- and physical distress in cancer patients: structure and application of the Rotterdam symptom checklist. *Br J Cancer* 1990;62:1034-8.
- 15 Moorey S, Greer S. *Psychological therapy for patients with cancer*. Oxford: Heinemann Medical Books, 1989.
 - 16 Greer S, Moorey S, Baruch J. Evaluation of adjuvant psychological therapy for clinically referred cancer patients. *Br J Cancer* 1991;63:257-60.
 - 17 World Health Organisation. *WHO handbook for reporting results of cancer treatment*. Geneva: WHO, 1979.
 - 18 Ford MF, Jones M, Scannel T, Powell A, Coombes RC, Evans C. Is group psychotherapy feasible for oncology out-patients attenders selected on the basis of psychological morbidity? *Br J Cancer* 1990;62:624-6.
 - 19 Baider L, Amikan JC, Kaplan De-Nour A. Time-limited thematic group with post mastectomy patients. *J Psychosom Res* 1984;28:323-30.
 - 20 Bridge LR, Benson P, Pietroni PC, Priest RG. Relaxation and imagery in the treatment of breast cancer. *BMJ* 1988;297:1169-72.
 - 21 Sensky T, Denehy M, Gilbert A, Begent R, Newlands E, Rustin G, *et al*. Physicians' perceptions of anxiety and depression among their out-patients: relationships with patients' and doctors'; satisfaction with their interview. *J R Coll Physicians Lond* 1989;1:33-8.

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Public opinion and purchasing

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Abstract

Objectives—To explore the use of a questionnaire to obtain representative public opinions on health services. To examine residents' priorities, knowledge, and views on the public's role in decision making.

Design—Self administered postal questionnaire.

Population—Random sample of 1500 residents in Bath District Health Authority, drawn from electoral registers.

Main outcome measures—Levels of agreement or disagreement with statements provided and degree of importance given to services and aspects of services.

Results—70 questionnaires were returned unopened. Completed questionnaires were returned by 704 (49.2%) of the 1430 remaining residents. Kidney dialysis was thought very important by 559 (87%) respondents and family planning by only 58 (9%). Public priorities did not seem to reflect value for money. Clear information about treatment was rated as very important by 530 (76%) and comfortable waiting areas by 70 (10%). 372 (53%) of respondents said that they would definitely travel to a hospital outside the district to reduce their wait for surgery. Knowledge of the services provided by the authority and the money available to it was poor. 446 (65%) respondents wanted greater public involvement in decision making.

Conclusions—A postal questionnaire can provide useful information about public priorities and perceptions about the services provided. More information about health services and their costs and benefits should be given to the public to assist greater public participation in decision making.

Introduction

Health authorities need to take the views of consumers into account when deciding what volume and type of services to buy. In making referrals to secondary care general practitioners act as consumers. Surveys of their opinions have been reported.¹ We tested the ability of a questionnaire survey to obtain representative public opinions. Surveys of public opinion are distinct from those of patient satisfaction (box), which are more commonly undertaken.

Subjects and methods

We prepared a questionnaire containing 44 questions. Most of the questions gave respondents a statement or suggestion and asked them to indicate their opinion or agreement on a Likert-type scale of five options.² Questions asked about the importance of selected services, knowledge of the health authority, and the role of the public in decision making.

Characteristics of patient satisfaction and public opinion surveys

Patient satisfaction surveys

- Study population is patients or service users
- Seek direct experience of services
- Help providers to improve service quality
- Are retrospective

Public opinion surveys

- Study population is the resident population
- Seeks views of needs and priorities
- Help district health authorities to make purchasing decisions
- Are prospective

A sample of 1500 residents was drawn systematically from the electoral registers of parishes within the health authority boundary. A single mailing was made in November 1990. Reply paid envelopes were provided.

No repeat mailing was done as we decided that allowing respondents complete anonymity was more important than any increase in response from a reminder mailing. Inducements, common in market research,³ were not used as they may not increase response rates in health studies⁴ and could be contentious in the current political and social environment within the NHS. Data were analysed with the statistical package for the social sciences (SPSS-PC).⁵

Results

Seventy questionnaires were returned unopened, mainly because the addressee was no longer living at that residence. Of the remaining 1430 questionnaires, 704 (49.2%) were returned. The age and sex distribution of the respondents did not differ significantly from that of the district population as a whole.

