PROMOTING PARTICIPATION IN HEALTH IN THE COMMUNITY USING A HEALTH SURVEY

by

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"Many a health problem of great concern to society is already solved yet remains untouched since inadequate social action has yet to be unleashed."

Crew F A H (1948):
Measurement of Public Health.
Oliver and Boyd, Edinburgh

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ABSTRACT

Promoting participation in health in the community using a health survey

Health promotion is an emerging discipline that seeks to enhance positive health and prevent ill health. This thesis is designed to inform practice in health promotion. It is based on an action research project that draws together interdisciplinary concepts of the measurement of health and community participation. In so doing it identifies the use of a survey, the Community Health Promotion Survey (CHPS). The thesis argues that when used creatively in this way a survey may simultaneously serve two purposes: **first,** measure health-related behaviour and, **secondly,** promote participation in health within a community. Thus, in this study, the survey process and its impact on the lay community were considered to be as important as the measurements of health-related behaviour obtained.

Surveys to measure the health-related behaviour of whole populations have been well tested and standard methods were adopted. In this project two of the three local GP Practices gave permission for their FPC patients' lists to be used as a sampling frame which covered 75% of all Staveley's 13,420 adult patients. Lists were stratified by age and sex. A 20% systematic, random sample of 2,003 patients was drawn. The sample was shown to be representative by age and sex of the whole population. A postal survey of these patients, using two reminders, obtained a response of 59% after exclusions for non-delivery of 8%. Males and the elderly are under-represented in response. Teachers in all 3 local secondary schools agreed to administer the survey to their first and fourth year groups. Response from pupils attending school on the day on which the survey took place was 100%. Self-reported measurements of health-related behaviour were obtained, using reliable questions. For example, 23% of adult respondents were ex-smokers and 26% were daily cigarette smokers. 22% of respondents reported that they never drank alcohol and 18% of males had drunk more than 21 units of alcohol in the previous week. Analyses by chi-square and Mantel-Haenszel showed, generally, that the strongest influences on health-related behaviour were age and social class. For example, parental status was less strongly associated with levels of alcohol consumption than age. Readministration of the adult survey to a matched sample identified changes in health-related behaviour, for example, there was a reduction in the frequency of egg consumption and younger people were more likely to have increased their frequency of drinking skimmed milk than older groups.

The role of a survey in facilitating community participation is less well understood. Two crucial elements were therefore introduced and tested in the survey.

These may be seen as early stages of community participation and contained key elements of "radical" survey methodology. First, the feasibility of surveying a range of non-representative "hard to reach" community groups was assessed. Of the 52 groups contacted 50 (96%) agreed to participate, with response being achieved from 47 (94%). Response rates from groups collectively was low (16%) but varied greatly between groups, reaching 86% in one instance. Groups producing the highest responses were social in nature, with a membership of 10 - 100. The study showed that many types of community groups will readily assist in the distribution and collection of questionnaires to group members. Secondly, extensive feedback from and about the survey to lay and professional individuals and groups was tested. Results showed that there was considerable lay interest in feedback. 62% of respondents selected, on average, three of the ten items offered. The summary of survey findings (38%) and healthy eating (36%) were of most interest, making up 40% of all feedback. Those often thought to be least interested in health, such as the unemployed, were just as likely to ask for information as others, although women requested 63% of all feedback. Information requested appeared to relate to the individual's circumstances with, for example, males in the "at risk" age group for heart disease asking for that leaflet.

The impact of the CHPS on individual respondents and the lay community was measured. The study showed that awareness of the survey was raised amongst 40% of the community. Women (51%) were more likely to have heard about it than men (33%). The survey's ability to stimulate social networks was assessed. Friendships were shown to be the most important channels of information about the CHPS (37%). The family was of equal importance to posters (16%) in disseminating information about the survey. There was some evidence that, in a few groups, awareness of health issues had been raised and some activity had been generated. This appeared to be greater where contacts with a health promotion officer had been established. A surprising, and tentative, finding is that, in itself, the CHPS may have stimulated some change in a small number of individual respondents.

Follow-through by professionals that builds on the surveying process and feedback may lead to more intensive levels of community participation. Practical opportunities for follow-through were identified, for example, systematic feedback about their own patients and school pupils to General Practitioners and teachers and feedback of a group's data to a participating community group. Response from health promotion professionals to follow-through opportunities were examined and found to be generally disappointing. The use of the method by policy makers, planners and practitioners was explored. Their dissemination of findings to other professionals and

setting targets for changes in the population's health-related behaviour was similar to that observed elsewhere. However, practitioners' response to the implications of research for practice was negligible.

It is recommended that health-related behaviour should continue to be seen as one limited but appropriate intermediate indicator for health promotion. The limitations of postal survey data need be recognised, for example, measurements often under-represent the health-related behaviour of some population groups, such as males and the elderly. Resulting bias in data are important considerations when using data in policy and planning, for example, setting targets for health promotion and monitoring population changes in health-related behaviour. Methods for increasing postal response from those known to be poorer responders are suggested, such as personalisation of postal contacts, telephone reminders and complementary data collection methods, including interviewing the elderly in their usual meeting places. It is recommended that, at a national level, reliable, standardised questions should be developed for use in postal surveys to facilitate comparison of data between populations. In terms of community participation in health it is proposed that, based on the CHPS experience, surveys in small areas to further examine their potential to promote participation in health should be carried out. Such studies should focus on examining ways in which surveys may activate social networks and innovative routes for feedback. Emphasis should be given to the use of data by practitioners and to identifying, carrying out and assessing the impact on the lay community of follow-through activities. It is recommended that training for health promotion staff in both research methods and community participation is required to underpin professional practice in community participation in health.

The study demonstrated that a survey to measure health and, at the same time, promote participation in health was a feasible, coherent activity that was acceptable to the community. It may therefore be considered as one strategy by health promotion staff seeking economic and innovative methods for practice.

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Abbreviations

CHIRU	Community Health Initiative Resource Unit
CHPS	Community Health Promotion Survey
DHA	District Health Authority
DOH	Department of Health
DSS	Department of Social Security
DHSS	Department of Health and Social Security
FHSA	Family Health Services Authority
FPC	Family Practitioners' Committee
GHS	General Household Survey
HA	Health Authority
HEA	Health Education Authority
HEC	Health Education Council
HMSO	Her Majesty's Stationery Office
HPAW	Health Promotion Authority for Wales
NCHR	National Community Health Resource
OPCS	Office of Population, Census and Surveys
PCDP	Professional and Community Development Division
RCP	Royal College of Psychiatrists
RCGP	Royal College of General Practitioners
TRHA	Trent Regional Health Authority
WHO	World Health Organisation

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General introduction

The promotion of positive health is a cornerstone of the Government's health policy as the year 2,000 approaches. This study is therefore timely as it seeks to examine an innovative approach to promoting health within a community using techniques embedded in theories of community participation and the measurement of health. The thesis argues that surveying a community and then feeding back information to participants is an early stage in stimulating community interest in health whilst, at the same time, allowing the health-related behaviour of the population to be measured. The opportunity to develop and test such a survey arose from North Derbyshire Health Promotion Unit's need to measure the health-related behaviour of a population. It was decided that an innovative survey method for health promotion purposes would be developed in Staveley, identified as one of the most disadvantaged communities in North Derbyshire. "Hard to reach" groups would be included in the population survey by accessing existing community networks. Feedback to individuals and groups would be a central and integral activity of the surveying process.

The research reported here was therefore designed to serve two purposes. First, it needed to be a readily repeatable and reliable method by which to measure the health-related behaviour of the population. Secondly, it sought to promote the early stages of community participation by engaging the interest and co-operation of the community. Thus the process of surveying was seen to be as important as determining outcomes.

The study is based on an "action research" project. It is rooted in the developing discipline of health promotion. Some of the concepts used in the thesis are relatively new. They have been used imprecisely by other authors, or are open to different interpretations. The first Chapter of the thesis, which is primarily concerned with the concept of the measurement of health, therefore starts by introducing concepts of health and health promotion. It reviews practice and notes the limited value of routinely collected morbidity and mortality data in monitoring the impact of health promotion activity. Chapter 1 then considers other measures of health status and emphasises the measurement of health-related behaviour as one intermediate indicator for health promotion. The third section of Chapter 1 moves on to examine how health-related behaviour has been measured in lifestyle surveys. It reviews the methods used in such studies as these are the focal point of the thesis, rather than considering the actual measurements taken. The final section of Chapter 1 considers response to lifestyle surveys, validity and reliability of data and reflects on the cost and use of lifestyle surveys in providing health-related information for the public.

Chapter 2 shifts the focus away from the measurement of health to introduce the second concept explored by the thesis: community participation. Definitions of community and community participation within the context of health care are introduced and the move towards community participation in this country is examined. The second section of Chapter 2 considers aspects of community dynamics that may be harnessed in the interests of health promotion. The third section reviews experience of community participation in the UK and the various models of participatory activity that have emerged, primarily from the Third World. Chapter 2 then draws together the measurement of health and community participation by identifying a common theme: both activities may be based on population surveys. In the former activity survey methodology emphasises the need to collect representative data. In community participation variations of what has been termed "radical survey methodology" are seen as consulting and then informing the population through feedback related to the survey and its findings. Chapter 2 concludes by stating the aims and objectives of the Community Health Promotion Survey (CHPS) which was carried out for this study.

Chapter 3 reports on the survey carried out in North Derbyshire. It describes the study population and gives details of the method used to survey representative and non-representative samples. Chapter 3 also reports on the reliability of data collected in the study and presents findings from the survey. Results are given and emphasise response rates, demand for feedback of various types and then, briefly, some key measurements of health-related behaviour observed in the study are presented.

Chapter 4 gives details of three evaluations of the survey method. It examines the method for its ability to raise awareness and interest and prompt change, particularly in the lay community. Data from professionals and the lay public are reported. Chapter 4 also assesses whether change in health-related behaviour may be monitored using this technique.

Chapter 5 discusses the results of the survey in relation to the two concepts that underpin the study: measurement of health and community participation. The limitations of the survey method are discussed before the method is examined for its ability to raise public awareness, generate interest in health and stimulate change in the lay population. The response of professionals to the opportunities for "follow-through" generated by the survey are examined before the final section in Chapter 5 considers the implications for practice in health promotion.

Chapter 6 gives conclusions and recommendations which emerge from the study. These are directed towards those engaged in health promotion generally, although the final section has been specifically written for practitioners.

Chapter 1

HEALTH PROMOTION : DEFINITION, PRACTICE AND METHODS BY WHICH TO MONITOR IMPACT

1.1 Definitions of "health" and "health promotion" and a review of the practice of health promotion

This chapter introduces the study by providing an overview of health promotion. It starts by defining the core concepts of health and health promotion. It then reviews the practice of health promotion and comments on efforts to monitor its impact through the use of routinely collected morbidity and mortality statistics and other measures of health, with an emphasis on lifestyle surveys.

Health and health promotion

The World Health Organisation in its Constitution (1946) claims that health is "a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity". This definition has been criticised for failing to include emotional, spiritual and societal wellbeing (Ewles and Simnett, 1992). The definition implies that, for health to exist, two approaches in addition to curative care need to be taken to promote positive health: preventive care to reduce ill health, and action to further improve existing conditions (Noak, 1987).

Various conceptual models of influences on positive health have been put forward. For example, an early model was the "Mandala of Health" originated by the Department of Public Health in Toronto, Canada (Lalonde, 1974). This model centres on the body, spirit and mind of the individual and radiates outwards through lifestyle, work, sick care systems and the environment to culture and the biosphere. Subsequent authors have put forward other models (Hexel and Wintersberger, 1986) and emphasised particular elements in them. For example, Downie, Fyfe and Tannahill (1990) consider the political context and sensitivity of health promotion, for example, the extent of Governments' theoretical and practical support for WHO initiatives and legal measures to, for example, ban cigarette advertisements. They highlight how societal and individual values that express and affect professional preferences have an impact on health promotion activity and discuss ethical issues, for example, the respect for individual autonomy whilst trying to prompt change. These, and many other, writers have informed the debate about how to promote positive health in Great Britain by raising awareness of the many interrelated factors that determine health (Ashton, Seymour, Ingledew, Ireland, Hopely, Parry et al., 1986), although the impact of models on practice is not always obvious.

Most models for action suggest that to promote positive health three spheres

of activity need to be incorporated: health education, preventive health care and health protection. These three spheres are encompassed by the term "health promotion". The definition of the activity of health promotion that appears to have been widely adopted, although not without criticism (Kelly, 1990), is that provided by the World Health Organisation. It states that health promotion activity is "the process of enabling people to increase control over and improve their health" (WHO, 1984). It is this definition that will be used throughout the thesis.

Pre-requisites of positive health, and thus also to the success of any health promotion strategy, were stated by the WHO (1979) to be: freedom from the fear of war, equal opportunities for all, the treating of basic physical and psychological needs and political will supported by the public. Not all of these pre-requisites have yet been met fully in the UK. However, Great Britain has a National Health Service, welfare state and tradition of a home-owning democracy and is governed by an administration committed to the objectives of Health For All By the Year 2000 essential to the success of projects. The economic and social infrastructure by which to underpin health promotion initiatives is therefore as strong, or stronger, than that of many other countries (McKinlay, 1979).

In this country, optimism about the future of health promotion has recently been strengthened by the government's adoption of a strategy for "The Health of the Nation". The strategy was initiated by a consultative document designed to stimulate debate about a health strategy for England, Wales and Northern Ireland (Secretary of State for Health, 1991). In it the Government highlighted the view that improved health and health care requires the promotion of positive health, recognition of the range of factors that determine health and local, national and intersectorial collaboration. The subsequent White Paper, "The Health of the Nation", was published in 1992 (Secretary of State for Health, 1992). This important document identifies 5 major health concerns: heart disease/stroke, cancers, mental illness, sexual health with HIV/AIDS and accidents. It sets national targets for the reduction of premature morbidity and mortality from these areas, for example, deaths from heart disease are to be reduced amongst under 65 year olds by 40% by the year 2000. Thus health promotion policy makers and planners have been given clear priorities and targets to achieve. How these targets were to be met in practice were not specified although advertisements issued by the Department of Health in national newspapers have emphasised individual responsibility for health and invited the public to send for a booklet, "The Health of the Nation and You" which:

> "contains lots of useful tips on things like avoiding heart disease, giving up smoking..... All the things, in fact, that could help you to get healthier and stay that way." (Secretary of State for Health, 1992: p 17)

Subsequently, a series of key area handbooks addressing each of the target areas have been published for professional health care staff by the Department of Health, for example, discussing the role of the National Health Service in reducing coronary heart disease and stroke (DOH, 1993). These emphasise the need for more research into risk factors for preventable diseases which are related to lifestyle.

Health promotion in practice

The process of translating the theory of health promotion into practice has not proven easy (Hexel and Wintersberger, 1986). The most profound influence in the process appears to have been that of the World Health Organisation through its "Campaign for Health for All By the Year 2000" (WHO, 1978; Ashton, Grey and Barnard, 1986; WHO, 1988a) and specifically its discussion of principles in practice (WHO, 1984). A corner-stone of the approach advocated by the WHO is the recognition of the potential power of local communities as allies in the search for creating conditions under which health may flourish (WHO, 1985a). Although this approach was founded primarily on experience in the Third World (Rifkin, 1985) the theme of the role of "community in health promotion" has been taken up in North Derbyshire, where this study took place, and by others who see its relevance to developed countries (Watt, 1986a; Ashton, 1988; Adams, 1989).

Developing innovative approaches to promoting health in the community and across populations requires inter-disciplinary co-operation both within medicine (Nutbeam, 1984) and between disciplines to enable practitioners and researchers to "understand, learn to respect and work with each others' models" (Stacey, 1988a). It has been argued that health promotion cannot be the exclusive preserve of any one discipline but must draw on and extend medical specialities, including epidemiology and health education, child and adult education, psychology and the social sciences (WHO, 1984; Berkman, Bonander, Rutchick, Silverman, Kemler, Marcus et al., 1990; Wendt, 1990; Downie et al., 1990). The amalgamation and extension of relevant concepts into a new and dynamic discipline is a potentially difficult and painful procedure. It demands that practitioners weave together experimental methods of working, integrating ongoing assessment of practice. Nevertheless this process of mutual learning is seen as an essential "grand alliance" (Nakajima, 1988), although it has been argued that there is a danger of an interdisciplinary approach producing a

"fragmentary pastiche of disciplines rather than an intellectual integration" (Turner, 1990). Farrant (1991) notes that, rather than collaborating, professional groups may instigate interdisciplinary and intersectorial competition. She argues that power struggles between professional groups and statutory sectors for resources and control have been detrimental to practice.

Health promotion practice and theories of behaviour change

Theoretical models of behaviour change have been particularly influential in health promotion practice (Calnan, 1984; Tones, Tilford and Robinson, 1989; Petosa and Jackson, 1991). Most theories of behaviour change have been concerned with the impact of mass communication on the public. Principles behind the theories are stressed differently and are complex (Tones et al., 1989). Generally they suggest that persuasive information is the prime method of changing attitudes. In turn, attitudes determine behaviour. The presentation of the message and the characteristics of the audience determine the appropriateness of the information for prompting change. In particular, existing knowledge and social values influence the acceptability of information to the individual. New and conflicting information needs to be presented in a different way from that which is in accord with existing values.

Early theories of behaviour change tended to emphasise psychologically orientated models that focus on the individual (Becker, 1974). More recently, models have introduced socio-psychological elements that allow for the individual's social context (Ajzen and Fishbein, 1980; Tones et al., 1987). Bandura's theory of social and cognitive learning (1986) emphasised the need to enhance the individual's self-efficacy which he viewed as the major determinant of behaviour change. Bunton, Murphy and Bennett (1991) argue that changes in social structures and cultural processes that prompt intentional or unintentional change have been neglected in theories of individual behaviour change. They suggest that health promotion practitioners need to develop strategies, closely allied to research, that recognise the cultural context and use people's own beliefs and practices to inform and implement projects. In this study naturally formed social groups were to be accessed through research activity and information from those groups used to inform closely allied practice. It may therefore be seen as a partial response to the need identified by Bunton et al., (1991).

The fact that existing conceptual theories do not wholly explain and predict behaviour change reflects the difficulties of testing theories in practice (Harrison, Mullen and Green, 1992). These difficulties lie, for example, in examining psychological processes and obtaining data over time from samples that are inevitably exposed to uncontrolled factors present in the real world.

The adoption of innovation

Models of behaviour change often refer to an initial stimulus or "cue to action" that disrupts or challenges the existing belief system (Mullen, Hersey and Iverson, 1987). Change may or may not take place as a result of this "cue". Tones et al., (1989) suggest that the more the exposure to acceptable cues the more likely change is to take place. New ideas may be introduced to individuals or populations in a number of ways, for example, intrapersonally, interpersonally, by social networks or through institutions (Chaffee and Berger, 1987). The way in which new ideas are spread has been considered by Rogers and Shoemaker (1983) in their theory of the communication of innovation. The theory states that conditions under which innovation will be diffused are: whether it is perceived as beneficial; is in accordance with needs and values; is easy or difficult to adopt; is testable, and when tested is viewed positively by peers.

Green (1970) identified two main types of individuals who are more or less likely to adopt innovations. First, there are dissonants who may either conform to a message because of social pressure but not themselves believe in the innovation, or who may not conform because of social pressure, despite believing in the message. Secondly, there are deviants who either behave in opposition to their group and adopt a message because they believe in it and are sufficiently innovatory to withstand group pressure, or those who do not accept messages despite their group's pressure to conform. It has been suggested that, apart from a few percent of possibly mistrusted innovators, early adopters of innovation make up almost 8% of the population with some 16% being unlikely to adopt innovation whatever the incentive (Rogers and Shoemaker, 1983). This theory has led to the notion of diminishing returns for those seeking to influence the behaviour of large groups of people. The notion implies that, although it may be relatively easy to influence some people, there is a point when the same - or alternative - programmes are unlikely to produce the desired outcome in others. In health promotion this notion of a "ceiling effect" and acceptance of an irreducible minimum of non-adopters may result in more realistic expectations of health promotion addressed to the general public or careful targeting of programmes towards those with risk-related behaviour. Care must be taken to ensure that the "realistic expectations" argument is not used to excuse complacency if ill-founded initiatives fail to have impact and alternatives are not creatively pursued.

"Cues" to change in individuals and groups

The cues or stimuli required in promoting health-related behaviour change

may be: internal, such as illness (Janz and Becker, 1984; Hatch, 1984); external and impersonal, for example, health information leaflets; external but personalised, for example, verbal information from health professionals or, influentially, from significant others such as peer group or family members (Marcoux, Trenkner and Rosenstock, 1990). There is evidence that there is a demand from professionals and the public, especially younger, middle class and mobile groups (Aizpura and Jones, 1989) for information, particularly about diet (Smith, 1981; Philipp, Hughes, Mackley and Fletcher, 1988; Bishop and Charnley, 1991). In this study it is argued that a survey may provide one or a series of "cues" to change in individual members of the lay population: receipt of the survey questionnaire and then staged feedback from the survey in the form of leaflets about health and the findings from the survey. The impact of impersonal health education literature, often as part of national campaigns, has been explored (Hicks, Spurgeon and Stubbington, 1988; Whitehead, 1989). In general, it seems that those most needing support to reduce health-related risks are least likely to heed the impersonal messages of mass media health education. For example: smokers who deny the relevance of general messages and so reject them (Eiser and Gentle, 1989); those in the lower social classes (Gray and Blythe, 1979) of which there was a high proportion in the population used in this study; those with least knowledge prior to campaigns (Charny and Lewis, 1987), and school pupils who are frequently absent who are known to be more likely to be smokers (Charlton and Blair, 1989). It also seems that those interested in obtaining advice have poor knowledge of where to obtain it (Philipp et al., 1988), despite the dramatic growth of interest reflected by an increase in adult education courses, expansion of statutory services, and at "the grassroots", (Whitehead, 1989).

