Spending priorities in Kent: a Delphi study

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In Kent, as in the rest of Britain, there are conflicting opinions among health service professionals and consumer representatives about the relative spending priorities for different branches of the National Health Service. Some of these differences concern problems peculiar to Kent, others are associated with the problems of maintaining an acceptable balance between acute inpatient services and community care, and between different client groups such as the mentally ill or obstetric patients.^{1 2} The concept of consensus decision-making was encouraged in the 1974 reorganisation of the NHS, but it does not always operate well in an atmosphere where the interests of patients are decided in part by lobbying or advocacy; it is difficult for people in one group to appreciate the perspectives of other professional or consumer groups.

The Department of Community Medicine at St. Thomas's Hospital Medical School was approached by the Kent Area Health Authority to conduct a survey of spending priorities among all individuals involved in health service decision-making in Kent. This was intended both as an educational exercise for the respondents and as a means of revealing differences between particular groups of decision-makers.

In considering the methods available for programme planning, the Delphi method seemed particularly appropriate for meeting the objectives of the study because it avoids many of the undesirable aspects of committee work.^{3–7} A Delphi study begins when a small monitor team designs a questionnaire for larger respondent groups. After the questionnaire has been returned, the team summarises the results and designs a new questionnaire based on these. The respondents are given at least one opportunity to re-evaluate their original replies in the light of the overall response.

Because the process can take place by post, it is relatively cheap to bring in a large number of individuals, who stay anonymous. Thus domination by a few influential people is avoided. Only useful and relevant material is fed back, and at no time need respondents feel compelled to compromise their views as they might in a committee meeting. The technique was well suited to our study, where there

were problems of lack of time, the geographical location of potential participants, and communication between health professionals and community representatives. Its previous uses in the health field include the design of a health policy research and development system,⁸ forecasting major trends in health care organisations,⁹ and obtaining information for long-range planning.^{10 11} However, it has not previously been used to examine whether consistent estimates of spending priorities could be obtained from decision-making groups in the NHS. Thus the research interest concerned the feasibility of the exercise, the ability of respondents to cope with quantitative decisions, and the extent to which convergence of opinion actually occurred.

Method

All professional and lay policy-makers in the Kent health area and its constituent districts were involved, that is, all members of the area health authority (26), the professional advisory committees (71), the area team of officers and district management teams (42), and the community health councils (168). Thus there was a total of 307 potential participants.

Seven major health service categories were used for obtaining judgements of priorities for revenue expenditure:

1. General and acute hospitals
2. Mental handicap services
3. Services for children
4. Mental illness services
5. Maternity services
6. Services for the elderly and the physically handicapped
7. Community health services

These categories are those used in national and local planning for the health service. Each category was further divided into subcomponents—for example, 'community health services' was divided into family planning, prevention, and community health care.

The study was conducted in three rounds. On each occasion all respondents were asked to give estimates of the relative importance of different groups of services. Starting with a background of the existing

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pattern of expenditure in Kent, they were asked how they would allocate, in multiples of £1, each £1000 of Kent's NHS budget between the services.

They had to make five sets of judgements.

1. Revenue allocation to major service categories
2. Revenue allocation to service areas within major services
3. Allocation of extra monies between capital and revenue expenditure
4. Allocation of substantial revenue increases among major services
5. Allocation of substantial revenue reduction among major services

The total amount to be allocated in each exercise was fixed, so if a respondent wished to increase expenditure in one area, reductions had to be made in others.

Information was fed back to the respondents after each of the first two rounds in a table showing median changes preferred by each of the professional groups (doctors, nurses, consumers, other providers, and administrators). We deliberately did not feed back median opinions classified by the relevant committees because we did not wish to encourage people to follow particular committee lines. The median changes preferred by the study group as a whole were illustrated by pie diagrams. The feedback gave respondents an opportunity for revising their opinions in the light of overall and group responses.

