THE USE OF ECONOMIC INFORMATION IN NHS DECISION-MAKING

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INTRODUCTION

Economics is concerned with choices about the allocation of scarce resources between competing health care programs. In health care policy making, economics suggests that alternative strategies should be evaluated to assist policy decisions. Economic evaluations should therefore be useful for decision makers in the health care system.

The use of the results from economic evaluation in local health care decision-making has been assessed by relatively few studies, but it has generally been shown that economic evaluations have been used only to a limited extent, particularly in the UK setting.[1,2,3] The methods used have included interviews, focus groups, and questionnaires but the actual decision making process has not been investigated in depth. Surveys and hypothetical scenarios are problematic because respondents' answers may not reflect what they actually do in practice and it is difficult to establish the opinions and beliefs of decision makers.[1,2,3,4] These studies have provided some useful information, but they have tended to reflect what decision makers feel they ought to say rather than what they actually do. Recent academic research has identified a need to use participant observation, rather than surveys or hypothetical scenarios, to understand the complex nature of the decision making process.[5,6] Recent changes to the structure of decision-making mean that this area needs further investigation.

This paper is concerned with the use of economic information in National Health Service (NHS) for decision-making on behalf of groups or populations of patients. The paper is organised in the following way. The next section of the paper deals briefly with the aims and objectives of this research then goes on to present the methods relating to the first phase of the research. This has focused on decision-making for cancer programmes at the Primary Care Trust (PCT) and Trust level in one geographical region. Three methods have been used for this: observation of cancer setting priority meetings; semi-structured interviews and analysis of documentation. These different methods are used in combination to strengthen the research findings, as a form of methods triangulation. The third section presents the preliminary results from the first cycle of this work, focusing on two themes drawn

from interviews with seven members of the cancer setting priority meetings. The final section discusses a proposed expansion of this work involving a further four cycles of research.

AIMS AND OBJECTIVES

The study aims to explore, qualitatively, the views and current use of economic information among a range of different decision makers in the NHS, with a particular focus on decision making for cancer programmes. Specific objectives of this study are:

1. *To understand the decision-making process for cancer programmes and describe the use, and barriers to the use of economic information by*
    - Using a combination of qualitative methods to monitor and record the decision making process for cancer programmes at the meeting group;
    - Evaluating whether economic information and concepts are used in decision-making.
2. *To explore the introduction of economic information to the meeting group by*
    - Discussing with the Chair of the meeting group how economic information could be introduced to the meeting group;
    - Presenting economic information to the meeting group.
3. *To explore whether decision-making changes as a result of the presentation of economics by*
    - Using a combination of qualitative methods to monitor and record the decision making process and seeing whether there has been any change in the decision making process.
4. *To expand beyond decision-making for cancer by*
    - Using in-depth interviews with higher-level decision makers (such as members of the Strategic Health Authority and PCT Executives);
    - Evaluating how cancer fits into overall decision-making; and
    - Exploring the use of economics at this level.

5. *To explore economists' perception of the role of economics in the decision-making process by*
    - Using telephone interviews with a range of health economists to explore perceptions of the decision making process and the use of economics;
    - Highlighting differences between theoretical and practical applications of economics so as to improve the impact of economics in NHS decision-making.

The objectives above correspond to the specific cycles or phases of the research project. Objective one is in the process of being achieved. Preliminary results from this work are presented. Objectives (or cycles) 2 –5 are presented in the discussion as planned future research.

METHODS

Qualitative methods are being used to understand the complex nature of the decision making process where views and opinions are often divergent. No prior hypothesis exists for this study so that the use of economic information in decision-making is not assumed to be dependent on any specific variables, or related or characterised by any pre-defined criteria. The study aims to find patterns, correlations, and new ideas, rather than assuming any existence of these beforehand. Three different qualitative methods are being used; interviews, participant observation, and documentary analysis.