The mass media have also shown an increasing interest in health. For example, Wyatt (1988) has reported that there has been an information "explosion" about AIDS and unprecedented interest by newspapers and magazines where reporting has ranged from "the sensational and irresponsible to informed discussion". It has been shown that doctors recognise that they should do more to inform their patients, but feel that they lack the resources to do so (Tapper-Jones, Smail and Pill, 1990). Evidence suggests that general practitioners, pharmacists and books are perceived as more reliable sources of information than media (Worsley, 1989), although most people obtain health-related information from media outlets (Whitehead, 1989). In this study the uptake of leaflets was seen as an important part of feedback to study respondents and is reported in detail. However, as leaflets and other impersonal media have been shown to be relatively ineffective in themselves as agents of behaviourial change (Ross and Rosser, 1989; Pasick and Wallack, 1989; Whitehead,

1989) it was not anticipated that the "cues" provided by leaflets would in themselves prompt change in individuals, but may act as a precursor to change. In addition, in community groups an invitation to participate in a survey may disrupt the groups' usual social processes and also act as a "cue" to change. The group may choose to participate or reject the invitation. In either case the survey was seen as initiating contacts with groups that could then be followed through. Such ongoing interaction between lay and professional groups is central to facilitating health promotion activities in groups (Bunton et al., 1991).

The development of a theory-driven discipline is difficult. Staff are faced not only with learning and using new skills, but also the day to day running of health promotion units, often with limited training and resources and a legacy of on-going activity in health education. Yet innovative models of good practice must be developed, evaluated and disseminated so that health promotion can be seen to be edging towards a disciplined and effective entity. Part of that self-imposed discipline must be to rapidly develop methods by which to measure the "success" of health promotion activity. These will not only help to identify effective practice and justify activity but also help to answer criticism and pre-empt possibly arbitrary assessment of practice. Without specific objectives and related evidence of "success" health promotion is vulnerable. It may be seen as marginal to, rather than integral to, the more traditional curative and preventive health service focused on illness. This is especially true in the light of the Government's interest in health promotion and "value for money" philosophy (DHSS, 1987; DOH, 1989a). North Derbyshire Health Authority's decision to carry out the survey reported here was the first step in instigating a systematic method by which to monitor the overall impact of health promotion on sections of its population.

As a general, but possibly realistic, comment it has been noted that health promotion activity reflects its cultural acceptability and that:

> "we may safely assume that unpopular prevention will remain difficult and unpopular and popular prevention will remain attractive, enjoyable, popular, cosmetic and inconsequential." (Worden, 1979: p 7)

Extending this view to the evaluation of health promotion, Feuerstein (1986) has commented that evaluation measures what it is easy and acceptable to measure but not necessarily what ought to be measured. It is therefore important that health promotion adopts and adapts for its own purposes a wide range of tested and legitimate evaluation strategies. These should measure all its activities, popular and

unpopular and assess its efficiency and effectiveness.

1.2 Measurement of health: a health promotion perspective

To date, a wide range of positive health indicators are not routinely collected on a national basis. Indeed, the possible range of topics and the methods by which data about them could be accurately collected (Noak and Abelin, 1987) suggest that current methods of collecting statistical data by some form of existing, standardised registration procedure would be inadequate (Alderson, 1983). This section reviews the measurements of health that are currently used to monitor and inform health promotion practice. It starts by considering the more traditional measurements of morbidity and mortality before commenting on alternative methods that can be used to assess health status. Finally, measurements of health-related behaviour as indicators of health status and their use to health promotion are introduced.

Measurements of morbidity, mortality and health status

It is probable that health-related data already routinely collected will continue to be used to monitor and inform health promotion. Mortality statistics, including those related to occupation, have been collected nationally for well over a century (Greenwood, 1948). Since 1948 the World Health Organisation has supervised the collection of comparable international mortality data (WHO, 1948). Morbidity registration is also carried out routinely. For example, since 1962 a scheme for cancer registration has been operating in England and Wales (OPCS, 1968) and various infectious diseases are notifiable, for example, diphtheria (OPCS, 1961). Interest in measuring deaths and ill health, some of which health promotion is designed to prevent, is not surprising given the emphasis until the middle of this century on overcoming disease (Breslow, 1972).

Morbidity and mortality statistics may eventually reflect successful health promotion activity by taking repeated measurements over many years. For example, large scale interventions may take 10-15 years to be reflected in coronary heart disease morbidity and mortality statistics (HPAW, 1985a). In Finland it was clear that, between 1969 and 1979, there had been a decline in mortality from coronary heart disease in Finland as a whole. Excluding North Karelia the decline was 12% amongst males and 24% amongst females. In North Karelia, with its intensive health promotion programme, the decline was about double the rate for the rest of the country, (Salonen, Puska, Koltke, Tuomilehto and Nissinen, 1983; Tuomilehto,

Geboers, Salonen, Kuulasmaa and Puska, 1986). Whether it was the health promotion programmes rather than other activities or trends within sections of the population that caused the sharper decline in mortality rates in North Karelia is debatable (Oliver, 1992).

In the short term, morbidity and mortality statistics have limited value. They are not sensitive enough to measure the impact that health promotion activity may have on, for example, diet. Statistics are unlikely to be sensitive to important changes within small geographical areas where successful intensive local health promotion activity has taken place. In addition morbidity and mortality statistics will not reflect the relative effectiveness of specific programmes of work. For example, heart disease has a number of strongly associated as well as less important risk factors (Maryon Davis, 1987; Wells, 1987). A successful campaign to alter a less well associated factor, say alcohol consumption, may be subsumed by relatively low impact on a very strongly associated factor, such as smoking.

Measurement of health status

The term "health status" is generally used to describe the health of populations and individuals. It encompasses health indicators, indices of health and health profiles (Culyer, 1983; Mootz, 1986). Each of these concepts is introduced briefly.

The term "health indicators" is usually associated with simple types of measurement of rates of mortality, morbidity, growth and fertility by which the health of populations may be assessed (Carstairs and Heasman, 1987; Everleth and Tanner, 1991). These measures are often age and sex specific. Some statistics relating to morbidity, mortality, development and fertility are routinely collected through service providers. They are published to assist in planning services, chart the history of diseases and evaluate services. They have been widely discussed and reviewed (Benjamin, 1968; MacFarlane and Mugford, 1984; Hunt, McEwen and McKenna, 1986; Alderson, 1983). Other methods of collecting data about health indicators from the public using a range of questionnaires have been developed: most focus on ill-health rather than positive health (Jette, 1980).

As far back as 1936 it was argued that no complete index of health could adequately reflect the health status of a population and associated input required to achieve that status (Stouman and Falk, 1936). Many planners still "dream of having a single index ... However, it is extremely unlikely that such an index could be calculated, as it can in the economic field" (Alderson, 1983). The difficulties of constructing an index that numerically measures the public's health lie, first, in the

vast range of factors that could justifiably be included; secondly, in the problems of routinely collecting data about all these factors; thirdly, in the arbitrary nature of values attached to scaling variables and, finally, there is the issue of how data from different dimensions may be aggregated (DHHS, 1973; McDowell and Newell, 1987). For health promotion purposes, the concept of an index producing a single score may be attractive but impractical as there is no agreement over what positive health factors should be measured. Indices to date tend to focus on impairment, disability and handicap (McDowell and Newell, 1987).

Partly because of the difficulties of compiling a single health index an interest in health profiles emerged in the early 1970's (WHO, 1971). Profiles were seen as reflecting not only more traditional measures but also lay perceptions of health and services (Luker and Orr, 1985). For example, the Nottingham Health Profile (NHP) has been developed as a cross-cultural, subjective measure of health, producing reliable data from lay populations. The NHP has face, content and criterion validity and enables populations to be compared (Hunt, 1988). Thirty eight questions are scored to produce a profile of six scores relating to physical mobility, pain, sleep, social isolation, emotional reactions and energy level. Questions relate to negative aspects of health. Consequently the NHP measures change by reflecting relatively severe experiences and "healthy" profiles do not necessarily indicate a total absence of problems (Hunt, McEwen and McKenna, 1985). In the evaluation of health promotion the NHP therefore has limitations as it is not sensitive enough to indicate changes in positive health.

Although the above example focuses on lay perceptions, profiles may also include evidence from a range of service and resource providers, planners and policy makers at all levels (Goldberg and Dab, 1987). It has therefore been suggested that health profiles are particularly useful in assessing the health needs of relatively small communities, rather than larger units (Hubley, 1982; WHO, 1986). They may be readily adapted to encompass a variety of measures important to a locality, for example, resources and culturally defined factors (Murnaghan, 1981; Hussey and Sainsbury, 1990).

Measurements of health-related behaviour

Measurements of health-related behaviour are health indicators that may be incorporated into health profiles. The prevalence and incidence of specific risk-related health behaviour are seen as indirect indicators of future damage to health that may or may not require medical intervention (Anderson, Davies, Kickbusch, McQueen and Turner, 1988). Behaviour may be divided into two distinct activities.

First, there is the utilisation of health services for maintaining or improving health or avoiding ill health which researchers appear to have studied most until recently (Anderson, 1988), for example, the use of cervical cytology clinics, optical and dental checks and blood pressure monitoring. The second type of behaviour is "self care" (Kasl and Cobb, 1966): what people do to maintain or attain health (Berkanovic, 1982; Hicks, Spurgeon and Stubbington, 1988).

A general term introduced to define health-related behaviour of interest to health promoters is "health-protective behaviour" (Anderson, 1988) which, regardless of current health, may or may not be effective in attaining, maintaining or improving health, and may or may not be in accordance with medical advice (Harris and Guten, 1979). Ben-Sira (1991) describes health protective behaviour as often necessitating the foregoing of enjoyable habits. He debates the conflict experienced by healthy people in paying the "cost" of adopting recommended behaviour.

Relatively few attempts have been made to develop measurements of individuals' activity to promote their own psychological and social wellbeing and improve their physical environment. Interest has focused on measuring more tangible and better-understood health-related behaviour (NHS/DHSS, 1984). This is despite the wealth of material stressing psycho-social and environmental influences on health (Michaelos, 1980; Cohen and Syme, 1985; Morgan, Calnan and Manning, 1985; Kristiansen and Eiser, 1986; Anderson, 1988). There are several reasons for health promotion's particular interest in health-related behaviour. Leichter (1991) traces the development of the "new perspective" on health in both the UK and the USA. The new perspective is sometimes called the "Second Public Health Revolution". He states that health care professionals, public policy makers, academics and the general public have come to believe that there are two major barriers to health: "self indulgent, health endangering personal behaviour" and exposure to environmental hazard. Leichter goes on to argue that professionals believe that reduced risk from these two factors will have more impact on public health than expanding access to health care. Much emphasis has therefore been placed on informing the public about constituents of a healthy lifestyle. This is arguably easier than reducing environmental risk. In addition, strategies to change behaviour known to damage physical and psychological wellbeing are being developed (Kar, 1984; Smith and Jacobson, 1988). Measuring and monitoring health-related behaviour therefore offers practitioners one, albeit limited, type of information by which to inform and prioritise activity (Catford, 1983).

Measurements of, for example, exercise, weight, health checks, diet, alcohol consumption and smoking, are sensitive to small changes, unlike morbidity and mortality statistics. Repeated measurements of health-related behaviour offer more

immediate feedback to inform and assess recent activity. For example, in an evaluation of a stop smoking initiative, using a case-control model, the short term impact of the intervention was assessed in part by measuring the smoking status of both groups before and after the initiative (Gillies, Madeley and Power, 1988). The measurement of health-related behaviour is also an appropriate health indicator in either small or large populations (HPAW, 1985a; O'Donnell, 1986; Barker, McClean, McKenna, Reid, Strain, Thompson and Williamson, 1988). Target groups may also be studied, for example, staff in the workplace (Daughton, Roberts, Patil and Rennard, 1990), women (Pill and Stott, 1980; Graham, 1984) and school children (Gillies, Pearson, Elwood and Cust, 1987; HPAW, 1989; Balding, 1989).

Interest in measuring health-related behaviour has not been to deny that other factors affect health and may act as barriers to health. Some are often seen as outside the immediate control of the individual, such as the environment. Cultural determinants, knowledge beliefs and attitudes towards health are also known to underpin behaviour (Helman, 1990). Useful models, such as those relating to behaviour change already introduced in this Chapter, describe what influences beliefs and attitudes, how these are changed and so what determines heath-related behaviour. Other models illustrate the effect of psychosocial factors on health, for example, social support, perceptions of wellness, happiness and locus of control (Wallston and Wallston, 1978; Michaelos, 1980; Lipkin and Kupka, 1982; Cohen and Syme, 1985). Nevertheless, the adoption of healthy lifestyles is generally accepted as one intermediate goal of health promotion (Tones et al., 1989) and so it is entirely justifiable that measures of lifestyle should be seen as integral, important and relevant elements in the evaluation of health promotion. Weiss, Walker and Hill (1988) summed up the reasons for measuring health-related behaviour employing linkage theories. They concluded that:

> "It is behaviour that is the object of manipulation, and so it is behaviour that should be measured" .... and.... "the measured behaviour should be the one which has the most medical relevance." (p 381 - 2)

Thus the ultimate outcome of a programme will be to reduce morbidity and mortality from preventable causes but intermediate indicators related directly to that outcome are also relevant. For example, the incidence of lung cancer and deaths from lung cancer are ultimate outcomes of programmes designed to reduce smoking related morbidity and mortality. Appropriate intermediate indicators are measurements of those who never start to smoke or who cease to smoke.

It has quite reasonably been suggested that measurements of health-related behaviour may be complemented and amplified by the collection of "indirect" indicators, for example, the number of leaflets distributed, sales of specific products, recorded use of local facilities and the monitoring of environmental factors, such as the provision of no-smoking areas (Carstairs and Heasman, 1987; Nutbeam, Smith and Catford, 1990).

Recognition of the importance of health-related behaviour in monitoring health promotion led to the decision that, in this study, health-related behaviour would be central to the health survey carried out in North Derbyshire. The method by which health-related behaviour was to be measured was informed by evidence from other surveys. The following section therefore draws on evidence from previous studies to describe the various aspects of research methodology relevant to health-related behaviour surveys.

1.3 Measurement of health-related behaviour in the context of lifestyle surveys

Couto (1986) highlighted the difference between data collected for epidemiological studies and community-conducted health risk assessments, such as his study of environmental factors of concern to the population. He stated that both types of study share a concern for the calculation of risk based on probability and consequence. However, the evidence epidemiologists seek to support scientific statements of probability exceeds the level of evidence required to state that probably something should be done to eliminate or reduce a threat to health. Couto argued that a reasonable claim for a threat to health is distinct from proven incidence of illness, or proof of causal relationships. Thus lifestyle surveys may be seen as serving a different purpose from epidemiological surveys. This is an important distinction and has implications for the conduct of lifestyle surveys, the acceptability of levels of response and the interpretation of data.

Opit (1987) has warned that information may be valued more highly than action. The collection, compilation and analysis of data may be seen as an end in itself. He believes that the upsurge of interest in data collection can be seen as paralleling, perhaps even deriving from, the development of technologies for storing information. Opit implies that surveys may not be carried out as part of a coherent strategy. In such cases findings may be inappropriate or irrelevant to the needs of practitioners.

McQueen (1986) illustrated difficulties inherent in health promotion research

because of dichotomies between practice and research. He expressed these difficulties as making links between the qualitative and the quantitative; theory and method; concepts and research; knowledge/attitudes and behaviour; campaigns and evaluations, and individual and societal factors. In doing so he tended to focus on problems for researchers in practice. Whilst it may be true that, for example, the funding of health promotion research is problematic but expectations high, he is misleading to imply that appropriate models of research methodologies are in their "infancy". They are to be found in social scientific research (Grinnell, 1988) and have been shown to be appropriate for, for example, the evaluation of health education activity (Tones et al., 1989; Earp and Ennett, 1991). Difficulties in applying such methods should not lead to their rejection. It is to be hoped that well tested research methodologies and measures will be more widely understood, adopted and adapted by health promoters to resolve the difficulties and apparent dichotomies outlined by McQueen. In this way acceptable, reliable, routine and efficient monitoring will evolve covering not only health-related behaviour but also, for example, beliefs, attitudes and cultural and environmental factors affecting positive health.

In this country, data about health-related behaviour, and more recently health beliefs and attitudes, have been collected in a number of surveys that have used a range of methodologies. Such studies carried out in Great Britain are therefore the main focus of this section. In reviewing surveys emphasis is placed on methodological issues: the intention of the thesis is to develop and examine aspects of survey methodology, not compare their findings in terms of measurements of behaviour.

The content of lifestyle surveys

A wide range of surveys have been carried out into health-related behaviour, for example; diet (OPCS, 1990a), smoking (Charlton, 1986; Gillies et al., 1987; Kohli, 1989), and alcohol use (Goddard, 1990a). Population groups' health-related behaviour has been studied, for example, the unemployed (Platt and Kreitman, 1985; Hamilton, Broman, Hoffman and Renner, 1990), the elderly (Vetter, Charney, Farrow and Lewis, 1988), school children (Murray, Kiryluk and Swan, 1984; Balding, 1989) and women (Graham, 1984; Pill and Stott, 1985). Sensitive subjects, such as drugs and alcohol (Plant, Peck and Samuel, 1985), HIV risks (Galt, Gillies and Wilson, 1989; Bowie and Ford, 1989) and sexual lifestyle (Johnson, Wadsworth, Elliott, Prior, Wallace, Blower et al., 1989; McKeganey, Barnard and Bloor, 1990) have also been surveyed. Perceptions of health and health needs have been explored, for example, beliefs about smoking (Gochman and Parcel, 1982; Balding, 1986; Vetter et al., 1988), beliefs amongst working class women (Pill, 1988), perceptions of health (Farrell, 1986), felt

needs in a community (Elliott, 1987; Liddiard, 1988), health beliefs and risk (Rosenstock, Horvath, Radius, Dietman and Becker, 1980), and the influence of age and sex on perceptions of health (Wright, 1986). Individuals' smoking behaviour was introduced into the 1972 GHS survey (OPCS, 1988) and subsequently questions about alcohol consumption were introduced. These questions are asked bi-annually, although questions have not been consistent. In addition the OPCS carries out occasional surveys on health-related behaviour such as diet (OPCS, 1990a) and alcohol (Goddard, 1990a) and monitors dental health by decennial surveys (OPCS, 1978). Other national surveys relate to specific topics, for example, HIV and AIDS (Public Health Laboratory Services, 1990) and physical fitness (Activity and Health Research Team, 1993).

The focus of this section is the more broadly based population lifestyle survey which collects quantitative data about a range of health-related behaviour. Such surveys have taken place in Great Britain at national (Cox, Blaxter, Buckle, Fenner, Golding, Gore et al., 1987), Regional (HPAW, 1985a) district and sub-district levels (Butler, 1987; Luck, Lawrence, Pocock and Reilly, 1988) and in schools (Balding, 1989; HPAW, 1989; HEA, 1993). In an attempt to "audit the health" of the population the government is planning to carry out an interview-based survey of 3,500 individuals. The OPCS survey will focus on heart disease, an issue of major concern. It is anticipated that the survey will be carried out annually with increasing samples to provide information about how risk factors are distributed across the population (Dobbs, 1993). Another series of national surveys of adults is being carried out by the HEA (Glass and Carr-Hill, 1993) which has also recently conducted a survey amongst secondary school pupils and young adults (HEA, 1993a; 1993b). These surveys will be useful national contributions to those monitoring the impact of health promotion generally, although samples are too small to related to small areas.

Surveys have been carried out for a number of reasons but appear to have been primarily to inform health promotion practice (Catford, 1983; HPAW, 1985a; Butler, 1987), to provide information that will help to combat major public health problems, for example, coronary heart disease (HPAW, 1985a; Shrewey, Smith and Tunstall-Pedoe, 1990) and stroke (Coulter, 1987), or identify more localised patterns of need (Elliott, 1987; Dun, 1989). Survey findings have also been integrated into reports to assist in the policy, planning and appropriate resourcing of services (Liddiard, 1988). Directors of Public Health, who are now required to prepare annual reports for the Department of Health Monitoring Unit as a result of the Acheson Report, "Public Health in England" (DOH, 1988), have also used the results of surveys to describe and predict practice (Health for All Newsletter, 1988).

Concern in surveys has been to collect simple data about a range of health-related behaviours, rather than data that will assist in understanding one specific behaviour in depth. Questions about smoking, diet, alcohol consumption, exercise levels, and use of a variety of screening services, for example, cervical cytology, have been introduced. These are the key factors suggested in the Government's Korner Report which describes the information needs of the health service covering personal, preventive and protective behaviour (NHS/DHSS, 1984). However, they are by no means the only topics introduced into health surveys which may extend to comprehensive lists (HPAW, 1985a; Cox et al., 1987; Kars-Marshall, Spronk-Boon and Pollemans, 1988). Surveys may include any or all of the following: demographic details including age, sex, occupation, and marital status; health status such as weight and self-perceived wellness; illness-related data including contact with the health services; psycho-social factors such as attitudes towards and beliefs about risk-related behaviour, perceptions of stress, locus of control and social support; major life events; sexual relationships; drug use and self-medication; knowledge about risk-related behaviour and, finally, public policy issues, such as the provision of smoke-free areas. The social, political and economic context in which health surveys take place is rarely explored in depth although examples of contextual analyses do exist (Liddiard, 1988; Graham, 1990; Backett, 1992).