Respondents with outlying values for particular items were invited to explain their responses in open-ended questions in each round. At the end of the three rounds, all those originally asked to participate were invited to a meeting at which the results were presented. We investigated, within the limits of the available data, whether non-response might have might have seriously biased the results.

Results

RESPONSE

Two hundred and five (67%) of the 307 people initially invited took part in the first round, followed by 140 and 117 respectively in rounds II and III. Interest was maintained fairly evenly across the five different policy-making groups, with no statistically significant differences in the participation rates of different groups (Table 1). Of the 102 people who did not participate at all, 31 gave written answers, of whom 14 claimed that they had insufficient expertise to take part in the exercise and eight had been absent in the past or would soon be leaving. Only seven made adverse comments on the exercise. In a subsequent review of initial non-responders in the Maidstone Community Health Council, it was found that they felt themselves to lack the expertise they

Table 1 Response over the three rounds of the study

Group	Potential respondents	Achieved round I	Achieved round II	Achieved round III
AHA members	26	15	13	9
PAC members	71	52	39	35
ATO and DMT members	42	29	16	12
CHC members	168	109	72	61
TOTAL	307	205	140	117

considered necessary for the task. No further approach was made to other non-responders. To investigate whether those who did not take part might have different priorities from those who did, we compared the preference at round I of people who persevered in the study with those of people who completed round I only.

We did this using multiple regression to take account of each respondent's age, sex, and health service experiences simultaneously. We found no statistically significant evidence of differences between those respondents who dropped out of the study after completing round I and those who persevered, but we did find significant differences in the responses of men and women, health service employees and non-employees, and the young and old. There would seem to be some evidence that respondents' own characteristics may have influenced their choices.

THE INFLUENCE OF DIFFERENT GROUPS ON EACH OTHER

There is evidence that members of the different respondent groups changed their minds during the course of the study in the light of other people's responses. Figs. 1 and 2 show the position of Area Health Authority, District Management Team and ATO, Professional Advisory Committees, and Community Health Council members over three rounds for expenditure on mental handicap

Fig. 1 Preferred changes of three rounds for mental handicap, non-residential patients, by different respondent groups

Fig. 2 Preferred changes of three rounds for geriatric inpatients' continuing care

non-residential patients and for geriatric inpatients' continuing care respectively. Within the mental handicap patients' budget, the CHC consistently advocated that the proportion designated for non-residential patients should increase (by 9.6% of the budget total) and led other groups into increasing their allocation. For geriatric inpatients' continuing care, the AHA and DMT and ATO led a reduction in expenditure which was eventually supported by the other groups. It is clear that no one group dominated decisions on all categories of expenditure.

CONVERGENCE

Obviously at any stage in the exercise one would expect to have a spread of opinion within and between the different participant groups. There was convergence of opinion over the three rounds and all areas of spending, which was accompanied by a high proportion of individuals changing their allocations between rounds (depending on the item, 68% to 94% of respondents changed allocations between rounds I and II and 52% to 80% changed allocations between rounds II and III). Within the individual professional groups and committees there was also convergence. By round III there was quite close agreement between the various groups of respondents on all categories of spending. Table 2 illustrates the convergence of spending priorities over the three

Table 2 Convergence of spending priorities over the three rounds of the study—general and acute hospital revenue

	Inpatients	Outpatients	Ambulance	Other
Existing expenditure	694	207	75	24
Round III change preferred	-14	+13	0	+1
Round I interquartile range	97	45	13	9
Round II interquartile range	38	20	3	0
Round III interquartile range	30	20	0	1

rounds of the study for revenue expenditure on general and acute hospitals.

PREFERRED ALLOCATION OF EXISTING MONIES

When judging expenditure patterns across the major categories, the preferred changes were on the whole undramatic. The biggest change was a 16% reduction in administration (freeing £6 out of every £1000 of NHS revenue expenditure for other services). However, much greater changes were required when preferred reallocations within the broad categories were requested.