This work has been developed in conjunction with the Chair of the meeting group for cancer and the planned research is strongly supported by him. Ethics approval has been sought and obtained from a Local Ethics Research Committee (LREC) for the work involving objectives one to three above. Further ethics approval will be sought to conduct work into objective 4 above.

<u>Cycle 1: To understand the decision-making process for cancer programmes and describe the use, and barriers to the use of economic information</u>

Cycle 1 of the research is currently being conducted. Three methods have been used for this research.

1.1 Participant observation of cancer priority setting meetings

Participant observation has been used as a means of:

1) *Gaining knowledge of people and establishing rapport by*
    a. Assessing membership of the group – what positions they hold, where they are based, and their professional role;
    b. Establishing rapport with those attending the meetings (to take place before and/or after the meetings since the researcher will have no active role during the meetings).
2) *Familiarisation with context and contents of the meeting by*
    a. Recording the discussions that take place and thus gaining an understanding of the terminology/jargon used and the environment;
    b. Observing whether and, if so, how economics is being used by participants of the meetings.

Participant observation was used for the first six months of the research (January – June 2003) to study the decision making process during priority setting meetings held between decision makers at the PCT and hospital trust level (cancer priority setting meetings). There are approximately 6 cancer setting priority meetings per year. So far 4 meetings have been observed.

Participant observation involves the researcher making it known that she is undertaking social research and that this is the primary purpose of the observations made and conversations held. The researcher records as much of each of the discussions as possible by mental notes and jotted notes. It is necessary to recognise the reflexive character of social research. The researcher is constantly reflecting upon

the way her presence is influencing what is being observed and the findings from the study.

At the start of the meeting, members of the group were given an information sheet and asked to provide written consent to being observed on the understanding that if any one in the meeting group did not want the researcher to be present then the researcher would leave the meeting group. [*]

The researcher was invited to attend the meetings by the Chair of the group and introduced to the group as a PhD student from the University of Bristol, rather than as a health economist. The consent of the Chair was sought for every meeting and all members of the meeting group were asked to provide consent.

1.2 Interviews

The researcher has approached participants of the meeting to ask whether they would agree to be involved in an interview with the researcher. Face to face interviews will be conducted with a sample of approximately ten decision makers attending these meetings with the aim of exploring the subjective values, beliefs and thoughts of the individual respondents.

Seven interviews have been conducted to date. Interviewees have been purposively selected on the basis of different views, as expressed during the meetings, different roles, and on recommendations from others (a snowballing strategy). In-depth interviews are taking place over a four-month period (February 2003 to June 2003) running parallel to the participant observation. All interviewees apart from the Chair of the meeting were not aware of the identity of the researcher as a health economist. Interviews were tape recorded upon consent of the interviewee. If consent to tape record was not given, the researcher took mental and written notes during the interview. The interviews lasted approximately 1 hour in duration and were semi-

[*] To date this has not occurred.

structured, using an interview guide with a list of main points to be covered. Three main topics were covered in the interview:

1. Decision making for cancer:
    a. Who is involved;
    b. Where this takes place;
    c. What is the process.
2. Use of published evidence in decision-making.
3. Perception of the structure of decision-making.

Interviewees were invited to discuss their views and opinions of the decision making process in relation to the meetings and in their own experience. This is essential since individual's views and opinions as to how the decision-making process works will tend to vary, both from the researcher's interpretation and from person to person. Since the decision-making process is unclear, a visual diagram of how the researcher believes the decision-making process works is presented to each interviewee to comment upon, amend and discuss. The diagram used was initially developed in conjunction with the Chair of the meeting group. This diagram was used with each informant. Where appropriate, decision makers were tactfully asked about their use of economics and/or their views about economic information. However the researcher has aimed not to focus on these questions but to allow the interviewee to discus what they feel to be relevant to decision making. In general the interviewee is free to guide the interview according to what he/she feels is important about decision-making in relation to the meetings whilst drawing upon other aspects of health care decision-making they have experienced.