The lack of conformity of content described above accords with findings from the Health Education Unit's Health and Lifestyles Conference held in 1989. It concluded that surveys do not at present provide a comprehensive national health and lifestyle profile of the population (Leyden, Gobel and Killoran, 1990). At a local level the lack of uniformity of surveys restricts their capacity to compare the health of different populations between areas and over time because few common features run through national, regional and local tiers of data collection. The lack of uniformity in survey content is not surprising. First, local surveys presumably reflect local practice, resources and collective or individual interests. Secondly, national guidelines about the kinds of data to be collected have given practitioners few specific guidelines about the depth of data required (NHS/DHSS, 1984). For example, information about diet could potentially cover a huge range of dietary components such as quantities of fibre, fats and vitamins, cholesterol, types of bread, salt and sugar and frequency of consumption. Alternatively, much more general information about usual patterns of consumption of a limited range of foods of specific interest to health promotion could be collected. Beliefs and attitudes towards ones own or ones family's diet, details of workplace catering and "eating out" patterns, constraints on diet, such as allergies or cost, could also legitimately be included.

Contributing to lack of comparability of data is the suggestion that there is uncertainty about which questions produce valid and reliable results (Nutbeam et al., 1990), so that no sets of questions have been generally adopted. Information needs and resources available to mount, analyse and use data may also influence researchers (Daube, 1986). Restrictions on resources, both financial and in terms of staff and staff skills, may influence the methodology and content of surveys (Bentley, 1987). Presumably the contents of lifestyle surveys have been determined by balancing likely ability of the survey to provide useful data against the practicality of using specific data collection methods. Equally, content may influence the method by which data may be collected as certain types of data lend themselves to particular data collection methods, as discussed in the following sections.

Data collection and associated factors

A range of methods have been used to collect data in population health-related behaviour surveys. Most methods are variations of epidemiological and social science or marketing techniques which have been widely discussed elsewhere (Moser and Kalton, 1971; Luck et al., 1988; Leyden et al., 1989).

Methods and associated factors are discussed under the following sub-headings:

- sampling frames
- samples
- applicability of data
- instruments for data collection and their administration
- response
- non-response and bias
- validity and reliability
- informing the public through lifestyle surveys
- costs.

Sampling frames

When selecting a sampling frame it has been suggested that the following criteria should be considered: coverage, updating, duplications, out of range entries, adequate information to identify and locate eligible samples, ability to link data to other sources of information and ease of manipulation of data (Thomas, 1991). A range of sampling frames have been used in health-related behaviour surveys, presumably bearing in mind some or all of these factors. National surveys of adults have been based on samples drawn from regions and electoral wards (OPCS, 1989) or

constituencies (HEC, 1984). To identify specific individuals or households from which to draw representative population samples sampling frames have included: electoral rolls (Butler, 1987; Cox et al., 1987; Barker et al., 1988); age and sex registers from either GP Practices (Jamieson and Griffiths, 1987) or the Family Practitioner Committee (Somerset HA, 1988); households identified in census data (HPAW, 1985a) and post-code files (Killoran, 1990).

As a general observation complete records of individuals, such as electoral rolls, age/sex registers and telephone listings, involve tracking people over time, with inevitable human error and time lag before updating to indicate death, marriage, or movement into or out of listings. For example, electoral rolls are reviewed annually and also provide a record of property. When British Telecom had a monopoly of telephone services directories were published annually and used as the only such sampling frame. The advent of private telephone companies will have an impact on these and more complex methods of compiling telephone listings from a number of user lists may need to be developed. Records specifically relating to property based on households, such as Census data, are more stable than records of individuals but require that households remain in existence, are occupied and that new housing is registered. Census data are updated every ten years. In Nottingham, the Planning Department notifies new or demolished properties for tax purposes on a monthly basis. Consequently all sampling frames are likely to present researchers with degrees of incompleteness and inaccuracy (Moser and Kalton, 1971; Dean, 1988; Groves, 1989).

In deciding which sampling frame to select for this study a key factor was the need to involve local professionals so that their interest in receiving the findings from the survey would be raised. The use of the GP age/sex register, or the equivalent FHSA list, was therefore selected. Page (1991) in discussing the ethics of using patient lists in surveys has pointed out that ethical committees do not have to approve postal questionnaires based on Family Health Services Authority lists although they are protected by the Data Protection Act (1984). She emphasised that the co-operation of the General Practitioner is, however, important because their involvement may increase the acceptability of such surveys. In this study the permission of all GPs involved was sought.

In terms of completeness it has been estimated that 2% - 5% of the population fails to register with a doctor (DOH, 1989b; Page, 1991). There is no reason to suppose that this proportion will decrease or that it will significantly increase unless private primary health care becomes more popular. The inaccuracy of GP age/sex registers, and even greater inaccuracy of Family Practitioner Committee

(now the Family Health Services Authority) records has been known for some time (Fraser, 1981; Fraser and Clayton, 1981). Various estimates of inaccuracy have been given from 13% - 17% (Fraser, 1981; Pritchard, Low and Whelen, 1984; Sheldon, Rector and Barnes, 1984). More recent studies in Manchester and Sheffield found that 42% of addresses were incorrect (Riste, MacGregor, Hazes and Silman, 1991) and 4.6% of women's addresses were wrong (Page, 1991). In a study of the care of the very elderly the combined use of both FPC and electoral rolls still caused one in six persons to be missed (Bowling, Hart and Silman, 1989). Nevertheless a study has shown that GP registers reflect the characteristics of Census areas in which they are based (Hutchinson, Foy and Smyth, 1987).

Compared to patient lists, telephone listings are less complete as they cover only 87% of the households in the U.K. (OPCS, 1990b). Only one member of a household may be listed with no information about household composition. Methods to overcome non-listed numbers have been developed and used in a major Scottish study (McQueen, Gorst, Nisbet, Robertson, Smith and Uitenbroek, 1989). Studies have shown that rural, poorer, less skilled, younger and socially disadvantaged male individuals have less access to telephones (Frey, 1983; Collins and Sykes, 1987; Catlin and Shields, 1988). The evidence therefore suggests that telephone surveys will not reach some groups and so bias response. Electoral registers are also less complete than lists of patients in that those aged under eighteen are excluded as are others not eligible for inclusion. They also omit those who choose, illegally, not to register. Estimation of non-registration is difficult (Hickman, 1990) but seems to be generally increasing. All non-registration was thought to be 7% in 1981. Since then the impact of the Community Charge is thought to have been to substantially increase non-registration for voting. Officially the increase attributed to the Community Charge in non-registration is 1½% (Hickman, 1990), but in one inner city area it has been calculated as 19.1% (Riste et al., 1991).

In terms of accuracy, both electoral registers and telephone listings are probably more accurate than patient lists at the time they are compiled, although they are not continuously updated. Deficient patient registers have recently been criticised because of problems in their use in screening programmes (Bowling and Jacobson, 1989). For example, all screening depends heavily for success on accurate registers (Fullard, Fowler and Gray, 1987; Hobbs, Eardley, Elkind, Haran, Pendleton and Spencer, 1987). It has been suggested that poor maintenance of registers may undermine the Government's screening programmes introduced into the new GP contract (Armstrong, 1989), and so ultimately the evaluation of programmes (Choyce and McAvoy, 1990). In cervical and breast cancer screening it has been shown that

registers are inadequate if high response is to be achieved (McEwen, King and Bickler, 1989; Smith, Elkind and Eardley, 1989). Austoker (1990) has commented that the inaccuracy and lack of completeness of the Family Practitioner's data base is one of the greatest problems for screening programmes. The problem of inaccurate registers may be particularly acute in inner cities. For example, it has been claimed that almost 250,000 patients are registered with more than one practice in inner cities and that this is just one aspect of inaccurate registration. The figures do not take into account people leaving the country or using different names (Doctor, 1989).

A recent innovation in GP and FHSA patient registers is the computerisation of data. For example, 950 practices covering 3.7 million patients have introduced the VAMP system since 1987. The introduction of computerised systems by which an individual's record on a register may be daily transferred, updated and checked for inconsistencies has led to the claim that GP's age/sex registers will be the most complete sampling frame of individuals and as accurate as telephone lists and electoral rolls (Somerset HA, 1988). This claim is even more plausible now that General Practitioner's pay is linked closely to achieving targets for preventing care and screening (DOH, 1989a). The financial incentive to maintain accurate records of patients may be measurable in future years. There is already some evidence that the accuracy of computerised and linked GP/FHSA age/sex registers is improving. For example, the Derbyshire Family Practitioners' Committee register of GP patients was estimated to be 10% inaccurate in 1988 (Personal Communication, Worrell J, 1988), which is a lower percentage than the 13% - 17% mentioned from earlier studies elsewhere. Lower levels of inaccuracy in this instance may simply be a reflection of the relatively rural and stable characteristics of Derbyshire's population (Cartwright, 1986a). There is certainly no cause for complacency. In a study based in a semi-rural area Voss and Thomas (1991) found that 42% of Family Health Services Authority and General Practitioner records did not agree. They believed that 12% of addresses contained such serious errors that postal contact would be impossible. Five per cent of year of birth records were wrong and 5% of records referred to people no longer registered with the General Practitioner concerned. Another 2% of records had inaccurate surnames, forenames or sex recorded. Such inaccuracies, which appear to be different and patchy, obviously detract from the quality of Family Health Services Authorities' lists as sampling frames, especially when stratified by, for example, age and sex.

An advantage of GP or FHSA age/sex registers over electoral rolls or telephone listings is that they offer two demographic characteristics - age and sex - by which to assess representativeness of samples and study respondents, rather than the

one characteristic of sex. Nicoll, Bassett and Ulijaszek (1986) have also made the point that age/sex registers are useful in identifying particular ethnic groups by name. Their method has been applied to other lists where full names are given (Ecob and Williams, 1991).

In international, national, regional and smaller geographical studies, surveys of children's lifestyles have primarily been carried out in secondary schools, using schools' rolls and year class lists as sampling frames (HPAW, 1985a; WHO, 1985b; Balding, 1989; Kohli, 1989). Whole year groups were chosen for this study because school rolls are complete records of, and so good sampling frames for, children of compulsory school age. However, truancy and absence rates which increase with age (Pritchard, Diamond, Fielding, Cox and Choudry, 1987) make them likely to be incomplete in practice for "in-school" data collection. Home-based surveys of children do not appear to have been widely tested for school aged populations, although children aged 12 and over were included in the first Welsh Heart Health population study based on households (HPAW, 1985a).

Samples

Sample sizes vary depending on the purpose of the survey but have ranged from under 1,000 to 42,000. For example, by far the largest completed adult survey to date involved a sample of 32,000, and was designed to provide adequate data for 9 District Health Authorities (HPAW, 1985a; 1992). On-going monitoring of Scotland's population yields 500 - 1000 data sets per month being approximately 10,000 over a two year period (McQueen et al., 1989). A Northern Ireland study included 10,500 individuals (Barker et al., 1988). Three Regional surveys have had samples of between 13 - 14,000 (Killoran, 1990) although the West Midlands sample was some 5,000. District and sub-district samples have ranged between 2,500 - 4,000 (Wessex Regional Health Authority, 1987; Luck et al., 1988) to under 1000 (O'Donnell, 1986). In this study the sample size of 2,000 was chosen to give 95% confidence, + or - 2%, on measurements of smokers estimated at 30% of the population.

In percentage terms sample sizes often translate into around 1% of the sampling frame (Killoran, 1990). Such a generalization is potentially misleading, as the range appears to be 0.25% (O'Donnell, 1986) to 10% (Jamieson and Griffiths, 1987) to representation from every household (Elliott, 1987). In this study around 8% of the adult population was included in the sample. The Welsh sample was unrelated to percentage being calculated on a minimum number of households per Health Authority (HPAW, 1985a). School surveys have usually, but not always, been of whole schools, or year groups (Gillies et al., 1987; HPAW, 1989) as in this study.

The method by which representative samples of adult populations have been drawn for lifestyle surveys have been primarily simple random sampling (HPAW, 1985a; Jamieson and Griffiths, 1987), stratified random sampling (Farrell, 1986) or systematic sampling using a random starting number (Butler, 1987; Luck et al., 1988). This latter type of sample was to be used in this study because of the computerised program available to the FHSA involved. The Scottish sample was drawn by the Computer Assisted Telephone Interview method to overcome the problem of unlisted numbers (McQueen et al., 1989).

Methods of compiling sampling frames and samples that are not representative of whole populations, such as quota samples, do not appear to have been used in general lifestyle surveys. This seems reasonable as, generally, such surveys attempt to describe whole populations and must be based on representative samples to do so. Nevertheless, a convenience sample of male street prostitutes in a study of lifestyle including sexual behaviour and drug use claims "general representativeness" (Morse, Simon, Osofsky, Balson and Gaumer, 1991). Sudman, Sirkin and Cowan (1988) have suggested theoretical models by which purposive samples may be assessed for representativeness. It has been shown that it is practical and cost effective to use non-representative samples to study special groups, such as those at risk of HIV/AIDS, and those less likely to respond to surveys (Sudman et al., 1988). For example, purposive samples have been selected to survey only working class mothers (Pill, 1988), volunteers (Liddiard, 1988), single homeless people (George, Shanks and Westlake, 1991) and attenders at a methadone clinic and Detention Centre (Darrow, 1990a). Social networking or "snowballing" (Morrison, 1988) has been successfully carried out using both families and those outside the family to enable contact with a target group to be established (Sudman et al., 1988). Groups of prostitutes (Day, Ward and Harris, 1988; Leonard, Sacks, Franks and Sikes, 1988; Morgan-Thomas, Plant, Plant and Sales, 1989), gay men (Fitzpatrick, Boulton, Hart, Dawson and McLean, 1989) and drug users (Fishburne and Cisin, 1980) have been studied using social networking.

In this study evidence from the pilot survey, see Appendix 1.1, suggested that community groups of different types, some with a membership that health promotion would find "hard to reach", were willing to actively participate in a health survey. This study therefore argues that by introducing purposive samples and networking into a lifestyle survey, response can be obtained from groups with a high membership of those least likely to respond to health promotion initiatives, for example, those in lower social classes. Data from groups may not be representative but may help to illuminate the health-related behaviour patterns of specific local groups. It was

therefore decided to test the feasibility of introducing a purposive sample into the health-related behaviour survey in North Derbyshire and examine the nature of response obtained from such a sample.

Applicability of data

The extent to which findings from lifestyle surveys may be extrapolated to other populations is not usually an issue when representative samples are drawn from appropriate and adequate sampling frames and applied only to that population. However, no subsequent extrapolations from findings may be made to describe other populations even when the populations' age, sex and social class match. Cartwright (1983) has made the point that even when the response rate to a survey is as high as 85% to 95% data may only be applied to responders, who may be different from non-responders. Data based on adequate numbers for a whole population may not necessarily be appropriate for analysis by sub-groups of the population, using either demographic or geographic characteristics. For example, the General Household Survey of 15,000 private households may indicate national patterns but may not be used to describe Districts because of inadequate numbers. Similarly, a 1% survey of a District would probably not be adequate to provide data for wards or minority groups such as the unemployed, single parents or ethnic minorities. In some lifestyle surveys adequate numbers have been used to enable sub-set stratification of data by, for example, district and employment status (HPAW, 1985a; 1992; Luck et al., 1988). Adequate numbers for such sub-group analysis are essential especially in the light of Blaxter's finding that "in general ... there is more difference in lifestyles between types of "small area" than there is between geographical regions" (1990).

For health promotion purposes the lack of generalisability of data may or may not be a problem, depending on the purpose of the survey. For example, in a 1% District-wide survey where a general overview is required to identify District-wide concerns and provide baseline data for subsequent District-wide monitoring of change, then the lack of ability to analyse by sub-groups may present no problems. However, for insights into the concerns of individual wards or neighbourhoods or monitoring the impact of highly localised projects numbers are likely to be too small to be meaningful. Secondly, impact on a small area's health-related behaviour by successful health promotion programmes would barely, if at all, register on District figures.

The resourcing implications of using adequate numbers in, say, a District-wide survey to allow for adequate analyses by wards are considerable. In terms of printing, interviewing or postage costs and data entry alone the cost would be tenfold if 10% were sampled instead of 1%. Planners with limited resources may therefore find

themselves in a dilemma: on the one hand they may need to know the Region or District-wide pattern of health-related behaviour, but recognise that such data cannot be generalised to small areas. On the other hand they may wish to have in-depth information about small areas knowing that it cannot be extrapolated to the Region or District. Should they choose the latter strategy originally or subsequently the question of which areas to survey then arises.

Suggestions have been made as to how to "rank" areas by need employing methods that use, for example, existing small area statistics (Thunhurst, 1985; Twigg, 1990; Hussey and Sainsbury, 1990), or data from GP lists (Jarman, 1983; 1984). However, caution must be exercised bearing in mind Blaxter's comment quoted earlier that patterns of behaviour by social class may be quite different in different types of small area. This comment, based on a national survey of 9000, suggests that assumptions about social class and poorer health status based on measurements of health-related behaviour at national or Regional level cannot be made at the small area level. Taking this argument further it may be that localised patterns of health-related behaviour are different by other demographic factors, such as marital status, single pensioner households or ethnicity. This will not be known until more comparable small area research has been carried out, but raises a further argument against generalisation of data.

Clearly, identification of the uses to which data were to be put is required prior to deciding methodological issues of sampling. At least one District recognised that the sample it used was too small to be useful (Leyden et al., 1990) and may ruefully agree that "failure to think out the objectives of a survey fully and precisely must inevitably undermine its ultimate value; no amount of manipulation of the final data can overcome the resultant defects" (Moser and Kalton, 1971).

Instruments for data collection: delivery and return

Data about health in the population have been collected using a variety of instruments. Self-completion questionnaires have been used in a number of studies (HPAW, 1985a; Butler, 1987; Jamieson and Griffiths, 1987). Other instruments for data collection have been used in lifestyle surveys. These include a telephone interview schedule (McQueen et al., 1989), face to face structured and semi-structured interviews (O'Donnell, 1986; Cox et al., 1987). In some instances more than one method of data collection has been used, for example, both face to face and self-completion questionnaires (HPAW, 1985a; Cox et al., 1987; Barker et al., 1988; Luck et al., 1988). The length of self-completion questionnaires has varied depending on the range of content and the depth of information required. For example, a Welsh

study involved the use of a core self-completion questionnaire of 72 questions, some of which were sub-divided, and nine shorter supplementary questionnaires (HPAW, 1985a), whilst the Frenchay survey (Frenchay Health Authority, 1987) consisted of 30 less detailed questions with fewer subdivisions and no supplementary questionnaires. Most self-completion questionnaires, including the ones developed for this study, have used primarily closed questions demanding response by ticking or circling responses (HPAW, 1985a; Butler, 1987; Luck et al., 1988). Closed questions are easier to code than open ended questions but are limited to the options stated and so may fail to collect important data. In such cases findings are restricted and may not be meaningful. Thorough piloting should help to overcome this problem, but the interests of a minority group may still be overlooked. Closed questions are therefore more useful in the collection of limited quantitive data and open ended questions in the collection of qualitative data. It is, of course, possible to use a mixture of closed and open-ended questions on one questionnaire.

Self-completion questionnaires have been delivered in person (HPAW, 1985a; Cox et al., 1987; Barker et al., 1988;) or, more often, delivered by post with questionnaires returned by freepost (Jamieson and Griffiths, 1987; Somerset HA, 1988). In this study data were collected by postal methods and so a self-completion questionnaire was used. Questionnaires were delivered both postally to the representative sample and in person to community groups.

School surveys, as here, are usually administered by teachers in school using self completion questionnaires (Gillies et al., 1987; HPAW, 1989). Unusually, in one instance micro-computers have been used (Hallett and Sutton, 1986).

Response

Response rates are affected by a combination of factors that are not stable across sampled populations (Harvey, 1987). They are therefore difficult to compare and assess. For example, reported responses are sometimes based on non-comparable calculations as well as different methods of data collection. Elwood (1988) has suggested that response should be reported as a percentage of the original, eligible sample but in lifestyle survey reports it is not always clear whether allowance has been made for factors such as returns due to inaccuracies in the sampling frame or incomplete questionnaires. Response had also been reported in terms of individual respondents, although the original sample was drawn from households (HPAW, 1985a). However, the general pattern emerges that interview techniques produce higher response rates than postal surveys (Moser and Kalton, 1971; Cartwright, 1983; Leyden et al., 1990).

Postal response has been shown to vary by up to 20% depending on the region studied (Cartwright, 1986a). Jacoby (1990) found that those in the south of the country were quicker, but less likely, to respond. Amongst postal lifestyle surveys response has been highest at 80% in Oxfordshire (Jamieson and Griffiths, 1987) but most frequently has been between 50-60% (Killoran, 1990). Others claim that 60-66% are good responses for this type of survey (Jessop, 1986), or are "typically" about 2/3 of the issued sample (Goyder, 1986). Grinnell (1988), commenting on surveys for social science purposes, states that a 50% response is adequate, 60% is good and 70% or more is very good. Others suggest that a "reasonable" target response is 70% (Harvey, 1987). Luck et al. (1988) have suggested that even the best postal survey questionnaires directed towards a highly specific population and using several reminders are unlikely to achieve a response of over 80%. Thus the contention that, with two reminders, response rates of around 85% can usually be obtained (Cartwright, 1983) seems optimistic.

Some methodological techniques are known to increase response to postal surveys. It has been found consistently that the greatest influence on response is that it increases when one or two reminders are sent (Scott, 1961; Cartwright, 1983; Dillman, 1987). Luck et al. (1988) in a small pilot study using one reminder showed that a telephone reminder achieved better response than either a questionnaire or a postcard reminder, a finding that confirmed earlier studies (Harvey, 1987). In Wales telephone reminders were used where possible (HPAW, 1985a) and a final response of 69% was achieved. In South Birmingham two questionnaire reminders were sent and resulted in a response of 72% (Luck et al., 1988). It has been suggested that the increase in response following a reminder is proportional to the response achieved by the first mailing (Moser and Kalton, 1971). For example, if 50% of questionnaires were returned after the initial mailing, one follow-up would increase response by 50% of the outstanding 50%, and so on. However, diminishing returns have been found in recent studies with lower proportions of outstanding response achieved at each reminder (Luck et al., 1988; Galt, 1991). Holt (1981) has warned that pursuing non-responders with several follow-ups may result in alienation of respondents and poor quality data.