People were asked how important they believed a selection of 10 services were. Table I shows these

TABLE I—Proportion of respondents who thought services very important

Service	No (%) of respondents (n=690)
Kidney dialysis	559/687 (81)
Special care baby unit	483/680 (71)
Vaccinations	474/689 (69)
Hip replacements	314/693 (45)
Long stay geriatric care	241/689 (35)
School medical service	225/687 (33)
Day hospitals	178/685 (26)
Family planning	160/682 (23)
Help for those who want to stop smoking	58/686 (8)
Varicose vein surgery	30/680 (4)

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services, ranked by the proportion of respondents who said they were very important. Only two services, family planning and help for people who want to stop smoking, were said to be of no importance by more than 2% of respondents. Help with stopping smoking was judged to be of little importance by 213 (31%) respondents, and 100 (15%) said that it was of no importance. Table II shows the importance attached to eight aspects of service quality.

TABLE II—Proportion of respondents who thought aspects of services were very important

Aspect of service	No (%) of respondents
Clear information	530/696 (76)
Modern equipment	468/692 (68)
Value for money	402/694 (58)
Seeing the same doctor if you return to a clinic	401/695 (58)
Friendly staff	243/689 (35)
Tasty and nutritious food	181/690 (26)
Signposts around the hospitals	176/690 (26)
Comfortable waiting areas	70/691 (10)

About half (372 (53%)) of respondents said that they would definitely travel to a hospital out of the district for a non-emergency operation if their wait would be reduced from one year to one month; 238 (34%) said they probably would travel and only 11 (2%) definitely would not.

Bath district has 12 community hospitals, and respondents were asked for their views on them. The questions made it clear that, as no extra funding is given to the district health authority for the community hospitals, maintaining them means having less of other services such as surgery at the district general hospital. Most (572/694 (82%)) of the respondents agreed that the community hospitals should be kept open with only 76 (11%) agreeing with the statement that they should be closed so that the same services as those in a typical district could be provided.

People were asked how much the health authority had to spend for each resident every year (about £200). Most respondents (413/687 (60%)) answered "do not know." Seventy two (11%) selected the correct figure from four options ranging from £10 to £800.

A series of questions asked whether or not certain services were provided by the district health authority. The authority was believed by 38% (260/680) of respondents to provide family doctor services, and 33% (27) thought that it provided day centres for elderly people.

DECISION MAKING AND INFORMATION

Table III shows the responses to questions about decision making. Most (581/692 (58%)) respondents agreed that the health authority should "do more surveys like this, to find out what services local people want." There was support for suggestions that the health authority should give people more information about what it does (607/682 (89%) agreed) and about the services that are provided for them (642/690 (93%) agreed).

TABLE III—Views of 690 respondents on statements about decision making and running of health service. Figures are numbers (percentages)

Statement	Agree	No opinion	Disagree
Decisions should be left to the doctors and other experts at the health authority	400 (58)	23 (3)	268 (39)
The public should have more of a say in making the decisions	446 (65)	49 (7)	188 (27)
Local people are not able to influence the decisions	471 (68)	63 (9)	154 (22)

Discussion

The response rate of 49% is respectable for an exploratory study of this type.³ The results must be interpreted with caution, in view of possible non-response and sampling bias. Future studies, aiming beyond the exploratory level, will need to achieve higher response rates or obtain estimates of bias from non-response.

PRIORITIES

We could not consider the full range of services in a survey of this type; instead, examples of types of service were chosen. There is no simple explanation of the expressed priorities. They did not reflect the "value for money" of different services. The cost of hospital haemodialysis has been estimated at £14 000 for one quality adjusted life year; advice to help people stop smoking costs £167 for the same benefit.⁶ A wish to obtain the greatest good for the greatest number was not apparent. It is unclear whether the low priority attached to help for people who wish to stop smoking reflects low priority towards preventive services or a lack of sympathy with smokers. A fuller examination of public priorities, covering many more services, would be possible; this has been attempted in Oregon.⁷

The relative importance of technical and interpersonal aspects of quality⁸ were examined. Interestingly, some interpersonal aspects of quality highlighted in the NHS reforms,⁹ such as comfortable waiting areas, were not given the highest priority. Respondents considered clear information about their illness and treatment important; supplying this information is not expensive.

Contracts for operations could be placed with providers outside the district if this gives better value for money or reduces local waiting times.

DISTRICT HEALTH AUTHORITIES AND THE PUBLIC

Many people knew little about the health authority. The public needs a better understanding of the resources which health authorities have to spend, the cash constraints within which they work, and the extent to which their activities can influence health. District health authorities might wish to consider ways of informing the public of what they do and provide.

PUBLIC'S ROLE IN DECISION MAKING

Public support for the delegation of decision making to professionals and the health authority cannot be assumed. We have no evidence of what people believe should be the basis for deciding the allocation of resources and patterns of care.

Our results indicate some support for greater public involvement in decision making, although the extent of involvement was not investigated. Some people may wish for choice on issues such as appointment arrangements but be prepared to delegate decisions about resource allocation to professionals. Including the public in decision making is complex and further work is required.