1.3 Documentary analysis

This stage has yet to be completed. Minutes of meeting notes, handouts from meetings, and documentary guidance offered to the researcher by interviewees will be analysed to help understand the context and relevance of the discussions during the meeting and the interviews. The following types of documents are included in the analysis:

1) The recorded minutes of the meeting are compared to the notes taken by the researcher during the meeting in order to try to fill any blanks the researcher has in her notes and to obtain a different perspective on the meeting.
2) The supplementary documents that are handed out during the meeting are used to explain and support the notes the researcher has taken during meetings.
3) Other documents referred to during the meetings, such as government documents/National Institute for Clinical Excellence (NICE) guidance, help supplement the themes that are being developed by the researcher with concrete recorded data.

1.4 Data Analysis

Only the data relating to the seven interviews have been analysed. Grounded theory has been applied to this work. The theory, coined by Glaser and Strauss, describes the way that analytical categories emerge from the data (developing hypotheses from the "ground" rather than developing them *a priori*).[7] The analysis of the data (interviews) involved:

1. Interview
2. Transcription
3. Coding
4. Analysis

Coding refers to the process involving annotating or marking up themes in the field notes or interview transcripts. Coding requires the identification of themes and categories in the data collected. The researcher (OA) and the researcher's supervisor (JC) coded the interviews separately to ensure that the same information was being obtained from the interviews. All data relevant to each category were identified and examined using the method of constant comparison, whereby each item was compared with the rest of the data to establish analytical categories. Often multiple themes emerged for the same section of data. Codes were refined and reduced in number by grouping the data once the researcher had gained a feel for the data

collected. A software package designed to handle qualitative data, ATLAS/Ti[8], was used for the purpose of entering codes and organising the data. Coding for observations during meetings and documents obtained from meetings and observations during meetings will be conducted in essentially the same way.

In this study, the following definitions were used. *Economic information* is information that is presented in terms of costs and benefits, possibly in an economic evaluation or guidance from the government or the National Institute of Clinical Excellence (NICE). It also encompasses information displaying a rational and systematic approach to dealing with a choice. *Economic concepts* are terms typically used by economists and in the economics literature, such as Quality Adjusted Life Year (QALY), Cost Benefit Analysis (CBA), Cost Utility Analysis (CUA), and Cost Effectiveness Analysis (CEA). The exact definition of 'use' of economic information in decision-making is difficult to determine in practice, but may mean any of *'direct use'* (specific use of the research results), *'selective use'* (to legitimate and sustain positions), or *'enlightening'* (to understand).[9] Findings will be coded in this way.

PRELIMINARY RESULTS

The preliminary results presented in this section relate to seven interviews conducted for cycle 1 of the research. In the analysis presented below the interviewees are referred to as subjects one to seven (S1…S7) so as to conceal their identity. Some information about the specific roles of the interviewees is provided in the Appendix. All themes emerging from interviews have not yet been analysed, but selected themes relevant to the discussion of future research plans have been analysed and are presented. These are in relation to two themes: 1) the decision-making process for cancer programmes and 2) the use and barriers (or obstacles/disincentives) to the use of economic information and published evidence.

The process of decision-making for cancer programmes

Decision-making within the meeting group

The cancer meeting group consists of approximately ten to twelve representatives from the local main hospital, those PCTs who commission services to the hospital, a specialist palliative care provider, and an overall network for cancer encompassing a wider geographical area. One interviewee described the meeting group as the forum that brings together the hospital and the commissioning groups (S5). The meeting is chaired by (S2), a Public Health Manager at one of the four PCTs.