Personal, although not postal, contact prior to sending the questionnaire appears to increase response (Scott, 1961; Rosenfield, Smith, Brewster, Wenegrat and Haavick, 1979). Respondents' perceived creditability of the sponsoring agent also appears to have an impact on response (Scott, 1961) with sponsorship of general practitioners being shown to increase it by 10% (Smith, Crombie, Campion and Knox, 1985). More recently the sponsorship of a Family Health Services Authority

produced an 84% response against 66% by a research institute (Jacoby, 1990). The tone and presentation of questionnaires influences response with personalised letters, hand written envelopes and stamped, rather than franked, envelopes tending to encourage response (Scott, 1961; Cartwright and Ward, 1968; Goyder, 1986; Luck et al., 1988). A factor in response appears to be the recipients' degree of knowledge of and interest in the subject, and more knowledge and interest increases response (Scott, 1961; Graham, Wallace, Welsby and Grace, 1968; Cartwright, 1983). Incentives, other than financial ones, do not necessarily have the same affect (Mortagy, Howell and Waters, 1985; Harvey, 1987). In an American postal survey about examinations amongst high school students it was argued that feedback will increase the saliency of the questionnaire. As a result the offer of feedback significantly increased response, although it had less impact than one follow up or the use of a shorter questionnaire (Powers and Alderman, 1982).

Sensitive questions and those about income appear to inhibit response (Goyder, 1986; Campbell and Waters, 1990). This may not be true of all surveys of sensitive issues, for example, sexual behaviour. Johnson and Delamater (1976) found that the difficulty of securing co-operation in sex surveys has probably been exaggerated but that high response will only be obtained if sensitive, appropriate methodology is used and staff are trained properly, a view supported by others (Johnson and Wadsworth, 1989; Ross, 1989; Bowie and Ford, 1989). Jacoby (1990) found that the inclusion of a question about ethnicity made no difference to response in a survey of patients' views of General Practitioner services. The number of times previous requests to participate in surveys have been made influences response as more requests appear to lower the response (Goyder, 1986). Cartwright and Windsor (1989) found that response rate dropped by 9% to 56% when respondents were asked if they would be willing to participate in another study.

It is not thought that the class of postage (Harvey, 1987), day of the week on which questionnaires are posted (Scott, 1961), the colour of envelopes or scripts (Newland, Waters, Standford and Batchelor, 1977) or guarantees of confidentiality or anonymity (King, 1970; Campbell and Waters, 1990) increase response. Page (1991) found that less than 1% of women queried the guarantee of anonymity when follow-ups were sent. Jacoby (1990) found no difference in response to a survey where short and long questionnaires were used, confirming Cartwright's earlier finding (1986a).

Non-response and bias

Cartwright (1983) demonstrated that non-response of only 5% may bias data. The higher the level of non-response the more likely is bias. The health-related

behaviour of non-responders appears to differ when compared to that of responders, giving support to the argument that even when respondents appear to be representative of a population by, for example, age and sex, findings may still be biased even when response is relatively high. The nature of non-responders makes them difficult to study and so data about their behaviour are slight. There is evidence that non-response did not appear to introduce bias in, for example, the measurements of cholesterol, blood pressure, physical activity and alcohol consumption of responders and non-responders to a general health questionnaire (Jacobsen and Thelle, 1988). However, evidence from a study of responders and non-responders to the Welsh survey found that, with a response of around 70%, smokers and smokers who do not want to give up were likely to be under-represented in response (Smith and Nutbeam, 1990). Criqui, Barrett-Connor and Austin (1978) also found that non-responders were likely to be smokers and claimed that they are generally less healthy than responders. However, in a study with a response of 90% it was found that there were no differences in smoking status between responders and non-responders but that late responders were likely to be smokers (Bakke, Gulsvika, Lilleng, Overa, Hanoa and Eide, 1990), reinforcing the need for high response in studies of representative samples where powerful epidemiological evidence is sought. Late responders, thought to be similar to non-responders (Siemiatycki and Campbell, 1984), have also been shown to be less likely to respond to a follow-up survey of disabled people (Tennant and Badley, 1991). As noted earlier, it may be that those with a vested interest in responding are over-represented in response (Cartwright, 1983). It also seems reasonable to suggest that those who have recently changed behaviour so that it now conforms to recommended activity will be more enthusiastic to respond to health surveys, introducing bias into data.

In exploring the demographic characteristics of non-responders a number of studies have shown that men, the less well educated, those under 25, in lower social economic groups, highly mobile or of no fixed abode are less likely to respond to postal surveys (Scott, 1961; Criqui et al., 1978; Sheikh and Mattingly, 1981; Goyder, 1986; Luck et al., 1988; Smith and Nutbeam, 1990). For example, Cartwright (1986a) found a 16% difference in response between Social Class I (88%) and V (72%). Non-responders, probably because of language difficulties, are more likely to be born in Africa or Asia with Moslems identified as particularly poor responders in a post-natal study. There was a difference of 43% between responders who were born in Europe (87%) and Asia (42%) (Cartwright, 1986b). The elderly have been shown to be less likely to respond to postal surveys as have the sick (Cartwright, 1983). For example 23% of those aged 85 or over failed to respond to a study compared to 7% of those

aged 65 - 69 years of age (Victor, 1988).

Data from interview or partially interview based studies have suggested that non-responders are likely to be less well educated and overweight (Sonne-Holme, Sorenson, Jensen and Schnohr, 1989), and younger, employed, urbanised and heavier or more regular drinkers (Cottler, Zipp, Robins and Spitznagel, 1987; Smith and Nutbeam, 1990). How directly these findings may be translated to postal surveys is unknown, although they are in accord with socio-economic patterns already discussed.

In this study data from adults were collected on the same survey instrument, but in different ways, from the two samples. The representative sample was approached only by post whereas the purposive sample was contacted through group leaders known to potential respondents. There is some evidence to suggest that when data obtained through two different data collection methods are compared, bias may be detected (Chwalow, Balkan, Costayliola and Deeds, 1989). For example, Skinner, Allen, McIntosh and Palmer (1985) found no difference in self-reported smoking using interview against self-completion questionnaires. This claim has been disputed in a study of lifestyles where accounts of lifestyles from the sample varied with different modes of questioning (Backett, 1990), and in a study of sexual behaviour with self-administered questions producing higher, consistent rates of reported homosexual experience than interview questions (Johnston and Wadsworth, 1989). Because of the lack of agreement about the comparability of data when it is collected in different ways, it seems reasonable that caution should be exercised when comparing data collected using more than one method, even when the survey instrument is the same.

In at least one instance weighting to correct bias in response by age and sex has been carried out (HPAW, 1985a; 1992). Methods of weighting have been widely reported (Cox and Cohen, 1985; Green and Lewis, 1986; Streiner and Norman, 1989). Such weighting procedures obviously may allow for known characteristics only, for example, age, sex and sometimes social class (Smith and Nutbeam, 1990) or ethnicity (Ecob and Williams, 1991). They cannot allow for the distribution of unknown factors, such as smoking status. However, as has been noted, late responders appear to have the characteristics of non-responders. A method of weighting allowing for this does not appear to have been explored. Should a discriminatory weighting technique be developed based on late returns or knowledge about non-responders it is still doubtful that those using weighting as a compensatory measure to correct for non-response could reasonably claim to produce epidemiologically sound evidence. There are too many unknown variables operating amongst non-responders and influencing lifestyle, such as local culture. Without expensive and protracted follow-ups, and possibly introducing problems of non-comparable data because of different

data collection methods, it seems that non-response and therefore the possibility of bias in lifestyle surveys is unavoidable (Cartwright, 1983; Streiner and Norman, 1989).

In school pupil surveys low response has not been widely debated because surveys are carried out in school time with little opportunity for pupils to opt out. Characteristics of non-responders therefore appear to be similar to non-attendance patterns, with smokers and the children of smokers notable amongst non-responders (Palmer, 1985; Charlton and Blair, 1989). Pritchard et al. (1987) found that substance abuse was associated with truancy. Information from the National Child Development Study showed that pupils identified as truants rather than "non-attenders" by staff were likely to be those whose fathers were in manual occupations and who themselves achieved lower educational attainment (Fogelman and Richardson, 1974; Fogelman, 1978). Although data about patterns of truancy by area are not readily available, there is some evidence that these differ (Fogelman and Richardson, 1974). Older pupils are far more likely to truant than younger pupils: 19.4% at 16 years compared to 0.4% at 11 years report having played truant at some time (Hibbert and Fogelman, 1990a). Information therefore suggests that measurements of smoking and substance abuse reported in school-based studies are likely to be underestimates, particularly amongst older pupils.

The evidence about survey methodologies provides researchers into lifestyles with a dilemma. It seems that to produce data that do not under-represent, for example, smokers, more expensive, interview based methodology must be used. Interview based studies are more difficult to replicate reliably. On the other hand, postal surveys, as used here, are likely to be subject to bias in findings but are less expensive.

Validity and reliability of data

Valid data measure what they set out to measure. Reliable data are obtained when questions are answered consistently. Whether or not self-reported data, especially about socially less well accepted characteristics or sensitive issues, such as being overweight, sexual activity, drugs, alcohol or tobacco usage, actually measure what they purport to measure has long been debated (Cronbach, 1950; Evans, Hansen and Mittlemark, 1979; Palta, Prineas, Berman and Hannan, 1982; Stewart, 1982; Millar, 1986; Barnea, Rahav and Teichman, 1987). In postal lifestyle surveys there is no control over the conditions under which questionnaires are completed, although the place as well as the method of data collection is known to influence validity of response (McKennell, 1980; Strecher, Becker, Clark and Prasada-Rao, 1989) as may

the desire to conform to others' expectations (Murray, Swan, Kiryluk and Clarke, 1988). Clearly, it is important to check that data collected in health surveys reflects the "truth".

A range of objective validity checks are available to assess the accuracy of data. In predominantly large, interview based studies clinical measurements have been collected by trained interviewers, doctors or nurses to validate data. For example, height and weight, and other physical measurements, fitness and lung function have been measured (Cox et al., 1987; Barker et al., 1988; HPAW, 1990). Diaries recording food intake have also been introduced (Barker et al., 1988). It has been found that respondents are willing to truthfully self-report about sensitive topics as checked against medical records, for example, smoking (Dalziel, 1992), spontaneous abortion amongst women registered with GPs (Axelsson, 1990), and positive HIV antibody tests and treatment for syphilis (Darrow, 1990b). Information about intravenous drug use by prostitutes has been checked by observation (Darrow, 1990b). Surrogate information about smoking behaviour is also believable (McLaughlin, Dietz, Mehl and Blot, 1987).

The most specific and sensitive non-invasive test for smoking is salivary cotinine. Salivary cotinine is so specific to smoking because it measures nicotine. Nicotine used to be present only in tobacco, although more recently it has been introduced into nicotine-based smoking cessation products, such as chewing gum. In addition, it has a "half life" of 20-25 hours, is stable and can detect extremely low levels of cotinine so that it is a more sensitive test than salivary thiocyanate or expired carbon monoxide levels. It has been shown to be as effective as plasma cotinine as a measure of smoking (Pierce, Dwyer, DiGuisto, Carpenter, Hannan, Amin et al., 1987). Amongst smokers in the general population salivary cotinine has been found to show very low deception rates of 1 - 2% in adults (Pierce et al., 1987) and 1% in adolescents (McNeill, Jarvis, West, Russell and Bryant, 1987).

Although the findings for validity studies with adults have not yet been published from a Welsh study, results indicate that "only a small percentage" did not truthfully report their smoking status (Personal correspondence: Bartlett C, 1991). This conclusion was reached using non-invasive urinary cotinine and invasive serum thiocyanate tests to compare with self reported tobacco consumption. Invasive samples may have been taken because blood was collected for other tests at the same time. Invasive techniques using samples of blood plasma have validated self-reported smoking elsewhere (Williams, Eng, Botvin, Hill and Wynder, 1979).

It is not necessary to use invasive tests to validate smoking. Non-invasive testing to validate self-reported smoking has been shown to be both sensitive and

specific. It is also less difficult and probably more acceptable to respondents. For example, by measuring expired carbon monoxide levels: Cox and Whichelow (1985) observed general validity of reported smoking; Bauman and Koch (1983) found levels of deception in 2% of respondents; a study of pregnant smokers attending ante-natal checks found deception rates of 2 - 3% (Gillies et al., 1988). Lack of sensitivity of expired carbon monoxide testing may account for some of the apparent mismatch between self-reports and carbon monoxide levels measured in these studies. The test's insensitivity is the result of carbon monoxide having a "half life" of only eight hours. As a result, sporadic or infrequent smoking may not be indicated by test results. In addition, exposure to exhaust fumes can make the results of this test misleading as it increases the level of expired carbon monoxide (Gillies, 1985).

Salivary thiocyanate may be detected for 10 - 14 days after smoking, and is therefore a more sensitive test of smoking than expired carbon monoxide. This test was used in a study of Welsh school pupils (HPAW, 1989). The study found that misreporting increased with the age of the pupil, being 2 - 4% in 11 - 12 year olds and 3 - 5% in 15 - 16 year olds. Windsor, Gutter, Morris, Reese, Manzella, Bartlett et al. (1985) found only 3% of women attending ante-natal checks appeared to misreport their smoking using salivary thiocyanate to validate reported behaviour. However, amongst adults attending stop smoking clinics who have a reason to deceive, Sillett et al. (1978) found deception rates of 20 - 25% using carboxyhaemoglobin concentrations in venous blood. Sporadic under-reporting by heavy smokers has also been observed (Jarvis, Tunstall-Pedoe, Feyerabend, Vesey and Saloojee, 1984).

Evidence about the validity of self-reported alcohol consumption suggests that, on the whole, self-reports are accurate (Midanik, 1988). For example, unpublished Welsh results (Personal correspondence: Bartlett C, 1991) used serum gamma-glutamyl transpeptidase levels, and allowed for diet affecting liver function. The conclusion of this study was that the majority of respondents did not appear to misreport the fact that they drank alcohol.

There are some exceptions to the general claim of validity of self-reported data from general populations. Goddart (1990) debated the issue of recall bias that influences the accurate reporting of alcohol consumption. Luck et al. (1988) concluded that around 3% of heavy drinkers under-reported to a "substantial" degree. This under-reporting echoed that found by Wilson (1980). Cooke and Allan (1983) suggested that such under-reporting tended to be from men, younger people and employed groups. Luck et al. (1988) concluded that self-reported data on diet are poor, a contention supported by Livingston, Prentice, Strain, Coward, Black, Barker et al. (1990). The belief that there is serious bias in reporting habitual energy intake has

recently been debated by others (Jackson, Little and Wilson, 1990; Jackson and Wootton, 1990) who also discuss the difficulties in mounting accurate dietary validation studies. Accurate data about physical exercise are also difficult to collect (Sykes, 1989), although it has been suggested that valid data may be collected by self-completion questionnaire validated by physical measurement (Kohl, Blair, Pattensbarger, Macera and Kronenfeld, 1988). Nevertheless, reviews of validation exercises on self-reported data in health surveys have generally confirmed and consolidated findings that people do not deliberately lie in population studies (Cartwright, 1983; Lawrence, Luck, Pocock and Reilly, 1988; Strecher et al., 1989).

Strecher et al. (1989) have noted that the range of validation procedures required to check the truth of data by objective measures is likely to be "too cumbersome, costly, or intrusive, or simply unavailable" to be included in studies limited by time and resources. In this study it was decided that objective measures of validity would not be included. The omission of validation of data should not be taken to imply that accuracy of data was assumed, or thought unimportant. On the contrary, it was recognised that accuracy was of prime importance but that resource implications coupled with the weight of evidence, made objective validation studies inappropriate. Data would, however, be assessed for reliability.

Reliability of response may be assessed by asking a series of questions in the same questionnaire to check internal consistency of response. For example, someone who states that they now smoke cigarettes may be asked later in the questionnaire how long they have smoked. If the second question is ticked as "not applicable" then there is a lack of consistency indicating that response is unreliable.

Reliability may also be assessed by readministering the same question to the same population in the same or another way. For example, the Nottingham Health Profile (Hunt, McEwen and McKenna, 1986) was readministered by post to 73 subjects a month after the first questionnaire was returned. Testing the first set of data by comparing it to the second set showed that correlation was significantly and satisfactorily high enabling reliability of the instrument to be claimed. In a smaller study 26 homosexual men were interviewed by a different interviewer 72 hours after completing a first interview about their sexual histories. Again, high reliability was claimed after comparison of the two sets of data showed consistency of response (Coates, Soskoline, Calzavara, Reed, Fanning, Shepherd et al., 1986). There are a number of problems in testing data for reliability. First, respondents may report truthfully on both occasions, but real change has taken place so that data are not congruent. This is more probable when data are collected after a period of time and the item measured lends itself to change. For example, sporting activity is seasonal

and so congruity would be unlikely between two sets of questions about exercise taken in winter and summer. Secondly, if respondents are asked to repeat the questionnaire after a short period of time they may remember their answers and so attempt to replicate them. Thirdly, the completion of the first set of questions may act as a learning experience so that the second set are completed with fewer respondent "errors" caused by unfamiliarity with the questionnaire. Finally, respondents may provide congruent replies, but deliberately misreport on both occasions so that data are not valid. Nevertheless, after reviewing numbers of studies McDowell and Newell (1987) concluded that the greater the reliability of data the more likely data are to be valid.

A purpose behind a lifestyle survey may be that subsequent surveys will measure change (HPAW, 1985a). It seems superficially reasonable to surmise that any low levels of deception of reporting in a specific population will remain consistent over time, enabling comparison of data sets. However, it should be recognised that reporting may be affected by changes in the law, for example, to require routine screening for the HIV virus or coronary heart disease indicators. Reporting may also be effected by changes in attitudes brought about by a better informed public or changes in a behaviour's social acceptability. For example, strident or legal condemnation of high levels of alcohol consumption or a shift in public attitudes towards alcohol may result in greater reluctance to report alcohol consumption levels. Consequently, over time deliberate deception may increase or decrease depending on such changes.

Informing the public through lifestyle surveys

It seems reasonable to argue that data from a lifestyle survey are particularly appropriate feedback to respondents to a survey as they are of direct relevance and interest to participants (Feuerstein, 1986; Orr, 1987). Evidence of just such interest was obtained in a small, interview based study when it was found that all but one of the 83 respondents said they would welcome feedback (Liddiard, 1988). Other evidence about methods and extent of feedback resulting from adult population lifestyle surveys to their respondents is scant although schools participating in pupil-based surveys are usually given data relating to their own pupils (Balding, 1989). It is not clear if these data are fed-back to pupils themselves although methods of using data as teaching materials have been suggested (Wragg, 1990). It has been reported that media coverage has informed the public about some of the results of surveys, with locally produced Health Authority newspapers playing a part in this process (Reilly, 1987). However there appear to be no policies published about what, and

how, information from lifestyle surveys has been systematically or strategically disseminated to the public.

In two interview and topic based studies (Bloomsbury HA, 1987; Liddiard, 1988) respondents were invited to ask for leaflets about healthy living. Some details about interest in lifestyle information are available from the latter study in which 83% of 83 respondents accepted free lifestyle literature. An average of 3.5 leaflets per requester were distributed. The most popular leaflets were about diet and exercise, although the level of interest was not reported. No evidence appears to have been presented to illustrate the impact of feedback from lifestyle surveys upon recipients.

Based on the findings from other studies it seems reasonable to argue that a lifestyle survey methodology integrating feedback can capitalise on respondents' interest in health raised by responding to the survey. Arguably, the process of surveying then has the potential to become a dynamic activity that raises health awareness. Stimulating interest in health in the community may be seen as laying the foundation for change in the future (Schiller, Steckler, Dawson and Patton, 1987). Once this notion has been adopted the feasibility of delivering feedback, and the nature of feedback, needs to be considered. In this study it was decided to integrate systematic and staged feedback to individual participants and groups, both lay and professional, as well as using media outlets. First, leaflets about survey findings and health-related behaviour would be available on request and, secondly, the findings would be widely disseminated using different formats for presentation. Feedback would be delivered by post and in person. Assessment of the impact of feedback was seen as an important part of the evaluation of the survey.

Costs

Ledwith (1986) has made the point that surveys divert scarce resources away from health education programmes. Survey costs therefore need to be kept down to a minimum compatible with the purposes required. Costs of different methods of data collection can be calculated by comparing, for example, interviewer time and travel costs assessed in pilot studies against postage and reminders.

The evidence that postal surveys are a generally inexpensive form of data collection (Moser and Kalton, 1971; Cartwright, 1986a) informed the decision in this study to use a primarily postal survey. There are difficulties in examining the comparative costs of surveys because of the lack of detail in reports. For example, it may be that questionnaire printing, postage, data entry and analysis have been costed, but allowance may not be made for the cost of professional and clerical time, or piloting, telephone calls and cost of printing reports. Despite these limitations on

comparability of reported costs some comments and comparisons may be made. First, costs of national surveys are said to be "substantial" and "significant" (Killoran, 1990). Drawing on Killoran's figures the most expensive study by a health authority appears to be of 13,000 face-to-face interviews costing £250,000. The cheapest appears to be of a 3,000 sample using postal self-completion questionnaires costing £2000. Secondly, reports confirm that interview based studies appear to cost more per head of sample than postal surveys. For example, interviews cost £60 in Wigan and £19 in N.W. Thames whereas postal studies cost from £7 in Maidstone, £3.26 Stockport and £1.33, excluding staff, in East Dorset. The cheapest survey also reported spending least per head of sample, £0.51 in South Derbyshire. In a study in South Birmingham where both interviews and postal questionnaires were used, difference in interview against postal costs was found to be less than the 20 - 50 times more expensive predicted by Cartwright (1986a): per head of the postal sample costs were £12.75 but interviews per head of the sample cost £94.80, being seven and a half times the cost (Lawrence, Luck, Pocock and Reilly, 1988). The study presented here addresses the cost issue. Detailed costs of elements of the survey, for example, printing, postage and feedback, were calculated. It therefore sets out the main financial implications for planners when considering this approach to surveying.

