integrating primary care general practice into the broader health care system [35]. A major driver of this reform has been the increasing prevalence of chronic disease and the need for prevention and better management. The result is a vast array of alternate funding approaches and financial incentives provided under Medicare to redesign service delivery to enable coordinated care, multidisciplinary team care and affordable access. Prominent among the initiatives is the government's Enhanced Primary Care (EPC) program which allows Medicare subsidies to be paid to GPs to provide continuity of management of consumers with chronic disease and to coordinate team care. As part of team care arrangements (TCA), subsidies are also paid toward the cost of allied health services, although this is capped at five sessions per patient per annum. These services have traditionally been provided in the private sector and have come at a higher cost to consumers compared to medical services [39]. Funding is also provided under the Practice Incentives Program (PIP) to employ practice nurses in primary care to deliver some services on behalf of GPs [40]. As a result of these policy reforms, the patient diagnosed with a chronic condition is now presented with new models of primary care varying in treatment attributes and payment arrangements, all of which add to the complexity of the decision-making environment. For example, for the patient diagnosed with diabetes, the options may now include management by the GP alone, a structured care management approach with routine visits to the GP and a practice nurse, or referral to a dietitian for a specified number of sessions with overall management by the GP. Each example varies in terms of the professionals involved, their roles and the cost of care, possibly location and accessibility, and what is required of the patient. For example, in the case of a structured care

management approach the patient will be expected to attend a three-monthly check-up with the GP followed by a review by the practice nurse. Moreover, each option is likely to have different cost implications due to the payment arrangements associated with it, for example, a bulk billing option in the case of the GP alone or part subsidy and part out-of-pocket payment in the case of the dietitian and GP. Given the extent of reform aimed at enhanced management of chronic disease in primary care it is important to develop a greater understanding of consumer preference since this is crucial to acceptance and effectiveness of health care. To date, studies suggest policy reform has not fully considered the needs and preferences of consumers. Shortus and colleagues [41] found that despite the benefits of structured/planned care patients were reluctant to see GPs unless there was an acute problem and were unwilling to act on advice that they perceived had little benefit. Therefore not only do patients not see the benefits of care as providers and policy makers do but personal values or circumstances are also likely to be part of consumers' reasoning and choices. Failure to account for these in policy reform is likely to lead to unacceptable options. Likewise, a study by Hegney *et al* [42] on consumers' perceptions of practice nurses in general practice showed a limit to what is acceptable concerning new models of care. In this study, although consumers were comfortable with nurses undertaking some tasks traditionally the domain of GPs, they were less comfortable with an expanded role for nurses and this was more pronounced in rural settings compared to urban. This suggests that there may well be some areas of health care provision that consumers are unwilling to trade-off, no matter the benefits espoused by policy makers. Notably, the expanded roles of practice nurses in general practice is in part a strategy for dealing with workforce shortages and yet this finding suggests that there are likely to be 'non-traders' who hold a particular preference no matter what the options [43]. Hence, reliance on such a policy strategy to manage resource constraints will be ineffective if consumers are unwilling to compromise on particular features. More recently, a qualitative pilot study conducted in 2009 by two of the authors (MF, GM, Unpublished data) on patients' experiences of EPC showed not only the complexity with which patients think about primary care management of chronic disease but also how their

preferences are often moderated by personal experiences. For example, while team care arrangements, involving GPs, practice nurses and allied health professionals, was perceived by study participants as a more thorough approach, some perceived that regular contact with a GP was of greatest benefit in the end. When faced with issues of out-of-pocket payments, the ambiguous nature of preferences was also evident by how participants distinguished between essential (in this case GP) and non-essential services (in this case allied health) on the one hand, but on the other hand did not rule out using non-essential services if the circumstance required them. However, study participants also qualified these statements suggesting that there was a feasible limit to utilisation. The 'circumstances' that require non-essential services is likely to be unique to the individual and changeable as is the notion of a 'feasible limit'. This distinctly subjective aspect of preference is likely to result in a wide range of preferences that is not so easily reduced to a system of rules. Understanding these personal descriptions is integral to understanding why consumers may see quite different choice implications from what was intended by policy makers.

Although viewed from the context of primary care in Australia, these studies raise questions about the traditional model of preferences and specifically the assumption of trade-off approaches, that is, that people can deliberate between rival options and are always willing to substitute less of one attribute for more of another. By contrast, preferences are likely to incorporate much more complex reasoning and highly subjective assessments. Moreover, these processes are not likely to be so easily observed or adequately represented in choice experiments. From a policy perspective this is significant since it may mean that distinctive policy information, particularly relevant to different groups of patients, is not evident. In reference to primary care management of chronic disease, a starting point would be to qualitatively examine through more in-depth methods how consumers construe management of chronic disease and the line of reasoning that leads to preference decisions. Rather than predetermining the trade-off options for which consumers must express preferences, this approach would allow more comprehensive personal descriptions and assist in understanding

*why* some attributes are valued more or less than others by consumers. By focusing on specific chronic diseases, for example cardiovascular diseases and Type2 diabetes, there is also opportunity to plan services more effectively in areas that are resource intensive and costly. Cardiovascular diseases are the biggest contributor to the global burden of disease [44], while diabetes is reaching epidemic proportions worldwide [14]. Using these examples it is possible to identify clusters of consumers with rather similar ways of seeing the world and clarifying how different regimes may need to be promoted differently to different groups.

### **Concluding remarks**

A mainstream economic perspective on consumer preference dominates in the health care context. This is evidenced by the widespread application of discrete choice experiments and conjoint analysis to elicit consumer preference for health care. The benefit derived is the information about consumers' discriminations between different options that may be used in policy decisions. Yet for policy makers and health care providers the orthodox view of preferences may fail to elicit detailed information about the discrete components of policy programs that are more likely to be responsive to consumers' needs and preferences. In this paper we have suggested that rather than assuming that consumers adopt a strict rational choice, a model of preferences needs to incorporate a wide range of theoretical possibilities including that sometimes choices are made by trading off alternative options but equally choices may also involve highly subjective assessments that are made within a personal system of decision rules. Alternative perspectives on preference offer immense theoretical and empirical scope for understanding consumer choice and decision-making in relation to health care. Applied to the primary care context, alternative perspectives on preference can assist health policy makers and health providers in assessing more precisely the likely impacts of new care innovations on consumer choice and decision-making. Equally these can contribute to more precise and optimal planning of health care services by generating information about the important

attributes of care that are likely to enhance consumer engagement and optimise acceptability of health care.



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