There are several barriers to the democratisation of decision making. Firstly, the public needs to be better informed. Secondly, the public does not necessarily share the same priorities and values as those who currently determine the nature of local health services. For example, the health authority might value interventions that decrease morbidity but the public may place a higher value on reducing mortality and want to see spending on interventions that are perceived as life saving. Thirdly, as services must be purchased within resource constraints, those who participate in decision making must be prepared to reduce some services to develop others. Despite a clear reference to the opportunity costs in a question about community hospitals respondents expressed support for them.

This suggests that the public may be prepared to choose to have less spent on one service to have the benefits of another.

Out results have given a general impression of the public's views. The survey raised awareness in the health authority of the need to open a dialogue with residents. Purchasers will wish to find ways in which they can identify and react to public opinions. As well as providing a means of doing this, surveys can contribute to public awareness and knowledge.

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- 1 Hicks NR, Baker IA. General practitioners' opinions of health services available to their patients. *BMJ* 1991;302:991-3.
- 2 Fitzpatrick R. Surveys of patient satisfaction. II. Designing a questionnaire and conducting a survey. *BMJ* 1991;302:1129-32.
- 3 Yu J, Cooper H. A quantitative review of research design effects on response rates to questionnaires. *Journal of Marketing Research* 1983;XX (February): 36-44.
- 4 Mortagy AK, Howell JBL, Waters WE. A useless raffle. *J Epidemiol Community Health* 1985;39:183-4.
- 5 *Statistical package for the social sciences, SPSS PC+[computer program]*. Chicago, Illinois: SPSS, 1988.
- 6 Williams A. Economics of coronary artery bypass grafting. *BMJ* 1985;291: 326-9.
- 7 Dixon J, Welch HG. Priority setting: lessons from Oregon. *Lancet* 1991;337: 891-4.
- 8 Donabedian A. The quality of care—how can it be assessed? *JAMA* 1988;260: 1743-8.
- 9 Department of Health. *The NHS reforms and you*. London: HMSO, 1990.

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Vaccine coverage: recent trends and future prospects

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Abstract

Objective—To assess the feasibility of achieving the target of 95% coverage for the childhood immunisation schedule by 1995 and to determine the influence of sociodemographic factors and information systems on recent trends.

Design—Analyses of trends in quarterly vaccination data for diphtheria, pertussis, and measles in health districts between February 1988 and February 1991.

Setting—District health authorities in England and Wales, and health and social services boards in Northern Ireland.

Subjects—Cohorts of children whose youngest member had reached the target age of 18 months for receiving the third doses of diphtheria and pertussis vaccines and 2 years for receiving measles vaccine.

Results—Predicted coverage levels for mid-1995 were in excess of 95% for diphtheria, pertussis, and measles vaccines. In the 118 districts that continuously reported between February 1988 and February 1991 the increase in coverage was 6% for diphtheria and 13% for pertussis and measles vaccines. 1991 coverage depended primarily on 1988 coverage. The additional effects of deprivation, change in computer system, and child population size achieved at most only marginal statistical significance.

Conclusions—The government's target of 95% coverage by 1995 is realistic, although projections should be viewed with caution. Several national vaccination initiatives are likely to have contributed to the recent steady increase in coverage. Updating and validation exercises are likely to improve recorded coverage.

Introduction

Substantial improvements in coverage of childhood vaccinations have been reported over the past 10 years. Statistics from the Department of Health (unpublished) show that between 1979 and 1989-90 coverage in England rose from 80% to 89% for diphtheria, tetanus, and polio; from 51% to 84% for measles; and from 35% to 78% for pertussis. This achievement has been brought about by a combination of organisational change, health education, and professional commitment to the programme.¹ What further improvements in vaccine coverage might we expect? The government's

recent proposals for a national health strategy include a target of 95% coverage for the childhood immunisation schedule by 1995.² This will be achieved only if continuing improvements can be shown in all districts, including those with characteristics beyond the control of the health service such as high population mobility and unemployment.³ None of this will be possible without accurate, timely information. The efficiency of child health computer systems is therefore of paramount importance.

The most recent Department of Health statistics relate to children who reached their second birthday between April 1989 and March 1990. However, more up to date information on vaccine coverage is available from the COVER (cover of vaccination evaluated rapidly) scheme,⁴ which was established by the Public

FIG 1—Vaccine coverage, February 1988 to February 1991. Percentage coverage of third dose diphtheria and pertussis, single antigen measles, and measles, mumps, and rubella (MMR) vaccines (all reporting districts). (Source: COVER (cover of vaccination evaluated rapidly) scheme)

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