Summary

This Chapter set out to provide an overview of health promotion and to illustrate how social scientific methods of data collection have been adopted or adapted for use by health promotion in measuring positive health-related behaviour and other aspects of lifestyle. In doing so, two gaps have been highlighted. First, it has been shown that the emphasis on representative sampling in lifestyle surveys has overlooked the possible advantage of, at the same time, surveying non-representative community groups. These groups may contain "hard to reach" people: those of most concern to health promotion. They have been successfully accessed elsewhere using social networking techniques. Secondly, evidence suggests that participants in a survey are likely to be interested in feedback. However, there is little evidence about the nature and impact of feedback from postal lifestyle surveys on study populations. In addition, theories of behaviour change suggest that a surveying process, particularly one that integrates feedback, may provide a series of "cues" to action. These impersonal "cues" would be unlikely to cause change in unmotivated people, but may lay the foundation for change at a later date.

The study therefore set out to develop and examine two unusual aspects of survey methodology. First, the feasibility of engaging a range of non-representative lay

community groups in the survey. The nature of response from such groups would be recorded. Secondly, feedback would be integrated into the survey. The practicality of integrating a number of types of feedback would be tested. Documentation of the type, extent and impact of feedback, particularly on the lay public, would seek to assess the impact of feedback. The survey as a whole would be tested for its potential as a health promotion activity through its impact on the community.

The survey into which these activities were integrated was designed to provide North Derbyshire Health Authority with a tool by which to inform and monitor health promotion activity and thus assist policy makers and planners. The survey method needed to be reliable and cheap. There were therefore constraints on the flexibility that could be introduced into the research. However, using a pragmatic and creative approach it was hoped to demonstrate that unusual, feasible and dynamic elements could be added to a more usual survey methodology.

The measurement of health introduced in this Chapter is the first conceptual underpinning to the thesis. Chapter 2 goes on to review the second of the conceptual frameworks to inform the thesis: community participation in health.

Chapter 2

COMMUNITY PARTICIPATION : DEFINITION, THEORY AND PRACTICE WITH REFERENCE TO SURVEY METHODOLOGY

2.1 Community participation in health: an overview

This Chapter moves the focus of the thesis away from the measurement of heath and towards its second conceptual underpinning: community participation in health. From time to time reference will be made to elements that are common to the two concepts particularly when considering practical approaches to promoting community participation. In this thesis the term "community participation in health" is used to describe a facilitating process by which population groups and individuals within those groups are enabled to some greater degree to understand, influence, share or control decisions effecting the provision and delivery of health care. The general argument of this thesis is that it may be possible to carry out activities that promote community participation in health in concert with another more established practice: a health survey. The concept is defined in more detail in 2.3.

The concept of "community participation in health" has gained currency relatively recently in Europe (Chanan, 1992), including Great Britain (Smithies, Adams, Webster and Beattie, 1990; Farrant, 1991). There is now a growing conviction amongst some health workers in the UK that a "quiet revolution" (Broady and Hedley, 1989) is taking place in the shape of the rapidly expanding community health "movement" (Klein, 1984; Beattie, 1988). It is argued that participation by groups in disadvantaged communities can, and should, be stimulated for ethical reasons of equity (NCHR, 1988; Watt and Rodmell, 1988; Tones, 1990). For example, the Working Statement on Community Development (Standing Conference on Community Development, 1988) states that "the constituency of community development is amongst the powerless and the disadvantaged".

McEwen, Martini and Wilkins (1983) have argued that interest in community participation has occurred because those who receive health care are demanding more voice in how and what health care is delivered. Those concerned with promoting and caring for the population's health have recognised the failures of existing practice and thus the need for alternative ways of working (Haro, 1987; Sutherland, 1987; Broady and Hedley, 1989).

Advocates of community participation believe that, ultimately, communities themselves can identify their own health needs. Community participation may therefore be seen as an attempt to demystify medical care. Its growing popularity is thought to be a reaction against, "drug related, high technology medicine", (Cochrane and Fisher, 1983; Fontana, 1986; Hogg, 1990). This is a reversal of the traditional "medical model" in which the health needs of the population have been defined by

professionals concerned with the delivery and monitoring of health care (Eylenbosch and Noah, 1988). Major decisions are generally taken without reference to receivers of care (Luker and Orr, 1985). Relatively recently medical and clinical audit may include patients' views. Needs have been determined by professionals: using population health indicators; in the light of advances in knowledge, for example, about the causes of lung cancer and risks to maternal and child health; because of advances in technology and, finally, in response to health crises, such as HIV/AIDS.

It has been argued that if target groups had been fully consulted and informed about potential risks and outcomes and been involved in decision making about health promotion programmes, for example, breast or cervical screening then, arguably, different decisions would have been reached (Leichter, 1991). However, no consultative or participative process exists by which populations engage fully in decision making about priorities for health care, although some lay representation may take place at small area level (Billingham, 1989) or through, for example, Community Health Councils and Regional Health Authorities. Representative sample population surveys, reviewed in Chapter 1, are designed to collect data from the public and to assist in planning health promotion services. Such surveys are primarily designed to collect data about health-related behaviour. They do not generally seek to consult the population about their perceived health needs, inform them or involve them in decisions based on data generated by the surveys. Consequently, they may be seen as part of the "medical model" by which health needs are identified. Nevertheless the popularity of lifestyle surveys may indicate that planners and policy makers are recognising the limitations of illness-related data. A more cynical view would be that population surveys are popular because they involve "the consumer", whether or not the resulting policies are truly consumer led as the Government would hope (DOH, 1989a).

Political ideology emphasising personal responsibility for health (Leichter, 1991) and the provision of more private health care (Seedhouse and Cribb, 1989) have been influential in professional re-evaluation of practice in this country. Evidence that there are inequalities in health has been debated (Townsend and Davidson, 1982; Whitehead, 1987). Studies consistently suggest that practice is failing to reduce inequalities in health and that inverse care continues to be offered to those with lower health risks (Marmot and MacDowell, 1986; Whitehead, 1987; Waller, Agass, Mant, Coulter, Fuller and Jones, 1990; Marmot, Smith, Stansfield, Patel, North, Head et al., 1991). Donnison (1989) believes that community participation in health has been adopted as a token gesture - sometimes as an act of desperation - in order to solve problems that have defeated conventional services operating in conventional ways.

Farrant (1991) has emphasised the point that community development has been seen simplistically and uncritically as a solution to profound problems of inequality that are deeply rooted in society.

Campaigners who now seek to reduce inequalities in health do so at a time of reorganisation of the National Health Service when, for example, purchasers and providers of health care are being identified and paid according to performance (DHSS, 1987; DOH, 1989a). Campaigners have claimed that government response to evidence has been to deny the gravity of health inequalities and to search for causes in individual behaviour. They see no sign of any action from the Government to reduce the health divide (Public Health Alliance, 1988) or "value people" (Seedhouse and Cribb, 1989). Others have noted the government's failure to support a consistent, national, long-term, cohesive and well-funded health education policy (Davies, 1988) through an independent agency (Sutherland, 1987). Townsend (1987) has commented that, despite the recommendations of a government working party, there has been a failure to fund a concerted research strategy aimed at cutting premature deaths and rapidly promoting good health. Although there has been a general increase in health education over the last decade, the effort and resources so directed have been insignificant, especially when compared to resources allocated to other activity and the growing list of social problems experienced by young people (Whitehead, 1989). It seems probable that even less is directed towards community participation projects, although no national statistics appear to be available to justify this claim.

Those who fund health care are understandably anxious to utilise methods of working that are said to be cheap (Milson, 1974; Rosenfield, Widestrand and Ruderman, 1981), and effective (Midgeley, Hall, Hardiman and Narine, 1986; Dodds, Fraser and Rendall, 1986). In a review of recent neighbourhood activity it has been claimed that participatory techniques have been economic but used successfully to help deprived communities to participate in prioritising policy decisions about local services. The authors note that pragmatic, cost-benefit considerations go hand in hand with encouraging community participation: they see important pay-offs in financially supporting local participation in terms of harnessing "effort, energy, know-how and sheer hard work of volunteers" (Broady and Hedley, 1989). Nevertheless, some local authority investment is required. To assist in maximising investment, descriptive analysis and practical suggestions have been offered to help local agencies and authorities to facilitate participatory work (Moran, 1986; Local Authorities Health Network, 1988; Broady and Hedley, 1989; Hogg, 1990).

Discussion about the concept of community participation in the British context draws on literature based on experience in both the Third World and

developed countries. It is recognised that the two may not be totally analogous. What is common to the literature is that the concept of community participation is far from clear. The term has been used to describe various activities (Bamburger, 1987; Smithies et al.; Farrant, 1991). This Chapter will therefore go on to examine factors that contribute towards an understanding of "community" and how it operates. It then examines community participation in theory and practice in more detail. The Chapter concludes by drawing together the themes of measurement in health and community participation to identify the influences on, and specific objectives of, the thesis.

2.2 Community and community dynamics

The term "community" requires clarification for it has been noted that at least 90 definitions of "community" have been offered (Ashton, 1988). Many writers have reviewed its meaning (Konig, 1968; Barnes, 1987; Luker and Orr, 1985; Willmott, 1989). The term appears to cover a motley of concepts and qualitatively different phenomena (Watt, 1986a) that have caused confusion to surround what Stacey has called "a non-concept" and "a spongy word" (1974; 1988b). Nevertheless, it is a popular word and Willmott and Thomas (1979) have commented that this has not made its meaning any clearer. They believe that, if anything, the word is used even more ambiguously than in the past and that at times the multiplicity and variety of applications seems so diverse as to render the term absolutely meaningless. Watt (1986a) and Willmott (1989) illustrated the apparent lack of logic in prefixing "community" to transport, care, policing, architecture and health, and in applying the term to groups, such as the black "community".

In clarifying the term "community" Willmott (1989) suggested that there are three, not mutually exclusive, concepts: territorial community, interest community and community of attachment. The first refers to the population of a given geographical location, the second to individuals or groups that share a common bond. Groups may be within a local area or scattered over a large territory. The third concept, that of community attachment, is a more complex notion of perception of identity, however strong, based on social relationships and a sense of place: a feeling of belonging developed over time (Bales, 1951; Arensburg and Kimball, 1965). Attachment to community implies mutual need or interest (Watt, 1986a; Stacey, 1988a). It depends on some or all of the following characteristics: a stable population; kin living in the area; many people working in local industry; similar income, social class or membership of minority groups; a large proportion of local people, often middle class, with developed social skills and high sociability; many locally-based organisations;

external threat; no physical inhibitors to casual communication, and, finally, physical location. Krupat and Guild (1980) described some similar factors that indicate the "social climate" of a community which are: warmth and closeness; activity and entertainment; alienation and isolation; good life; privacy and degree of care for others. The notion of community has produced some eloquent writings. For example, some fifty years ago it was said to be:

> "no circumscribed sphere of social life, but rather the very life-blood of social life. Community is not simply economic, nor simply political, nor simply territorial, nor simply visceral, nor is it all these special elements added together. Ultimately, it is a complex of conditioned emotions which the individual feels towards the surrounding world and his fellows."
> (Simpson, 1937: p 97)

More recently there has been an arguably romantic and nostalgic yearning for the loss of close-knit, stable, working class communities "thrown together" by "social and economic forces against which they knew they had to unite or perish" now "extinguished" by rehousing and increased family mobility (Seabrook, 1978; Heginbotham, 1990). Thus the use of the term "community", in whatever context, appears to be emotive and warmly persuasive (Williams, 1976) to workers, if not "the community" itself (Watt and Rodmell, 1988). Less emotive analysis suggests that community spirit will not immediately be found amongst people who are easily identifiable as suffering the worst health (Watt, 1986a).

In this thesis the definition of community draws on the notions of both territorial limits and shared interest, in that it is of overlapping groups of people. Groups share a common bond by meeting a need or needs, such as social, economic or health needs. Groups focus on, but are not confined by, geographical boundaries. This definition is similar to that developed by Smithies et al. (1990). For example, some patients on a local doctor's panel may only relate to the area for health care; some employees of an established industry may spend practically their entire lives within the geographical confines of the area whilst others go there solely for work, and school pupils may live in an area and may or may not attend the local school - but are all part of the community. Thus the community in which this study took place was recognised as a complex "fusion of feeling and thought, of tradition and commitment, of membership and volition" (Stacey, 1988b). The argument here is that a health survey may stimulate interest in health within existing community groups by directly inviting them to participate. It is suggested that the awareness and interest of

group members through participation and then a range of feedback from and about the survey may activate naturally occurring dynamics within participating community groups and thus to wider community. Community dynamics are introduced in the next section.

Aspects of community dynamics

It was recognised in this study that groups making up the community were unlikely to represent the community as a whole. There may be differences between and within groups (Thornley, 1977). Nor was it anticipated that groups would be homogeneous. Apparent group leaders may not represent the group's views (Foster, 1983). A survey of groups may, however highlight those with the general potential to respond to a survey, as well as measure the health-related behaviour of participating group members. It was also appreciated that some groups have specific health problems that may or may not result in demands on health care. For example, needs vary by region (Townsend, Phillimore and Beattie, 1988; Mays, Chinn and Ho, 1992), and nature of area (While, 1989). Health needs are different by gender (Briscoe, 1985; Ussher, 1991), ethnicity (Bhophal and Donaldson, 1988; Aslam and Healey, 1989; Carney, 1989), parental status (Beatson-Hird, Yuen and Balajaran, 1989), age (Harrison and Means, 1990), employment status (Townsend, 1987; Yuen and Balajaran, 1989) and domicile (King's Fund Institute, 1991). There is also a wealth of evidence about the existence of social class differences and health (Townsend and Davidson, 1982; Whitehead, 1987; Cartwright, 1992).

A group of children of concern to health promotion are school truants rather than poor attenders through, for example, ill health. As noted in Chapter 1, both truants and non-attenders are under-represented in school-based studies. Stott (1987) described truancy as a high risk occupation being associated with crime, sexual abuse, drug taking, demoralisation and pregnancy. His claims were not supported by statistical evidence, but based on personal experience in schools. In support of Stott's claims Pritchard et al. (1987) found drug abuse more common amongst truants. The National Child Development Study found that 20% of children aged 16 were truants at some time and that they did appear to be more at risk of health-related illnesses than their peer group when followed-up at 23 years of age. For example, truants were more likely: to be smokers, and females to be heavy smokers; to have suffered marital breakdown; to be depressed and to be delinquent (Hibbert and Fogelman, 1990b). School truants, followed-up and surveyed at the age of 23, were shown to have fewer qualifications, less stable careers and lower status occupations which, although making

them financially equal to their peers, have little future (Hibbert and Fogelman, 1990a).

It has been recognised that women as a group play a far greater informal role than men in the delivery of health care both in the family and the community (Oakley, 1976; Pill and Stott, 1980; Graham, 1990). For example, Nakajima (1990) discussing tobacco usage stated that, "women are considered as exemplars and educators in families and in societies and, as such, their behaviour is of special importance". Orr (1987) has noted that the matters women care most about and are responsible for, including health, happen in the home and the community. She believes that the community women inhabit is not the community idealised by politicians. It is the place where women are in direct contact and confrontation with the state as represented by housing, welfare and health services. Mayall and Foster (1989) made the point that:

> "the advantages of "community care" for the young, old and handicapped are emphasised in policy statements. Yet women know that this usually means care within the household, not in the community, by women, unpaid and with little, if any, help from the community." (p 1-2)

Farrant (1991) argued that recent government social and economic policies have intensified inequalities in health by shifting the burden of caring more firmly onto the shoulders of unpaid women in the family and the voluntary sector.

Because of the diverse characteristics of community groups it was decided in this study that the survey would target community groups that were likely to contain members with specific health promotion needs, for example, the unemployed, the elderly, those in the lower social classes and women who play such an important role in promoting family health. It has been argued that the health of schoolchildren may best be promoted through co-operative ventures that unite and integrate the school, the home, community agents and services (Wilcox, Gillies, Wilcox and Reid, 1981; Schiller, Steckler, Dawson and Patton, 1987; Allensworth and Wolford, 1988). It was therefore important to include children in the study. In this way not only data about their health-related behaviour may be used to inform health promotion programmes and the curriculum but also so that children may be included in a community-wide activity. Thus it would be possible for whole families to be surveyed and given feedback through inclusion in the different samples. In this way awareness of health in family groups may be increased.

In summarising thus far, the concept of community refers to overlapping groups of people who share common interests and relate to a defined geographical area but who are not limited by those boundaries. Groups have specific health-related characteristics. Some of these groups make up cohesive community groups that may be invited to participate in a health survey.

Social networks, the diffusion of innovation and opinion leaders

A concept integral to understanding the functioning of the community and community groups is that of social networks. Gottleib and Green (1984) defined an individual's social network as the number and type of ties a person has with other individuals or groups. Social networks are therefore a complex mesh of contacts that act as a structural basis for social support and information sharing. They enable the individual to gain access to, for example, goods and services. The theory of social networks suggests that most individuals, groups and organisations do not exist in social isolation (Mitchell, 1969). In varying degrees of strength they have links with each other through, for example, formal committees, shared memberships or people who act as a liaison between two groups although they may belong to neither (Rogers, 1979; Gartrell, 1987). Gottlieb and Green (1984) and others (Kaplan, Cassell and Gore, 1979; Pilisuk, Parks, Kelly and Turner, 1982; Cohen and Syme, 1985) have debated how social networks have a life-enhancing or life inhibiting effect on a variety of diseases and conditions. For example, Welin, Larsson, Svardsudd, Tibblin and Tibblin (1992) found that men with good social networks may be partly protected from non-cancer mortality. Bowling (1991), having reviewed the body of evidence, concluded that the extent of social networks is closely related to familial and community ties and have a positive or negative impact on lifestyle, health practices and health.

Integral to the concept of social networks is that of the diffusion of information which occurs when social networks are activated. Rogers (1979) described this as "the human interaction through which one individual communicates a new idea to one or more individuals". Any individual in a system is likely to contact certain others, often like themselves (Booth and Babchuk, 1973) and to ignore others. As interpersonal communication adheres to a pattern over time, a structure for this communication emerges that may facilitate change in opinions, attitudes and sentiment in groups (Berkman, 1985; Fox, 1988).

Interpersonal communications in large social structures is complex and includes shifting "cliques", structural "sub-groups", "liaisons" who are individuals who link two cliques but belong to neither, "bridges" who are people belonging to one

clique and communicating with another, and "isolates" who communicate with no-one. Granovetter (1973) and Lui and Duff (1972) suggested that the spread of information and adoption of innovation were best achieved when groups have many weak links with other groups, rather than few strong links. Rogers and Shoemaker (1983) have suggested that when a system has many connections, formal or informal, with other systems and is "open" in that it is actively engaged in exchanging information, then the spread of information and new ideas is achieved more readily. As a result of the complexity of social structures case studies to explore how information spreads have tended to concentrate on relatively primitive social systems, such as Indian farming (Saxena, 1968), or specific parts of more complex ones, such as families (De Fleur and Larson, 1958).

In this study it was anticipated that awareness about the health survey and issues arising from it would be spread throughout the community by information diffused through existing social networks. It was believed that the social networks integral to participating community groups would be more effective in spreading awareness of the survey than, for example, the media or inclusion in the postal survey introduced in Chapter 1. It was felt that social networks would be activated because all group members would be invited to participate and be known to each other. It was recognised that it would not be feasible to identify which specific groups or individuals were effective in spreading information about the survey because of the complexity of social networks. However, it seemed feasible to examine the total impact of the survey method on the community in terms of raised awareness and comment on where individuals' information had been obtained.

Recognition of the role of "opinion leaders" is important in understanding how social networks operate. Opinion leaders are individuals who appear to have a "unique capacity to focus on the flow of innovations, new messages that leave deeper scratches on men's minds" (Rogers, 1979). Opinion leaders are seen as crucial to the flow of "non taboo" information to and between groups. "Informal" opinion leaders are identified as immediate family and close friends, whilst "formal" opinion leaders are those with whom little or no prior contact has been made, for example, local politicians (Booth and Babchuk, 1973). In this study it was seen as crucial that the survey was perceived as credible by both formal and informal community opinion leaders. Lack of the study's credibility in the eyes of opinion leaders would make access to samples from local community groups difficult, if not impossible. It was therefore decided to actively seek the support of formal opinion leaders such as doctors, teachers and the local council. Participation of community group members in the survey would be sought through their organisers, such as group secretaries, with

the assumption that these key individuals are influential in groups' decision making processes. A review of sampling rare and elusive populations concluded that some may be accessed through networks, using opinion leaders (Sudman et al., 1988). In practice, Frate, Whitehead and Johnson (1984) successfully used key contacts to mount a survey of blood pressure in a community group. Contacts with prostitutes and drug abusers have been achieved through snowball sampling using key members of the target group (Fishburne and Cisin, 1980; Morgan-Thomas et al., 1986).