Four interviewees (S1, S2, S4, and S6) mentioned that the decision-making process has a 'consensus' approach at this group level. That is, everyone in the meeting group contributes to the discussion and eventually a joint decision is made. However all interviewees suggested that decision-making in practice is not as simple as a consensus approach and that there are key people in the process who are more influential than others. Three of the interviewees saw the Chair of the meeting as a key decision maker:

S2: I think the final quarter of the process, a much smaller group of people were involved and if I were honest it would be myself (as the Chair) and one other person, a planner on this organisation, on the one hand, and another very small group of clinicians and managers at the (hospital) on the other hand.

S4: I think the Chairman of that group is critically important and I think he does have more of a vision as to how to sort of take things on and is obviously highly influential.

S1: The prime decision maker is probably the Chair of that group.

Three interviewees added that formal decision-making is at the PCT level.

S2: The formal decision-making I guess is with if there are any changes, is back at our respective bodies, the PCTs themselves, the NHS trusts themselves.

S3: At the end of the day, the commissioners are the people who make the decisions. We have to help inform the decision making, but the PCTs are the commissioners and they commission health care…and that is the decision-making forum.

S6: The final decision at the end of the day has to be made at a sort of PCT level.

Decision-making from a wider perspective

Interestingly, three of the interviewees (S3, S7, and S5) explained that the power to 'implement' any final decision for cancer involves considering decisions from other disease meeting groups (such as Coronary Heart Disease or CHD). This power rests with a commissioning forum.

S3: The (cancer meeting group) can only make recommendations, it can't make decisions…it is not the decision-making forum. The decision, the group itself is going to make recommendations to the commissioning forum, and then the commissioning forum will review all the recommendations from all the (meeting groups such as meetings for CHD services, older people, etc) and that is the only, that is the decision-making forum.

Four interviewees (S1, S2, S6, and S3) mentioned that the Chief Executives of PCTs were very important in the decision making process. According to S6:

At the end of the day it (decision-making) usually comes down to one or two people within the PCTs. (The Chair) and his boss, his Chief Executive probably.

Although questioned on this topic, most interviewees were not aware of the decision making process (involving the cancer meetings with the hospital and four PCTS *etc*) in other areas of the country. Two of the interviewees (S6 and S7) differed over the issue of representation of the decision making process involving the cancer meeting group. S6 felt that it is probably quite common nationally. S7 on the other hand felt that it is not typical and it is only the case where there exists one hospital and many PCTs.

The use and barriers to the use of economic information and published evidence

There was little evidence of health economics being used explicitly in the decision making process from the seven interviewed. Three interviewees (S3, S2, and S6) spontaneously suggested that the only place where they felt that health economics was playing a role is in the NICE process:

S3: I think most decisions in terms of the sources, the use of funding are based on some form of evidence rather than just gut feel or whatever, for instance, I mean clearly the NICE drugs go through a very rigorous process ... and clearly the implementation and giving of those drugs has been scrutinised.

S2: The only place where I know it is going on (the use of health economics) is in the NICE process.

S6: With things like NICE drugs…people are being asked to put a lot of money into these things before the real cost benefits are being sorted out.

Two other interviews also highlighted the use of health economics for drug company research (S4) and drugs in general (S7). The interviewees expressed no other specific applications of the direct use of health economics.

Four of the interviewees (S6, S2, S1, and S5) identified specific barriers to using published evidence on costs and/or benefits. Three of the interviewees (S6, S2, and S5) felt that the use of economics is very difficult because of the lack of information available:

S6: The evidence base for a lot of the stuff is very difficult... We have been doing hospice at home type of work for a long time now, so we have, we probably provide as much audit and questionnaire basis, but we don’t go into macro health economics…Cost effectiveness, you know, we don't have the information to do it, we don't have the personnel to do it for a start.

S6: There may be information about costs but not a lot about cost benefit ratios.

In addition, S2 identified problems with quantifying benefits and risks. Also S5 said that information on costs and benefits is not robust and is hard to get.

One interviewee felt that the lack of use of health economics was attributable to the instability of the system:

S2: There isn't sufficient stability in the system to allow custom and practice to alter to include, you know, deeply rational approaches like health economics.