The general pattern when existing monies were reallocated was for money to be transferred from inpatient to outpatient services. Within the community health services, the respondents considered that the proportion of the budget devoted specifically to prevention should be increased by 62%. If extra money were made available in Kent there was a tendency to allocate 60% of this to capital expenditure.

PREFERRED ALLOCATION OF CHANGES IN REVENUE BUDGET

The respondents tended to make relatively minor changes to the allocation of existing resources, which might be attributed to a reluctance to make changes that could only benefit one sector at the expense of another. When asked how they would allocate

Fig. 3 Delphi round III allocated shares of extra revenue and of cuts in revenue, compared with existing shares of revenue expenditure

additional resources or cuts the distribution of these changes was different from the distribution of existing resources.

Fig. 3 shows the existing distribution of the revenue budget between major service categories, and the median distributions of cuts and growth monies between these categories. We observed, for example, that if additional revenue were available, respondents were prepared to see the acute sector get less of the extra money (41%) than its current share of the budget (51%), but if cuts had to be made it would absorb only 34% of the money cut.

Community services and services for children would grow proportionally more if extra revenue became available. However, if funding were reduced, the acute sector would bear less than its *pro rata* share of the cuts, and this protection would be achieved by cutting maternity services, community care, and services for children and the mentally handicapped proportionally more.

Discussion and Conclusions

To limit the cost of the exercise no initial launching meeting was held to explain the study and introduce the monitor team. Confusion over the objectives of the study was cited as a reason for non-response by several non-responders. Furthermore, the study was criticised, but subsequently defended, by individual recipients of the questionnaire on a local radio programme. Both these difficulties might have been avoided by a launching meeting, and we would recommend such a meeting to others embarking on a similar exercise.

In spite of a somewhat disappointing response, the study demonstrated that it is indeed possible to obtain quantitative estimates of relative spending priorities while involving *all* groups with a role in decision-making. These estimates were broadly in line with the decisions made in the Kent Area Strategic Plan, although there were some differences. The Delphi results were therefore not unrealistic. A fuller discussion of these differences is given in the study report.¹⁴ In addition, there was a tendency towards agreement between the different groups over the three rounds. It was demonstrated that different groups influenced each other, while no one group dominated on all issues. At the end of the study there were still some differences between groups (for example, the CHC favoured community aspects of care to a greater extent than the other groups) but these differences had been narrowed.

The precise function of such an exercise must be clarified at the outset. The stated objectives will almost certainly influence the reaction of respondents to the questionnaire. Its use as a method

of decision-making may encourage respondents to reply, but equally it may generate hostility from those who feel that their rights under existing rules of decision-making are being eroded. Its use as an educational device is, at first glance, less controversial. But in our experience an educational function is open to the challenge that the exercise is of low priority and does not warrant expenditure from limited resources. Furthermore, an educational exercise may receive fewer responses because some potential responders may feel that they need no such education. A possible balance between these two views lies in the use of a Delphi exercise as a way of drawing up an agenda for further discussion of allocation alternatives.

The prevailing view of responders at the final meeting was that the method was effective in highlighting the complexities of resource allocation and the difficulties, within a tight budget, of achieving any reallocation towards a preferred sector of care. Both professional and lay participants were reluctant to make bold changes in an existing service, although administration was a popular target. Detailed results are largely of local interest; however, of wider concern is the relationship of preferred priorities to the participant's personal characteristics. Our results demonstrated the importance of choosing a carefully selected range of individuals to serve on public authorities if some client groups are not to be neglected in the long run. Our results suggest that movement of public funds towards priorities identified by the Department of Health and Social Security may be achieved only by the appointment to health authorities of a higher proportion of advocates for the priority groups. The preference for protection of the acute sector at the expense of other services may be a reflection of the characteristics of those involved in decision-making. At the same time, this persistent emphasis may indicate that the public sees acute services as the primary function of the NHS.

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