Phenomena occurring naturally within a community inculcate, support or inhibit changes in health-related attitudes, beliefs and behaviour (Hammer, Gutwirth and Phillips, 1982; Pill, 1988; Minkler, 1985; Berkman, 1985). Thus the preoccupation in health promotion with understanding the nature of community is justifiable (WHO, 1988a; Farrant, 1991). Many practitioners in the developed world have attempted to go beyond understanding existing community structures and actively tried to engage the community in a range of community participatory activities (Koskela, McAlister, Mayranen and Smolander, 1986; Rosenthal, 1983; Preston, Baranowski and Higginbotham, 1988; Vartiainen, Puska, Koskela, Nissinem and Tuomilehto, 1986). The next section goes on to consider the meaning of this term and comment on models of community participation before reflecting on practice in the UK.

2.3 Community participation: definition and models

Kroutil and Eng (1989) and Fassil (1992) note that the term "community participation" has been used to describe many kinds of activities and processes, for example, non-directive community work popularised in this country in the 1960's (Batton, 1967; Watt, 1986a). However, the term has usually been applied to the organisation and delivery of health care in the Third World (Fals-Borda and Rahman, 1991). It is now also being used to describe community based activities addressing health issues in the developed world. Community participation in health may be defined as a process by which various groups within the community engage in the provision and delivery of health care, both formally and informally and with varying degrees of power. Community participation activities encompass "pure" community development, although the former term is sometimes used to mean only the latter. In community participation activities that seek to "develop the community" professionals are seen as having a supportive but non-directive role. They act as resources as the community itself identifies issues of concern, decides on actions to remedy problems and takes control of decision making and resources.

Models of community participation

An early model of community participation was put forward by Arnstein (1969). She argued that citizens' involvement in their community can be described in levels analogous to climbing a ladder. People move from non-participation with two stages; manipulation and therapy, to degrees of, possibly, token participation; informing, consultation and placation and, finally, to citizen power; partnership, delegated power and citizen control. Drawing from experience in the Third World Bamberger (1987) also viewed the extent of community participation in terms of levels or degrees, but used the term to describe four stages of "intensity" of participation. Degrees of intensity range from the lowest, which is information sharing, to consultation, to joint decision making and, finally, to the community itself making decisions and initiating action. Arnstein's model and the stages identified by Bamberger are broadly similar to those identified with reference to Great Britain by Broady and Hedley (1989) and Adams (1990). They suggested that low participation - starting with non-involvement - progresses to high participation through the community: receiving information, being consulted, advising joint planning, obtaining delegated authority and having control over the setting and achievement of goals. When communities at this highest level can:

> "identify a new need and decide to respond to it on their own, they are taking the initiative for their own development. This is qualitatively different from their capacity to act or decide on issues or tasks proposed or assigned to them." (Bamburger, 1987: p 50)

From the Third World Oakley (1989) identified two types of participation as either "co-operation" which implies the right to receive information, submit protests, make suggestions and be consulted and "power sharing" when the community is conceded a share of formal power. Oakley suggested that intensity of participation ranges from marginal to substantive, structural participation. The health agenda and selection of strategies by which to deliver services remain the exclusive preserve of professionals. Three further models of community participation have been identified by Oakley. First, that which originates spontaneously within a community, secondly, and most common, induced participation and, thirdly, imposed and/or compulsory participation. These three models are outlined in the following sections.

Spontaneous participation

The first model, spontaneous participation, commands the active support of local people and is seen as the most durable (Tones et al., 1989) and self-sustaining (Oakley, 1989). It is identified with a "bottom-up" approach that challenges medical dominance (Watt and Rodmell, 1988). It is also identified with the term "community development", and the more extreme and radical community action where direct and overt challenge to the status quo is an acceptable end product of professional activity (Alinski, 1946; Katz and Bender, 1976). It has been questioned whether health workers can work towards spontaneous participation in an open-ended intervention when they have a brief to meet employers' goals (Watt and Rodmell, 1988). Against this argument is the view that health is affected by all aspects of life, and so open-ended dialogue is feasible. Problems and concerns are interlinked. They are not divided into employment, housing, health, education and so on. A community development approach to health promotion addresses all aspects of people's lives, physical wellbeing and potential. There is recognition that social, economic and environmental influences on health are often outside the individual's control. Consequently a "pure" community development approach to health is seen as entirely legitimate (Smithies et al., 1990).

The concept of "empowerment", developed by Freire (1972), has been used to describe high degrees of participation in health care in both Third World and developed countries (Feuerstein and Lovel, 1983; Rifkin, 1985; Tones et al., 1989). For example, Wallerstein and Bernstein (1988) concluded that:

> "empowerment education with its dual focus on participatory reflection and action should be incorporated into the other prevention strategies of health promotion. By becoming incorporated into current prevention approaches empowerment education can enhance changes in personal growth, social support, community organisation, policy and environmental changes and other indicators of increased control over one's life in society." (p 390)

In both theory and experience it has long been recognised that empowerment through participation may be slow (Ginnerty, Wilde and Black, 1989). It demands new ways of working "with", not "for", the population (Luker and Orr, 1985; Johnston and Rifkin, 1987).

Oakley's model of spontaneous activity (1989) depends on lay opinion leaders rather than a professional who, it has been argued, is invariably an "outsider" in both

status and social class terms. Professionals are resources and provide consultancy, services and information which would not normally be available or accessible to local groups (Bryant, 1977). Baric (1990) described the role of the professional as mainly concerned with raising the competence of community members to deal with their own problems. The lay leader acts as a spokesperson, advocate and publicist for the organisation. He or she represents a community organisation to other agencies and provides a reference point for the communication of local views and grievances. The importance of lay opinion leaders to this study has already been highlighted in the previous section.

It has been suggested that when a community identifies a number of different needs and solutions to problems, which may be different from those identified by professionals (McCarthy, 1983), professionals may be bewildered and resolve the conflict by adhering to their own judgement, by explaining their professional judgement to the community or by attempting to reconcile different opinions by negotiation, seen in itself as a learning process (Rifkin, 1990). Lack of accord between the community's "felt" and professionally identified needs may produce a particularly acute dilemma for health planners who are often only willing to look at disease-related problems, and to take action over medical problems (Rifkin, 1990). Yet The Community Projects Foundation (1988) argued that only when the community itself identifies what it needs then programmes to meet those needs are likely to be well received by the population.

What the community views as its health needs may be difficult to quantify (McCarthy, 1983). One way of finding out is a survey. Such surveys have been instigated by lay people and carried out in co-operation with professionals (Platt, Martin, Hunt and Lewis, 1989). More often they appear to be prompted by professionals. The former is an example of spontaneous participation and the latter of induced participation discussed in the following section.

Induced participation

The second model, induced participation, suggests what Tones et al. (1989) have described as "facipulation": a mix of facilitation and manipulation which occurs when professionals have an existing or hidden agenda. Induced participation may fluctuate between either very low or very high degrees of involvement. In Great Britain, Denny and Jacob (1990) suggested that community participation, if any, is usually at the point of delivery. It may be seen in various activities such as women's health groups (Orr, 1987), and professionally prompted and supported self-help groups sometimes associated with specific, immediate and shared problems, such as

handicapped children or debilitating diseases or conditions (Unell, 1986; Lock, 1986).

Professionals have built on existing social structures to induce community participation in health (Isreal, Hogue and Gorton, 1983; Minkler, 1985). For example, Hibbart (1985) stated that programmes may improve health by professionals strengthening naturally occurring helping networks and mutual assistance. Thus social ties increase and support may be mobilised. Elsewhere, health professionals have worked with existing groups to enable the group to help itself by taking some limited and specific control over some aspects of its health. For example, Frate, Whitehead and Johnson (1984) selected, trained and supported volunteers from a local setting. Their findings resulted in claims of successful outcomes in terms of accurate identification of those suffering high blood pressure. In Milton Keynes and Staffordshire the need to establish working networks with both local professionals and residents was identified as an essential starting point for a project designed to induce community participation (Milton Keynes District Health Authority, 1989; Gott and Warren, 1991).

The Government in Great Britain has seen the potential of using existing community networks in the implementation of social policy. It hopes to exploit them using professionals to prompt "voluntary" local support for those in need of some kinds of care in the community (DOH, 1989c). It has been argued that this policy puts an unfair burden on women (Farrant, 1991) and draws ever closer to that of "imposed" participation by relatives and friends. This is especially true when alternative or shared care by state funded services is terminated or curtailed so that voluntary care is no longer an option but a necessity (Public Health Alliance, 1988).

Part of a process whereby professionals may induce a community to express and quantify its concerns is a health survey. For example: in Milton Keynes an interview based study was instigated by professionals to identify felt needs (Liddiard, 1988); Elliott (1987) surveyed target groups in the community in The City and Hackney. Another survey of key people took place in West Lambeth in London (Dun, 1989). So called "rapid appraisal" techniques focusing on key members of the community may also be used to identify local health needs (WHO, 1988b). Professionals and members of the community have been involved in surveys to enable health workers and the community itself to learn more about local conditions. Examples of such surveys in Great Britain are those carried out by residents in Warrington (Warrington District HA, 1988) and by co-operative action over housing in Glasgow (Platt et al., 1989; Chaplin, 1991) and Tower Hamlets (Curtis and Hyndeman, 1989). If the objective of a survey is to identify the felt needs of the whole community then care must be taken to ensure that representative samples are

used and data are not biased, see Chapter 1. It has been noted earlier in this Chapter that groups are not homogeneous and community group leaders do not necessarily reflect the views of the group. Their views alone are not sufficient evidence on which to base programmes designed to reach the whole community.

Imposed participation

Imposed participation is Oakley's third model of community participation. It is akin to the medical model where professionals make decisions, but without reference to receivers of care (Hexel and Wintersberger, 1986; Moran, 1986). Imposed participation may offer token participation (Gilbert, 1972) through the delivery of a service to part or all of a population (McNaught, 1983; Groves, 1990). Professionals remain key to the activity (Rifkin, 1985). Participation may be imposed despite, rather than because of, the community's wishes. For example, imposed participation would occur if proof of children's immunisations were a qualification for child benefit payments, despite parents rejecting the safety of the vaccine. In a less extreme example a child health clinic may be seen as having been brought "to" the community by being situated "in" the community without prior consultation with potential users of the service and no knowledge of cultural determinants that may dictate the use of the service.

Rifkin (1990) has said of health care models that impose participation that professionals limit possible solutions to health issues because they alone decide what health care, particularly services, a community needs. Thus professionals deny a role in decision making to members of the community. Intentionally or unintentionally, community participation is limited to the receiving of benefit or possibly being involved in programme activities. This belief is echoed by Tones et al. (1989) who say that imposed initiatives, unless they accord by chance with local needs, are "bound to fail". Where accordance between professionally assessed and community perceived needs is achieved, then successful community participation has been demonstrated (Zander, Watson, Taylor and Morrell, 1978; Pugh and De Ath, 1984).

Initial stages of community participation

One of the key weaknesses of models of community participation is an underlying assumption that people within the community form homogeneous groups: the "haves" and "have nots" (Kroutil and Eng, 1989). In reality, as the evidence about community dynamics in 2.2 has already highlighted, communities and groups within the community are fragmented, have their own power and communication structures, and encompass divergent viewpoints and competing vested interests. Similarly,

individuals may vary in their motivation to participate in collective activities designed to benefit the community. It has been shown that the views of key community leaders and motivated individuals may be readily solicited (Dun, 1989). Few tested methods by which to stimulate the unmotivated into the very early stages of participation appear to be debated. There may therefore be a very real problem for those wishing to identify the health-related interests of "hard to reach" groups within the community. Those whose views are not overtly sought, those who do not respond to individual approaches or who are marginal to, or do not join, groups may be the people whose views and participation in programmes are most needed, for example, isolated mothers and unemployed individuals.

Arnstein (1969) offered two preliminary stages to active involvement of individuals. First, Arnstein views consulting people through surveys as important but often merely token participation. She has reservations because respondents are offered no assurance that their views will be taken into account. However, a survey may be viewed not only as a way of collecting information and soliciting views but also as a strategy by which to engage the interest of individuals in the topic surveyed. It therefore seems reasonable to argue that a survey may itself act as an "agenda setting" activity within the community. Secondly, Arnstein believes that informing citizens of their rights, responsibilities and options can be "the most important first step towards legitimate citizen participation". She warns against token and placatory gestures, such as one-way communication and mass media campaigns, as they provide no channel for feedback and no opportunity for negotiation. Yet if participating individuals are within cohesive community groups it seems reasonable to surmise that feedback may be feasible and economic. If information offered is found to be of interest to either an individual or the group then, arguable, people are more likely to form views about the topic and possibly respond in some way through associated activity. Feedback of survey information may therefore be viewed as an activity by which to prime the community for participation through individual or collective action.

Arnstein stated that follow-through is required if informing and consulting the community is to move to partnership between professional and lay people. Her model was important in informing the method adopted in the North Derbyshire study described in this thesis. In particular, it reinforced the decision to offer a wide range of feedback to lay participants and highlighted the need to examine any opportunities for follow-through by practitioners that the survey may generate.

2.4 A growing interest in community participation in health in Great Britain: the effectiveness of, and barriers to, participation

Understanding British experiences of community participation has been confused because of the indiscriminate and imprecise use of language in community work in this country (Watt, 1986a; Tones et al., 1989). For example, the terms "community organisation", "community involvement", "community action", "locality or neighbourhood development" and "community development" appear to be used to describe community participatory activities.

Community participation has been used to describe what Farrant (1991) and Stacey (1988b) have described as "community manipulation". Farrant argued that the language of community development has been adopted without health professionals taking on board the fundamental difference between delivering services to the community and community control over the definition of health needs and their solutions. Consequently community participation as a concept is in danger of being devalued so that it has little to do with shifting the balance of power to users, rather than providers, of services. Madan (1987) from Third World experience has also warned that community participation can be "debased" easily, and employed to describe what is in fact the manipulation of people by politicians, bureaucrats and technocrats for purposes which are believed to be for the peoples' good - and may well be so. However, the way in which plans are conceived objectifies and infantalises people. Community participation therefore becomes, "part of social rhetoric, even just a cliche".

It is clear that health workers have played a key role in participatory initiatives (Drennan, 1985; Barnes, 1987; Hayes, 1990; Smithies et al., 1990). Experience of health workers has contributed towards re-examination of health visiting practice, and the suggestion that some health visitors should build up skills through training to facilitate lay participation in health (Billingham, 1991). Projects are usually small and seen as experimental and marginal to core health activity (Higgins, Deakin, Edward and Wicks, 1983; Farrant, 1991). Feelings of marginality have been exacerbated by the history of community participation as part of HEA activity. The establishment in 1988 of the Professional and Community Development Division (PCDD) of the HEA was greeted, according to Winters (1991), with enthusiasm by advocates of community development/participation in health. However, the brief existence of the PCDD was stormy, and did not fulfil the possibly over-

optimistic expectations of field workers. In 1990 the PCDD closed amid scepticism about the commitment of the HEA to community participation in health initiatives. The apparently equivocal stance of the HEA has led to a lack of "mutual respect" (Winters, 1991). The HEA has countered its critics by stating that it does support community-level initiatives, and is actually strengthening its support for local level work to complement national campaigns (HEA, 1991a). Further evidence of the marginality of community participation to the health services comes from a review of 75 Annual Reports on Public Health for 1989/90 (Beattie, 1990). Here it is stated that, "Evidence of action ..... encouraging community participation in health matters, is conspicuous by its absence". The report noted that even some of the Health Authorities that have established community initiatives fail to report on these. Broady and Hedley (1989) remarked that only around one third of local authorities engage in any type of community initiatives, partly because of financial constraints but also because of a misunderstanding of its nature and, possibly, apprehension about its lack of specificity. Scott-Samuel (1992) criticised the patchy way in which community participation has been adopted in Healthy City projects, "despite the substantial lip-service paid to them".

Judging the impact of community participation projects on a community is difficult because of the lack of substantive and convincing evidence to support claims of their effectiveness (Kroutil and Eng, 1989). Tones et al. (1989) believe that many community workers are more concerned with achieving success than measuring it. Where evidence of success is available it tends to be descriptive (Community Health Publication Group, 1992), come only from those whom the scheme has continued to engage, and not those untouched - or indeed alienated - by initiatives. Rigorous evaluations that employ, for example, follow-up of "drop-outs" as well as participants, representative population samples or case-control studies, appear to be unavailable. Evidence that participants are genuinely receiving a new, rather than alternative, service is also apparently unavailable as is good evidence about changes in self-esteem or behaviour using methods that do not introduce recall bias. Consequently, data measuring the impact of methodologies used in community participation is scant (Feuerstein and Lovel, 1983; Schiller et al., 1987). It could therefore be argued that the effectiveness of communities actively participating in their own health promotion has been overstated. As Rifkin (1990) has noted: "the concept of community participation is very complex. Although the literature continues to grow little is yet understood about the dynamics and impact of community participation".

Rifkin (1985) and Feuerstein and Lovel (1983) have noted amongst health care workers in the Third World, that training emphasises a medical model of health

care. Staff are prepared to provide expert help to people in need, rather than involve people in the process of improving health. Farrant (1991), writing about the developed world, agreed with these views. She emphasised the conflict between the biomedical approach and more socially orientated perspectives towards health promotion in the developed world. In relationship to practice within a Health Authority where a desire to implement community participation has been stated it has been said that, "it is one thing to set out a general intention, quite another to turn that into reality," (Winchester Annual Public Health Report, 1989). Claims about community participation are therefore sometimes based on wishful thinking (Rifkin, 1990) and produce much rhetoric about participation which serves to mask what are token gestures (Watt and Rodmell, 1988; Farrant, 1991). False claims may be made partly because of the dilemmas for professionals in reconciling theory and practice when faced with a lack of congruity between their own views of community needs and what the community wants, already discussed.

It seems that it is easier to identify characteristics found in community participation projects where success has been claimed, rather than evidence of the impact of the project. Practitioners in the UK have identified characteristics of lay and professional leaders and the community that appear to be required before projects can flourish (Youd and Jane, 1986; Cox and Findlay, 1989; Public Health Alliance, 1992). They point to practical elements that underpin "successful" projects, such as security of funding and premises. Schiller et al. (1987), working in the USA, stress that staff must "honour and respect" local culture and assimilate new values and behaviour. The size of the community also appears to affect participation. Appropriate population for a catchment area is said to be between 6000 to 20,000 (Henderson and Thomas, 1981). Communities larger than this appear to be so complex and mobile as to inhibit identification with one locality or group and the commitment to participate in promoting its health.

Conflict and factors that inhibit participation

It seems appropriate to note in this section that methods of working towards participation that involve the disadvantaged appear to be fraught with opportunities for challenge. These may lead to conflict (Milio, 1986; Watt and Rodmell, 1988). For example, conflict may develop when those who become more assertive seek a greater and more equal voice and challenge those who have an existing stake in participation (Rifkin, 1985; Tones et al., 1989). Dun (1989) has noted that such conflict is not necessarily unhealthy but may lead to innovation. Existing participators are likely to be defensive, to complain of inequality of resources (Rifkin, 1985) yet control physical

resources, be more middle class, more well educated, articulate and politically active and to have higher status. Consequently, they are powerful in their opposition to change (Sills, 1975; Gyford, 1976).

Suggestions, based on experience, have been made to ameliorate community workers' conflicts. For example, detailed contracts between employer and employees have been drawn up. These recognise that employees' first responsibility is to act in the interest of the community (Youd and Jayne, 1986). Nevertheless, it is not difficult to envisage the invidious position of staff. They may be seen by employers or politicians to be teaching skills to, and acting as advocates of, those who are critical of the status quo. Conversely, staff may be perceived by lay groups or individuals as perpetuating the status quo. Conflict may also arise because field workers have stereotypes of each other that inhibit effective collaboration (CHIRU, 1987). A further problem may lie in the identification of community work as actually promoting conflict (Alinski, 1946; Gibson, 1979). Fear of the power of left wing workers to promote activity based on ideology has been expressed (Clarke, 1973; Bamford, 1990) although any real power of professionals engaged in community development activities has been questioned (Dixon, 1990). Radford (1976) has commented that, when employed by local authorities:

> "Some of us have been remarkably transformed from dangerous agitators into respectable community workers virtually without changing our spots." (p 75)

Conflict may, at least temporarily, inhibit participation. There are other factors that are also likely to do so. Commenting on their experiences in the USA, Schiller et al. (1987) note that decades of disempowerment remain stubborn barriers to change towards health empowerment. Characteristics of individual communities, such as the low degree of attachment individuals feel towards the community, may act as barriers to participation (Willmott, 1989). There is a tendency for people to be interested in health only when they - or someone close to them - is ill, and then only when they relate to specific problems. Thus it is difficult to generate interest in health at local or even neighbourhood level (Hatch, 1984). In inner cities McCarthy (1983)

suggests that barriers to health education, and so by implication participation in health, include the fact that:

> "most people do not have prepared minds: health is not uppermost. Many other concerns such as with women over family, work, immediate pleasures, matters of status or pursuit of money dominate our thoughts. And even when we are open to concern for health the influence of the commercial world or peer groups may be more important than the messages from health educationalists." (p 11)

Where perceived - or real - circumstances overwhelm concern over health, then the chances of participation in health must be reduced. People's perceptions of their own health may be conditioned by expectations, experience, age and sex (Wright, 1986; Mullen, 1992). Blaxter (1990) has noted that relationships between perceptions and individuals' characteristics are important. She has shown that, on the whole and at the extremes, people's self assessment is reasonable when linked to actual diseases, disabilities, illness, fitness and psychosocial factors. However, she showed some mismatch in that some of those with good health may perceive it to be poor and vice versa. In Blaxter's study the elderly appeared to have less stringent criteria by which to assess good health, and those in manual families were more likely to take a more pessimistic view of their health than those in non-manual families.

The work of Wallston and Wallston (1978) showed that it is possible to identify three main types of perception over the ability to control health; there are those who believe: first, that they themselves control their health; secondly, that "powerful others", such as doctors, control their health and, thirdly, that there is a lack of control over health that may be termed "fatalism". Those with high, or internal, loci of control appear to be more likely than others to perceive health promotion activities as relevant to them and so participate in activity. Those with low, or external, loci of control appear less able to do so (Allison, 1991).