Only one interviewee (S1) expressed a lack of interest in using economics:

S1: It's not something I am personally interested in so I keep well clear of it to be honest.

S1: I don't have time to do it.

Despite the five interviewees comments regarding the barriers to using economic information, there was some strong evidence from two of these interviewees (S6 and S2) that health economics was being used implicitly in the decision making process.

S6: Not only have we looked at what we see as, we perceived as, being the greatest needs but also we've done analysis, because we do a regular ongoing audit of the two pilot studies that we're already showing they do work, they didn't cost as much as we thought they we're going to, so, you know, there is quite a lot of information to be based on that.

S2: So we are trying I suppose to get at the costs on the one hand and what benefits does the system get out of it on the other.

Interestingly, both S2 and S6 expressed a desire to use health economics. S2 said that:

I'd like to say they were all done on a rational basis that we had at the beginning, err you know, done a gap analysis, that is knew where we wanted to get to, knew where we were at the time, had we had calculated the gap and then we had made rational choices between different options of getting there.

DISCUSSION

Although the results presented above are based on preliminary analysis of a sample of seven interviews, they do help to provide some useful information and the groundwork for the following future work presented in this section. Cycle 1 will be completed over the next two months including an extension of the analysis to all emerging themes. Proposals for work for cycles 2-5 are presented here. Cycles 2 and 3 have to occur in this sequence from the nature of the work and will begin soon. Cycles 4 and 5 are ongoing throughout the study.

Cycle 2: To explore the introduction of economic information to the meeting group

2.1 Participant observation

The second cycle will involve the presentation of economic information to the cancer-meeting group. The Chair of the meeting strongly supports and welcomes this idea. At an appropriate time during the decision making process the researcher will present economic information, either personally or through the Chair of the meeting. The exact type of economic information will be discussed in a taped face-to-face interview with the Chair of the meeting. An exact outline for this has not been evaluated yet but one option involves:

1. Presentation of economics in a 'tutorial'.
2. Followed by advice which could involve:
    a. Discussion of papers relating to a particular topic, or

b. Providing an economic evaluation on a particular topic – such as whether to introduce a specific piece of equipment, or
c. Providing the costs and benefits of a particular topic, or
d. Showing approaches to dealing with economic information.

An assessment of the discussions that took place during the interviews and topics discussed during the meetings has developed this idea. However, the meeting group will first be consulted as to what they feel would be important to be introduced. Health economists working in the area of public health or those who have been involved in presenting economics to Health Authorities/PCTs will also be consulted as to find out what type of information has been helpful and important in their own work.

The Chair of the meeting will also be consulted to discover whether he would prefer the researcher or the researcher's supervisors to present the economics.

The exact time to introduce economics will be negotiated by the decision makers and the researcher, but will depend on two factors:

1. *Content: The relevance of introducing economics*
    - This depends on the topic that is planned on being discussed at the meetings and whether economic information fits into this
2. *Context: The stage of the decision-making process*
    - This is crucial since economics should be introduced when it is likely to have most effect and be incorporated into the decision-making process beneficially
    - There is a specific cycle of decision-making running from April of one year to April of the following year
    - There are only a relatively small number of meetings per year.

2.2 Interviews

Interviews will be undertaken with members of the meeting who were present when economics was introduced and once the researcher's identity has been revealed as an economist. The aim of the interviews will be to enable a discussion of what the interviewees felt the contribution of economics was to the discussions during meetings or in their personal decision-making. The objective of this will be to highlight any important insights that have been gained from presenting economic advice to the decision makers.

One important factor is the honesty of the interviewee's responses to the researcher during the interviews since at this stage they will be aware of the identity of the researcher. There are two possible solutions to this:

1. The interviewer is different to the person introducing the economics
2. The chair of the meeting asks the meeting group to feedback to him what they felt the contribution of economics was to the process.

The first solution may cause difficulties with the consistency of the interviews. To ensure consistency possibly the researcher should conduct the interviews since rapport has already been established. The second solution may be difficult to measure and evaluate and the Chair of the meeting may report things differently.

2.3 Documentary analysis

Documentary analysis will be used to check in the minutes of the meeting how economics is interpreted – what is recorded as happening regarding the introduction of economics.

Cycle 3: To explore whether decision-making changes as a result of the presentation of economics

3.1 Interviews

After an appropriate lapse of time, interviews will be conducted with the same sample as in cycle 1 in order to find out how the decision makers feel the decision-making process has changed with the contribution of economics. The purpose of this will be to examine how/whether decisions change, in order to assess the impact of the economic contribution.

3.2 Documentary analysis

An analysis of meeting notes and a comparison of previous meeting notes will be conducted to se whether there has been any recorded change.

In order to measure the impact of the economic contribution, through the interviews and documentary analysis, specific criteria will need to be evaluated. As discussed before, the use of economic information can be related to direct use, specific use, and/or enlightenment. A systematic literature review will be conducted on the area of research utilisation, by consulting specific websites[10], known literature on the subject[11], databases (such as MEDLINE), and grey literature.

Cycle 4: To expand beyond decision-making for cancer

4.1 Interviews

The aims of this cycle of interviews are to:

1. Follow the decisions made at the meeting to see how they are interpreted and whether the boards of PCTs and the SHA support them.
2. Obtain information on the decision making process at this level and how it works.
3. Expand beyond decision making for cancer to obtain a broader view.

During the interview stage in cycle 1, interviewees were asked to identify other possible contacts that they thought to be relevant and important to the decision making process. This is a snowballing method[4] where potential interviewees are

identified from existing interviewees. It was found that decision-making is taken beyond the cancer meeting group to a higher level in the NHS such as commissioning boards of PCTs. Crucial decision makers include Chief Executives of PCTs and senior members of the Strategic Health Authority. Therefore, the objective of cycle 4 will be to interview a sample of these decision makers. The number of potential people identified and the number agreeing to be interviewed will dictate the sample size. However it is aimed to approach approximately ten members from this group, on the basis of recommendations. It is recognised that these people may be more difficult to recruit to the study because of their seniority. For this reason it will be mentioned that the researcher has been referred to them by some one that they know in the hope that this might persuade them to take part. The interviews will roughly follow the same format as in cycle 1 (in-depth and semi-structured). This process of interviewing will be ongoing and coincide with research carried out for the other cycles. Ethics approval will be sought for this cycle.

Cycle 5: To explore economists' perception of the role of economics in the decision-making process

5.1 Interviews

The purpose of this exercise is to discover the similarities or differences between the perception of the decision-making process between economists and decision makers. This will be used to highlight differences between theoretical and practical applications of economics so as to improve the impact of bringing in economics to the NHS.

Telephone interviews lasting approximately half an hour will be conducted with a range of health economists from various UK academic institutions. Interviewees will be purposefully selected on the basis of their involvement in the development of economic evaluation methodology or their interest in the application of economic evaluation to decision making. Interviewees will be interviewed on who they think are the decision makers, on their perceived use of economic evidence or evaluations to make national and local decisions, and the barriers to using this by decision-makers.

They will be invited to draw upon examples from their own experience of evaluations they have been involved in. So far four interviews have been conducted with economists. This work will be ongoing and will coincide with the research to be conducted.

Feedback on the following would be greatly appreciated:

1. The methods of research

2. The preliminary results section

3. The discussion section and in particular the presentation of economics to the meeting group.

Thank you.

Appendix

Table 1: List of interviewees sampled in Cycle 1

Interview	Role
S1	GP
S2	PCT Public Health
S3	Hospital Director
S4	Hospital Consultant
S5	PCT Director
S6	Hospice Director
S7	PCT Director

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