The advent of AIDS has stimulated work into perceptions of risk and risk taking, especially amongst target groups (Bowie and Ford, 1989; Boulton, Hart and Fitzpatrick, 1992; McDonald and Smith, 1990). It seems that, in general, young people do not perceive themselves to be at risk of HIV infection (Galt et al., 1989; Price, Merigan and Peterman, 1989), although risk taking behaviour may be reported (Galt et al., 1989). Mismatch between risky behaviour and perception of risk has also been observed in certain groups such as runaways and drug users (Hudson, Pettey, Freeman, Haley and Krepcho, 1989; Hays, Kegeles and Coates, 1990). Thus

perceptions are important factors that may underpin or inhibit an individual's participation in health.

A wide range of resources may be required to enable participation to become a reality. For example, time and self-discipline (Fuglesang and Chandler, 1986). It has also been noted that those most in need may lack access to resources partly because those who control resources have little inclination to share. Those most in need may feel helpless simply because they lack the knowledge and skills to acquire resources (Madan, 1987; Rifkin, 1990), even when they can identify what is needed. Because of lack of resources it has been argued that groups marginal to society must be the most resourceful (Gittel, 1980).

It has been suggested that the circumstances of the urban poor make success in health promotion more surprising than failure. Inertia, and substantial doubt about whether collective action is possible or worth the trouble, constrains the poor who, it is argued, rarely have the social confidence, skills or experience to galvanize their own community, deal collectively with government and non-governmental organizations, and, if the need arises, challenge other people's hostile attitudes and actions (Schiller et al., 1987; Tabibzadeh, Rossi-Espagnet and Maxwell, 1989). These views imply that within communities suffering deprivation there may well be factors rooted in culture, encompassing local traditions and beliefs, that inhibit participation. For example, women who are expected to play a passive role - or indeed no role - in public life may be inhibited from individual or collective activity over inefficient child immunisation programmes. To adopt a critical attitude towards services when taught to accept provision with gratitude may be difficult, especially when traditional wisdom maintains that the power of professionals is absolute and that "professionals know best". Debating inequality of status, De Vos and Suarez-Orozco (1990) make similar points about those with low status because of, for example, their colour or socio-economic status. They claim that cultural factors are responsible for inhibiting participation, rather than personal inadequacy or lack of intellectual ability. Madan warned that it is dangerous to have unrealistic expectations of what people can do by and for themselves. Young (1981) described the process by which British society, based as it is on an essentially acquisitive philosophy, has created mechanisms that teach the majority of the population to be satisfied with its lot and to have low expectations.

2.5 Practice in community participation

This section considers what precisely practitioners can do to set in motion the process of empowerment through community participation and thus justify the

idealistic rhetoric that is associated with its objectives. Unfortunately, from the many descriptive analyses of methodology adopted in initiatives both in the Third World and elsewhere only rather vague and generalised comments on how community participation in health may be achieved have been put forward (Tones et al., 1989; Federation of Community Work Training Groups, 1990). For example, participants in the First National Community Health Action Conference (NCHR, 1990) produced a checklist of characteristics of community participation in action. No details state how, for example, democracy in local decision making about health or improving access to health services may be established.

More practically, Wallerstein and Bernstein (1988) have suggested a method of small group work with professionals listening to learn; participating through dialogue, and finally supporting people's action. In larger scale community work Bamburger (1987) suggested: a cycle of reconnaissance; identification of needs; preparation of the community through consultation, and then implementation of a programme. Tabibzadeh et al. (1989) recommended developing initial trust and understanding in the community, continuing discussion with the community followed by discussions integrating feedback of survey data. Luker and Orr (1985) suggested that a starting point drawn from the World Health Organisation experience is: to carry out a survey with community input; for professionals to participate in the survey; encourage subsequent action, provide facts, bring in experts, suggest alternatives, participate in discussion, train workers, provide logistic support, co-ordinate activity, support workers, participate in evaluation to measure outcomes, and, finally stand back from the project but remain supportive.

The notion that a survey within a community may be a starting point for community participation in health has thus emerged from both the Third World and developed countries. It therefore seemed reasonable to choose such a strategy for North Derbyshire's Health Promotion Unit as a starting point for participatory activity and to consider linking it to the representative study introduced in Chapter 1. The survey would therefore, and appropriately, take place within a community identified as a priority for health promotion activity.

The concept of using a survey that also facilitates community participation is not new (Nichter, 1984; Couto, 1986; Whyte, 1991). For example, Feuerstein (1986) suggested a process she described as "partnership in evaluation" as appropriate for Third World health surveys where lay leaders are central to the development and implementation of the survey method. In relationship to structured surveys she commented that in other respects "people participate in surveys by answering questions ... what they are actually doing is co-operating rather than participating.

Their role is mostly a passive one".

Reports back from the National Community Health Resource Conference the Public Health Alliance Conference produced similar views about research and evaluation in community health projects (McDiarmid, 1990; Harding and Shillito, 1990; Public Health Alliance, 1992). First, research and evaluation needs to adopt and address the principles of Health For All. In this study the criterion was met in that it took place in a highly disadvantaged community. In addition, it sought to engage the interest of groups known to suffer particular health needs and actively promote awareness within those groups. It also attempted to promote health by spreading information about attaining positive health and local health-related behaviour through the wide dissemination of leaflets.

Secondly, the research process can be important. Medical models of measuring health take little account of potential "spin off" from research that may influence those surveyed. The central argument in this study is that the survey method may be a process that, in itself, lays down the early stages of community participation in health.

Thirdly, researchers, policy makers and planners should recognise research and evaluation as an integral part of policy and planning. This study was integral to the development of North Derbyshire's approach of informing policy makers, planners and practitioners and monitoring the impact of health promotion, and to its strategy of systematically working in disadvantaged communities.

Finally, research and evaluation methods need to be appropriate. Here it is argued that the research is appropriate because it both applies tested methods and is theory driven. Economic considerations were also a factor in deciding the methods to be used so that appropriate use could be made of limited resources.

2.6 Measuring health and promoting community participation

It has been argued that epidemiological studies are incompatible with the nature of community based interventions because they tend not to allow for the characteristics and unpredictability of factors that influence people and communities (Nutbeam and Smith, 1990). It has also been suggested that research methods may be used as an oppressive form of social control. Those who support this view argue that not only is the original focus of the survey professionally identified, but the survey methodology is dictated by a theoretically culturally, politically and socially "neutral" researcher who, nevertheless, influences the method for no other reason than that

she/he is set up as an expert. Data analysis and the use of quantitative statistical data are controlled by policy makers and planners. They tend to deny the individuality of respondents by the aggregation of data to seek" the average" or "typical" patterns of use in planning, especially budgetary (Irvine, Miles and Evans, 1979; Nectoux, Lintott and Carr-Hill, 1980), although data are not always adequate to do so (Mackenbach, Bouvier-Colle and Jougla, 1990). It has further been argued that even when studies are carried out they tend to have no effect on practice being focused on minor community programmes or minor aspects of major studies (Davidson, 1980; Stocking, 1985). Indeed, Opit (1987) has argued that there is a compulsive desire amongst politicians, professionals and bureaucrats to define and control organisations. The information systems they develop reflect this as systems are more concerned with organisational wellbeing and survival than with the welfare of those for whose benefit the organisations supposedly exist.

Those who instigate research have been criticised for not using results to stimulate communication between active participants (Carr-Hill, 1984a; 1984b), although multi-level models of feedback have been developed (Feuerstein, 1986). Carr Hill (1984b) has also pointed out that statistical measurements are used in planning. Their use is potentially powerful in policy making processes and implementing change through the activities that result from those policies. He argued that the method of data collection should not be seen as divorced from the whole process of change as it is in itself a potential agent of change. He suggested that:

> "since social change can be carried out only by people, measures and statistical activities should be on the human level and organised around the possibilities of change" and that "the procedures used, the assumptions, the results and the consequences of varying assumptions should be clear to everyone." (p 181)

To overcome the detachment of more usual surveys, experiments in so called "radical" survey methodology have been carried out and are described below.

Experiments in "radical" survey methodology

Carr-Hill (1984a) described how, by adapting Friere's empowerment theology already identified with high intensity of community participation, he carried out a survey in Brighton. A structured questionnaire was developed to focus people's attention on the issue - in this case education. A structured questionnaire was chosen to mount the subsequent interview-based survey as that method requires low levels of

involvement by respondents, yet should introduce them to ideas, "without imposing counter productive discussion on those who do not see any problems or have no hope of effecting any change". Survey response was low at 27% of an electoral roll sample. These respondents were amalgamated with a self-selected group of 100. Contradictory claims have been made that respondents were "selected" and that the sample was random. In either case respondents to the survey could not be expected to represent the population from which they were drawn. 12-15 of this group had assisted in designing the questionnaire, but this required high professional input. The use of a representative sample of potential responders to generate items on a questionnaire has been considered as a method by which to identify items of direct importance to respondents by others (Daube, 1986; Harris, 1986; McGuire, 1990).

Harris (1986) was particularly aware of the need to allow for a difference in middle and working class mores and modes of expression. Evidence that written language, especially that used by professionals, is read but not understood by sections of the lay population has been well demonstrated in a study of the parents of statemented children (Cranwell and Miller, 1987). In Carr-Hill's study (1986a) great care was taken to check that questions were couched in language that respondents could be expected to understand and were concerned with the common experience of groups.

Respondents to Carr-Hill's study (1986a) were asked if they would like to receive the results of the survey. Feedback was envisaged as an opportunity to give respondents insight into their own positions, information about the situation of their fellows and so an opportunity to share and learn. In support of the notion of the dynamic potential of feedback Feuerstein (1986) has stated that if community members and agencies have access to findings they can be supported through the process of understanding how base-line information can help to plan programmes to overcome problems. She believes that communities are usually more interested and committed to future action plans that are based on information which they themselves have participated in collecting and analysing. A similar view was summed up by Mandara (1987) who stated that information that is readily understandable by lay people should be "continually" passed on to them. Dynamic interactions between the district level, the local level and lay communities are necessary so that health care information will be used to improve the well-being of populations rather than maintain bureaucratic power. Others have pointed out that feedback may not occur because of lack of inclination, inadequate time, funding, motivation and lack of awareness of the potential audience for findings (Cartwright, 1983; Daube, 1986).

In this country survey findings as feedback to a lay audience, as was planned

in this study, has been achieved. This point was reviewed in Chapter 1 with reference to lifestyle surveys with the conclusion that data about feedback and its impact on recipients is scant. The same is true in this context. For example, Ginnerty et al. (1989) fed back survey findings about housing and health, although there appears to be no data about its content, extent of feedback or impact on recipients. Working in Coventry, Binysh, Chistry, Pollock and Middleton (1989) used data for feedback that was not based on a structured survey but was city-wide aggregated data about a range of factors, including morbidity and mortality, crime, housing and unemployment. The data were used to produce a health profile that was widely distributed and the focus of media coverage and many meetings with professionals. No data supported the claims that the profile succeeded in raising awareness of health promotion, promoted co-operation between the local authority, statutory and voluntary agencies, provided local health campaigners with relevant information and focused attention on a number of local initiatives relevant to housing and health. It was hoped that information in the report would promote campaigning on behalf of the public's health and involve people in their own local initiatives to improve health but, again, there is no evidence to show that this happened.

A second "radical" survey reported by Carr-Hill (1984a) led to claims of vindication of his research hypothesis that "empowerment" is not necessarily incompatible with structured survey methodology. He emphasised that the process was fraught with practical problems common to all interview-based methodology, such as interviewer bias. In addition, Carr-Hill was aware of forcing response into certain culturally determined moulds. Whilst it had not been possible in practice to adhere to a theoretical ideal, it was argued that it had been possible to identify elements of a methodology that allowed a questionnaire to be used, albeit on a pre-selected subject, that retained the autonomy of subjects. This was achieved by, first, enabling members of the potential population to be engaged in the process of selecting categories by which to facilitate predicted response, secondly, stimulating respondents to analyse, reflect and comment on the subject critically by the use of open-ended questions, thirdly, feeding back survey findings to "the gratifyingly high proportions" that asked for them and, finally, the method was not so extreme or intrusive as to cause respondents to reject their normal frame of reference. No information about respondents appears to be available, but experience in community participation would suggest that they were likely to be more middle class, well educated, articulate and have higher status and more engagement and investment in the status quo than non-respondents. These characteristics may also help to explain the high demand for feedback.

Key elements of "radical" survey methodology

The key elements of "radical" survey methodology may therefore be said to be, first, input from potential respondents in the design of the study and questionnaire and, secondly, feedback which may help to provide personal insights for respondents. Feedback may also collectively enable people to learn quantitatively about the forces acting on them and learn about themselves, thus sharing experience. Elements of radical survey methodology may be identified as a strategy by which to promote community participation.

2.7 Survey methodology in a community health promotion context: aims and objectives of the thesis

The descriptions of the measurement of health in Chapter 1 and of community participation and radical survey methodology in this Chapter have highlighted a common methodological issue that is relevant to health promotion surveys: how best to obtain and use data about the health-related behaviour of a defined community. In this thesis it was decided to test the feasibility of a survey method in which data collection and dissemination would measure the population's positive health-related behaviour and, at the same time encourage some degree of community participation. It was decided that data from the survey in North Derbyshire would be collected from representative and non-representative samples and obtained by a co-operative process using professional and lay people. Data from the survey would be made available in appropriate ways to a wide range of individuals, groups and agencies both lay and professional. It would therefore be collected and analysed to present representative patterns for the whole community. Data from community groups would be prepared for the use of health promotion staff. It was decided that not only information about the survey findings would be offered to people within the community but also information about healthy lifestyles. Because of the importance of the survey as a process it was decided that it would be tested for its impact on the community, as well as its ability to measure health. Evaluations of the method would include an examination of awareness and behaviour of the study population that resulted from research activity.

The CHPS therefore had the specific aims of developing a creative survey strategy for health promotion that would:

a) provide base-line data for health promotion purposes

b) monitor changes in health-related behaviour

c) assist in prioritising health promotion initiatives

d) prime the community for a greater degree of participation in future health promotion initiatives

e) provide opportunities for health promotion staff to follow-through surveying activity.

The objectives of the action-research were that it would:

a) take place in a community where inequalities in health could be expected to be greater

b) focus on collecting data about positive health-related behaviour. Data would be collected on a structured questionnaire. Emphasis in analysis would be placed on levels and type of participation rather than analysis of data about health-related behaviour

c) integrate various levels of feedback into the survey methodology and chart the extent and uptake of feedback

d) evaluate the impact of the total survey method in terms of

- professionals' use of data and its impact on policy, planning and health promotion activity
- levels of awareness about the survey
- lay participants' activity stimulated by the survey method.

It was recognised that, for practical purposes, the method would need to be inexpensive to administer as well as reliable and readily repeatable in several communities.

Chapter 3 describes the methods adopted in the CHPS based on piloting reported in Appendix 1.1. Chapter 4 gives methods and results from three evaluations of the CHPS method. Chapter 5 discusses the method and results in relationship to the concepts of measurement of health and promoting community participation in health presented in the first two Chapters of the thesis before conclusions and recommendations are presented in Chapter 6.

Chapter 3

THE COMMUNITY HEALTH PROMOTION SURVEY : METHODS AND RESULTS

3.1 The study area: rationale

North Derbyshire includes communities of very different characteristics, from rural villages in the Peak District to urban areas based on traditional heavy industry, such as coal mining. In its overall strategy for health promotion North Derbyshire Health Authority took the decision based on recommendations from a North Derbyshire Health Authority Working Party on Unemployment, Social Class and Health, to identify and target "deprived" communities, rather than offer health promotion across the District. By carrying out intensive programmes of work in deprived communities, it was anticipated that the impact of health promotion would be reflected by an increase in awareness of, and knowledge about, health issues, and a movement towards the ultimate goal of better health. It was also recognised that better health may be achieved not only by changes in individual lifestyles, but also by improving the environment in which people live and work, and by adapting or introducing organisational structures to facilitate health (Beales, 1987).

Deprived areas in North Derbyshire were initially identified by ward using the Jarman Index developed to identify underprivileged areas for Family Practitioners' Committee resource allocation, (Jarman, 1983; 1984). However, these were found to be areas not believed by the Working Party to be those of the greatest need because of the heavy weighting for elderly patients in the Jarman Index. To allow for local conditions and the fact that the data were to be used for health promotion purposes, a more complex index was developed combining Census and Health Authority existing data to produce a 'Z' Score, using a system similar to that developed by Nottinghamshire's Planning Department (Payne, 1983). Extra factors related to unemployment and emphasis was given to child health, prioritised by the World Health Organisation (WHO, 1979; Beales, 1987).

The final index took into account:

- % of one parent families
- % of families with four or more children
- % of unemployed
- % of households with head of household in Social Class V (OPCS, 1980)
- % of households that moved house within the last year
- % of households without a car
- % of birth weights <2500 gm
- % of birth weights <1500 gm.

Ethnic minority groups were not taken into account as North Derbyshire has few residents from ethnic minorities. Twenty-three wards, containing 26.7% of the population, with higher than average "Z" scores were then listed and mapped, as shown in Map 3.1.

The Working Party considered these, together with areas shown to have both high Jarman and unemployment scores, see Map 3.2. The following quote from the Working Party summarised their conclusions.

"Reorientation of Services to Support Deprived Communities

The analysis of the pattern of deprivation in North Derbyshire supported the validity of an approach based on action in selected communities. Since April 1987 the working group has undertaken further analysis and identified six communities with high levels of deprivation measured by:

a) unemployment rates

b) an index of health need developed by the Working Group

c) The Jarman (Underprivileged Area) Score recommended by the Royal College of General Practitioners

The Working Group has reached the view that two of these communities should be the focus for a community based project linked to the Authority's health promotion strategy. These principles embrace the World Health Organisation's "Health For All" approach to health promotion. Amongst the major aims of such a project are the identification of effective practice and service delivery and the identification of organisational change of relevance to other communities.

The two communities selected by the Working Group are:

a) Barrow Hill, Hollingwood and Staveley

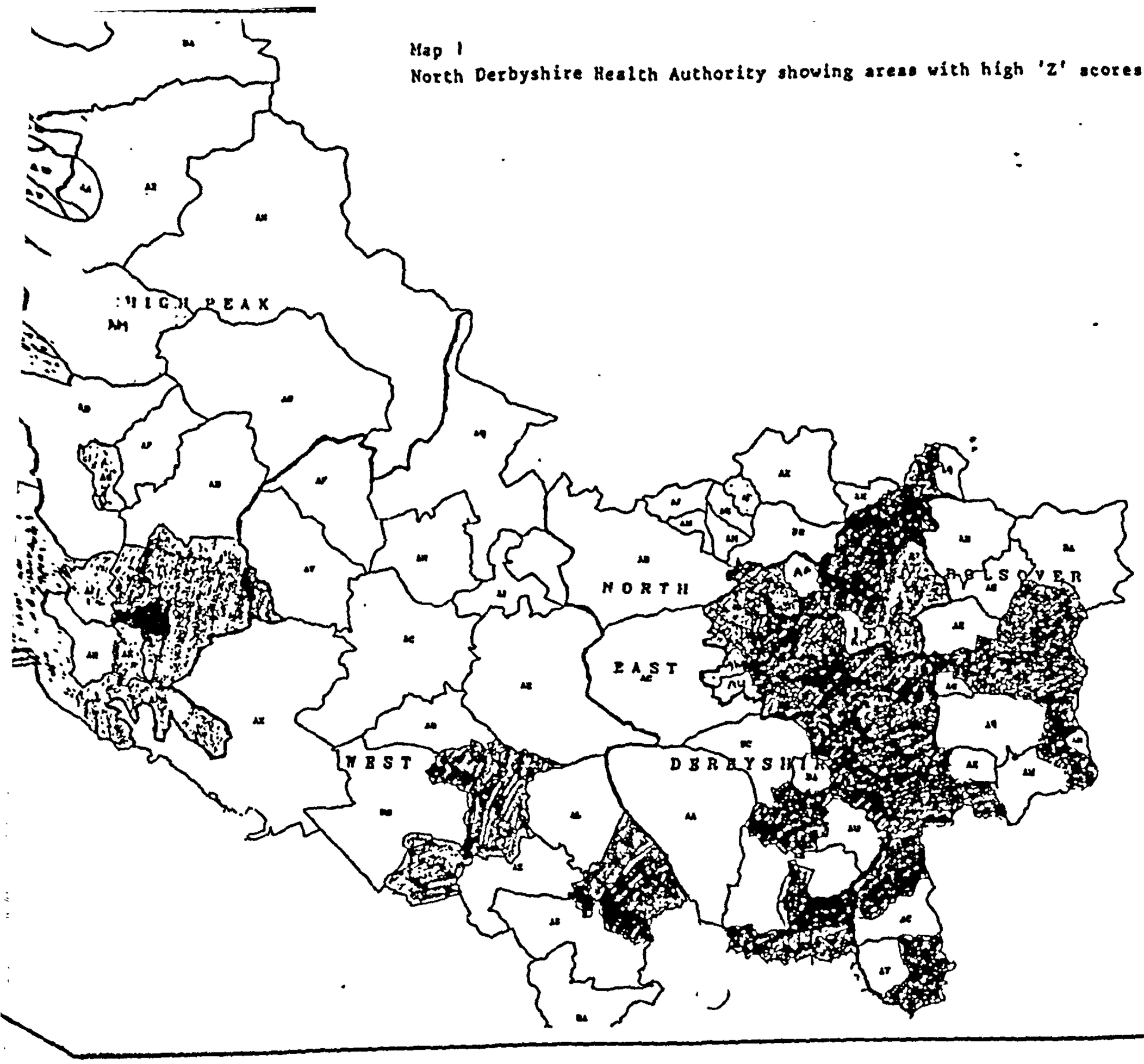
b) Shirebrook

These were selected on the basis that they are distinctly different social and geographical settings, but may be representative of other communities found elsewhere in the district. For instance, the former is a distinctive part of the Chesterfield urban area, and comparatively close to centrally provided services. The latter is a rural setting relatively remote from central services, and is also served by neighbouring health authorities. It is hoped that lessons learned in a project in these areas will be applicable elsewhere in the district" (North Derbyshire Health Authority, 1987).

Subsequently it was decided that the area known as Staveley, which incorporates Barrow Hill and Hollingwood, would provide the study population on

which to test the Community Health Promotion Survey (CHPS) method as part of the pioneering work supported by North Derbyshire Health Authority's Health Promotion Project, "Peak Health" (Beales, 1987). It was envisaged that each area of deprivation would then be systematically surveyed utilising the Staveley experience.

Map 1
North Derbyshire Health Authority showing areas with high 'Z' scores



NORTH EAST DERBYSHIRE - FS

Ashover	AA
Barlow & Holmesfield	AB
Brampton & Walton	AC
Clay Cross North	AD
Clay Cross South	AE
Coal Aston	AF
Dronfield North	AG
Dronfield South	AH
Dronfield Woodhouse	AJ
Eckington North	AK
Eckington South	AL
Gosforth Valley	AM
Hasland	AN
Holmewood & Heath	AP
Killamarsh East	AQ
Killamarsh West	AR
Morton	AS
North Wingfield Central	AT
Pilsley	AU
Renishaw	AW
Ridgeway & Marsh Lane	AX
Staveley	AY
Sutton	AZ
Tupton	BA
Unstone	BB
Wingerworth	BC

Map 2
North Derbyshire Health Authority showing areas with high 'Z', Jarman and unemployment scores.

CHESTERFIELD - FN

Barrow Hill & Hollingwood	AA
Brimington North	AB
Brimington South	AC
Brockwell	AD
Dunston	AE
Hasland	AF
Holmebrook	AG
Inkersall	AH
Lowgates & Woodthorpe	AJ
Markham	AK
Middlecroft	AL
Moor	AM
Newbold	AN
New Whittington	AP
Old Whittington	AQ
Rother	AR
St Helen's	AS
St Leonards	AT
Walton	AU
West	AW

BOLSOVER - FM

Ault Hucknall	
Barlborough	
Blackwell	
Bolsover Central	
Bolsover North	
Bolsover South	
Bolsover West	
Clowne	
Elmton with Creswell	
Glapwell	
Pinxton	
Pleasley	
Scarcliffe East	
Scarcliffe North	
Scarcliffe South	
Shirebrook East	
Shirebrook North	
Shirebrook North West	
Shirebrook South	
Shirebrook South West	
South Normanton East	
South Normanton West	
Tibshelf	
Whitwell	

Chapter 2, 2.2, emphasised that a community targeted for health promotion must be viewed as more than a geographical area. It was therefore essential to underpin the Community Health Promotion Survey method by exploring factors relevant to understanding Staveley as a community.

Description of Staveley

The survey focused on the area known locally as Staveley, which includes not only the town of Staveley but also the five outlying residential areas that relate to the town: Poolsbrook, Mastin Moor, Inkersall, Barrow Hill and Hollingswood. These centres of population, contained within five electoral wards, lie on the North Derbyshire coalfield. The population of Staveley in 1981 was 17,759 with an adult population of 13,667, (OPCS, 1983). It should be noted that the Census area of Staveley has different boundaries and has a population of 24,300, (OPCS, 1982).

The traditional industries of Staveley: coal mining, iron smelting and their related industries, although in decline, continue to dominate the town's economic activity. Consequently the population is predominantly employed in manual occupations, supplying industry with semi-skilled and unskilled labour.

Figure 3.1 gives details of some of the town's demographic characteristics, compared to the Census area of Staveley and Great Britain.

Figure 3.1
Some demographic characteristics of five wards, Staveley and Great Britain

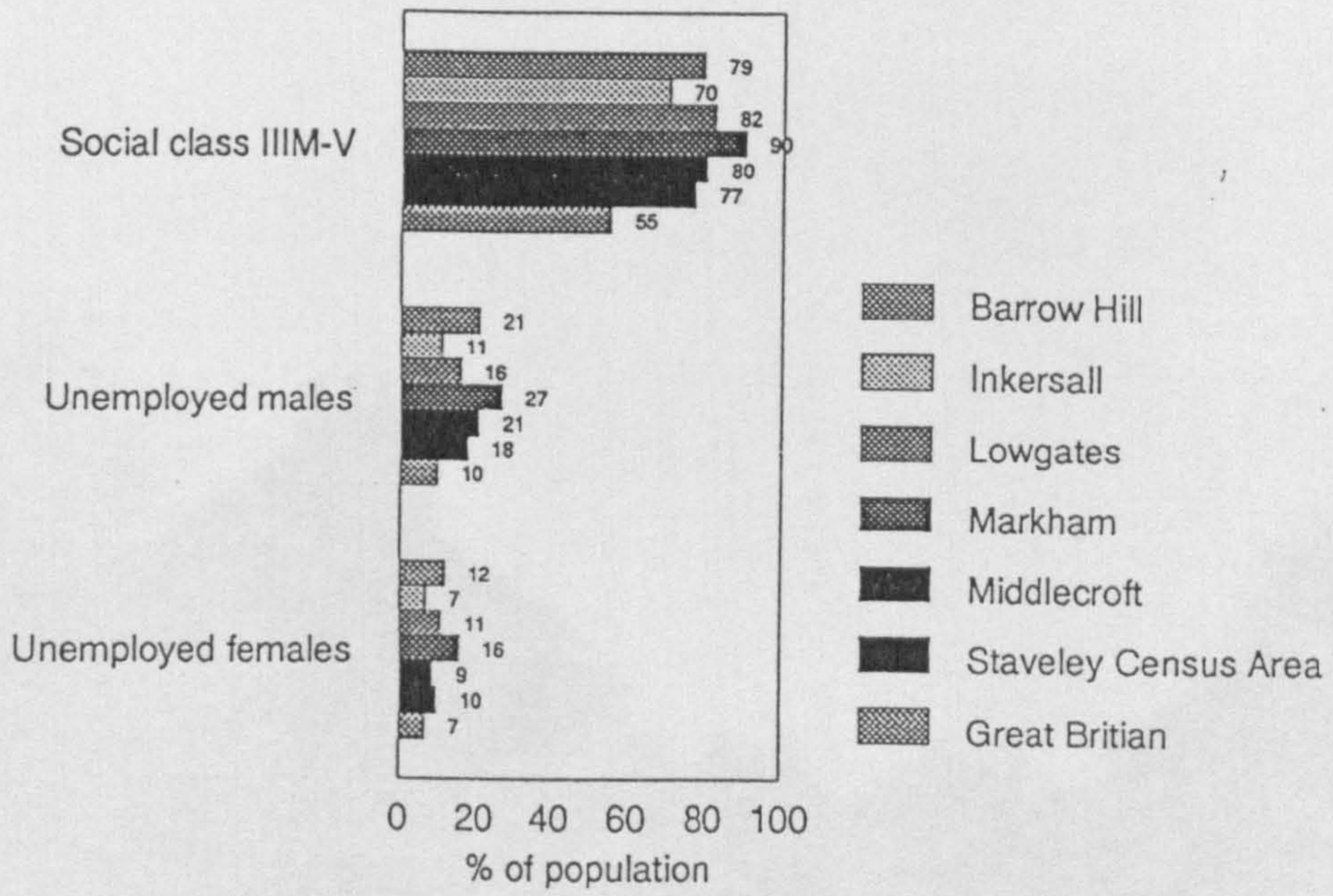


Figure 3.1 shows that Staveley had wards of high levels of deprivation in terms of unemployment and male unemployment in particular which ranged from 1% - 17% above the national average of 10% (Research and Intelligence Unit, 1988). Staveley's wards were all characterised by having unskilled populations 15% - 35% higher than the rest of the country, many of which live in council housing. The proportion of single pensioner households in four wards was also generally high. Staveley was therefore a community with identifiable disadvantages in that it was likely to contain groups with special needs in terms of health, see 2.2. It was therefore an appropriate one in which to test the survey method.

For further details of Staveley's history and demography see Appendix 3.1. Illustrations 3.1 shows the main street of Staveley in the 1930s and Illustrations 3.2 - 3.4 show typical scenes of Staveley today.

Illustration 3.1 :

Staveley High Street in the 1930's

Illustration 3.2 :

Main shopping precinct, Staveley, 1988

Illustration 3.3 : Staveley Miners' Welfare, 1988

Illustration 3.4 : View of local industrial chemical complex, 1988

3.2 Study design

The objectives of the study were to develop a cross-sectional Community Health Promotion Survey (CHPS) method by which to measure health-related behaviour, attitudes and beliefs for health promotion purposes. The method was designed to provide:

- base-line data about a community's health-related behaviour, beliefs and attitudes
- health professionals with information to facilitate programme planning and prioritisation of activity
- a means by which to monitor the impact of health promotion activity in terms of health-related behaviour change
- a method of priming communities for future health promotion activity.

In addition the Community Health Promotion Survey method needed to be:

- readily repeatable in all types of communities
- relatively inexpensive to administer

The study design was planned in three linked but distinct phases:

- exploring and piloting Community Health Promotion Survey methods
- carrying out the Community Health Promotion Survey
- evaluating the effectiveness of the Community Health Promotion Survey method in terms of the objectives of the study, given above.

Each of these three phases is described below.

3.2.1 Phase 1: Exploring and piloting the Community Health Promotion Survey methods

Phase 1 was primarily concerned with preparing instruments for data collection, checking the reliability and readability of the questionnaires, evaluating delivery and return of questionnaire methods and assessing the feasibility of feedback.

3.2.1.1 Instruments for data collection

Two self-completion questionnaires were designed, one for use by adults and one for use by school pupils. Questions were drawn from or developed from existing questionnaires. Both questionnaires primarily sought data about health-related behaviour, although some questions were introduced to explore beliefs and attitudes towards improving or maintaining current health status.

3.2.1.2 Reliability of the instrument

The reliability of the instruments was checked by:

- readministration of the adult questionnaire to a matched sample
- readministration of the school pupil questionnaire to the same year groups.

3.2.1.3 Readability of the questionnaires

Readability of the questionnaires was assessed by:

- a standard measure of readability
- introducing simplification techniques into the design of the questionnaire
- seeking respondents' views about aspects of the questionnaires' difficulty.

3.2.1.4 Delivery and return of questionnaire

Three methods of delivery and return of adult questionnaires were explored in two types of area; skilled and unskilled. The three methods each used a quota sample of 240 in each area and were:

- delivery by General Practitioner receptionists and return via freepost
- delivery via post to General Practitioner patients on General Practitioner's age/sex registers and return via freepost
- delivery via community group leaders to members of community groups and return by freepost.

Delivery and return of school pupil questionnaires was achieved through staff at each of the schools.

3.2.1.5 Feedback

The feasibility of feedback was explored:

- to adult and school pupil respondents about healthy living
- to adult survey respondents about local health-related behaviour, attitudes and beliefs
- to General Practitioner's about their own patients' health-related behaviour, attitudes and beliefs
- to school teachers about their pupils' health-related behaviour, attitudes and beliefs.

3.2.2 Phase II: The Community Health Promotion Survey

A survey of one community's health-related behaviour, beliefs and attitudes was carried out involving:

- local General Practitioners
- local schools
- local community groups.

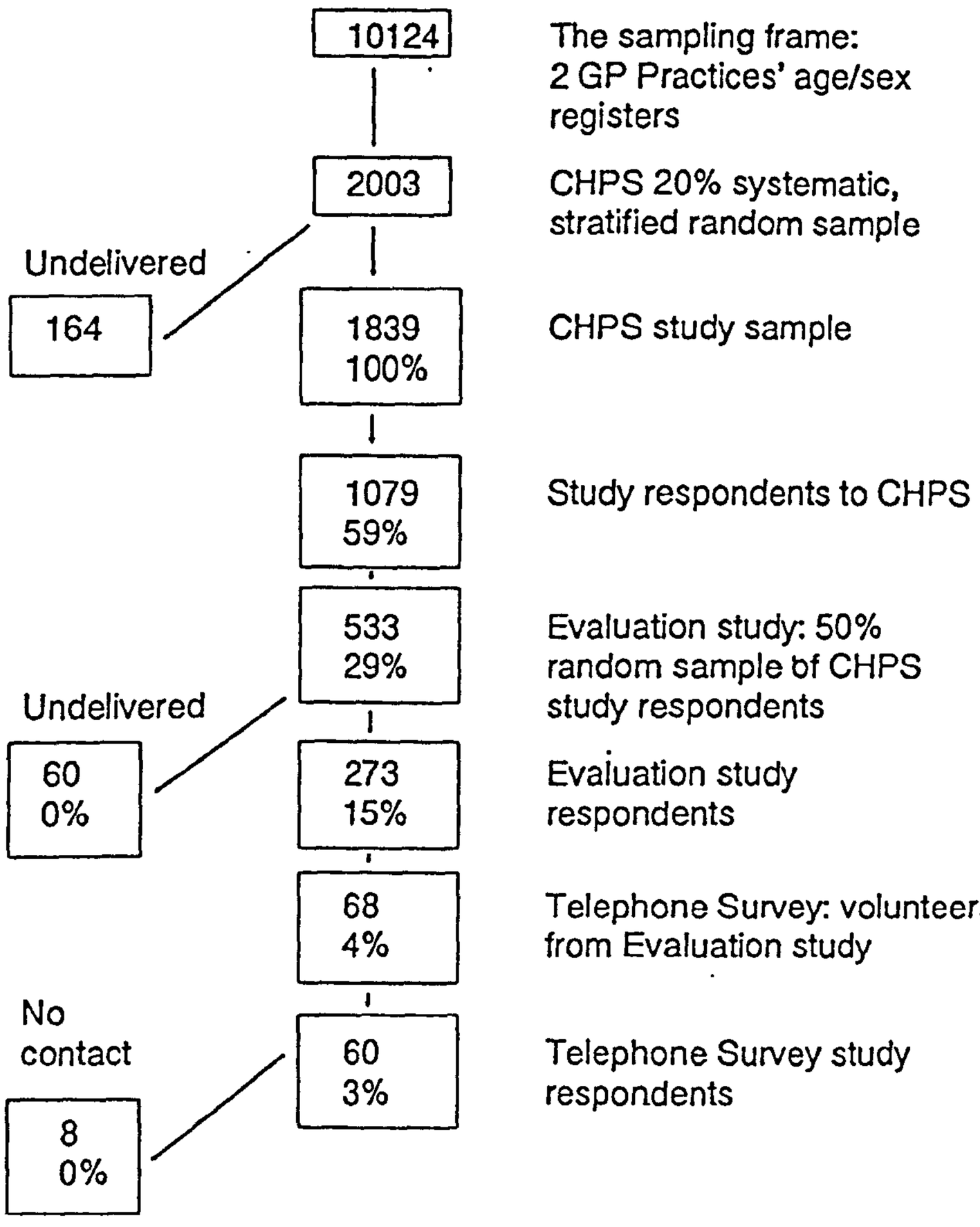
3.2.2.1 The samples

Samples taken were representative being:

- a 20% systematic random sample of General Practitioners' patients registered with the Derbyshire Family Practitioner Committee (now the Family Health Services Authority). Sub-samples of this sample were used in subsequently evaluations of the Community Health Promotion Survey, as described in 3.1.3, and summarised in Figure 3.2
- whole first and fourth year groups in three local secondary schools.

In addition, a non-representative sample was drawn from community groups referred to as the Opportunity Sample.

Figure 3.2 The GP Practice 20% Survey
Study Population: origins and usage



3.2.2.2 Delivery and return of questionnaires

Questionnaires were delivered by post or school-teachers to the representative samples and by community contacts to the Opportunity Sample. Questionnaires were returned by freepost, school teachers or locally situated special post boxes. Two postal reminders were sent to the postal sample, each enclosing a repeat questionnaire and freepost envelope.

3.2.2.3 Feedback

Feedback about healthy living and a summary of survey findings were available to adult respondents. Results of the survey were fed back to health promotion staff.

Selected survey data were prepared to be fed back by health promotion staff to:

- participating GP's
- participating school teachers
- community groups
- the local community

using a variety of appropriate methods.

3.2.2.4 Publicity

Local publicity was achieved by the use of:

- posters
- special post boxes
- the local media.

3.2.3 Phase III: Evaluation of the Community Health Promotion Survey method

The Community Health Promotion Survey method was evaluated in three ways.

3.2.3.1 Evaluation of the effectiveness of the Community Health Promotion Survey in raising public awareness about health issues, and self-reported health-related behaviour change

3.2.3.1.1 Sample

A 5% random sample from the electoral rolls of the five wards comprising Staveley was used. The sample was made up of 595 individuals.

3.2.3.1.2 Instrument for data collection

A self-completion questionnaire was designed and piloted to explore public awareness of the Community Health Promotion Survey and feedback from the Community Health Promotion Survey.

3.2.3.1.3 Delivery and return of questionnaires

Questionnaires were delivered by post and returned by freepost. One reminder was sent.

3.2.3.2 Effectiveness of the Community Health Promotion Survey Method in measuring changes in health-related behaviour: follow-up survey

3.2.3.2.1 Sample

A 50% random sample of respondents to the Community Health Promotion Survey carried out in Phase II was used. 533 individuals were eligible for the follow-up survey.

3.2.3.2.2 Instrument for data collection

A self-completion questionnaire based on key questions about health-related behaviour that appeared on the Community Health Promotion Survey questionnaire was developed and piloted. Questions were also asked about changes in health-related behaviour since the Community Health Promotion survey was carried out, and reasons for the change.

3.2.3.2.3 Delivery and return of questionnaires

Questionnaires were delivered by post and returned via freepost. One reminder was sent enclosing another questionnaire and freepost envelope.

3.2.3.3 Telephone interview survey with respondents to the survey described above in 3.2.3.2.1

3.2.3.3.1 Sample

Respondents to the follow-up survey described in 3.2.3.2 who agreed to a telephone interview were eligible for inclusion in the sample. Thus the sample was made up of 68 individuals.

3.2.3.3.2 Instrument for data collection

A semi-structured telephone interview was developed, based on the questionnaire used in the follow-up survey, see 3.2.3.2. The interview was designed to explore health-related behaviour and change since the Community Health Promotion Survey was carried out.

3.2.3.3.3 Data collection

Data were collected by semi-structured telephone interviews.

3.2.3.4 Impact of feedback from the Community Health Promotion Survey

3.2.3.4.1 Sample

Health promotion officers, general practitioners, school teachers, other professionals and lay leaders of community groups in receipt of data, were included.

3.2.3.4.2 Instruments for data collection

A semi-structured interview schedule was developed for use with professional staff to explore what data had been received, how it had been used and any subsequent changes in practice that had occurred.

A brief self-completion questionnaire was developed for use with community group leaders to explore whether data had been received and what, if any, activity had been generated by the group as a result of participation in the survey.

3.2.3.4.3 Data collection

Data were collected on the semi-structured interview schedule by personal interview. The self-completion questionnaire was posted to the sample, together with a freepost envelope for response. One reminder was sent.

3.2.4 Timing of the research

Each of the three phases described above took approximately one year to complete, so that the research was carried out between February 1987 and March 1990.

3.3 The samples

3.3.1 Introduction to the samples

To obtain representative baseline data about health in Staveley, two representative sampling frames were used: GP's age/sex registers and schools' pupil lists. A third purposive or "Opportunity" sample was drawn from community groups relating to Staveley. The three sampling frames are introduced below.

3.3.1.1 The GP Practice 20% Sample drawn from GPs' age/sex registers

It was decided that the age/sex registers of local general practitioners serving Staveley would be used as sampling frames from which to obtain representative samples. Data generated could then be related to local practice populations. The data, based on adequate sample size to give 95% confidence limits, + or - 2%, could also be expected to reflect health-related behaviour in Staveley's community. The sample size was set using the equation: -

$$n = \frac{1.96^2 pq}{D^2}$$

Where n = the sample required

p = prevalence

q = 100-p

D = required level of accuracy

Prevalence was set at 30%, the estimated measure of smoking.

D was 2.

A sample of 2,000 was thereby deemed adequate given both the considerable resource implications for decreasing confidence limits, and in view of its comparability with other studies where similar sample sizes have been used. In line with other studies, no allowance was made for non-response (eg. HPAW, 1985a).

3.3.1.2 School Pupil Sample drawn from schools' pupil lists

There is a need for individual schools to plan health education and promotion activities that are appropriate to their pupils. Planning may be facilitated by an improved understanding by schools' staff of their pupils' health-related behaviour and knowledge. Just as doctors' patients may not live in a defined area, so schoolchildren may not live in the areas in which they go to school as schools do not necessarily take children from a specific geographical location. However, bearing in

mind the purpose for which the survey data were intended - to inform schools and health promotion staff, and promote the community's awareness of and interest in health - this consideration did not affect the choice of the sample. It was therefore decided to include samples of pupils attending all secondary schools situated in the study area. Inclusion of all first and fourth year pupils would enable comparisons between the two age groups to be made. Data may thereby assist staff in assessing the impact of teaching on specific health education topics, such as smoking, and if necessary strengthen areas of weakness.

3.3.1.3 The Opportunity Sample

This sample was used as the foundation on which community participation activities were to be built and so was central to the sampling procedure. A number of points were considered before using community groups in the survey as an Opportunity Sample.

First, as participation by community groups would be voluntary, there was no guarantee that all types of population groups sought would choose to participate.

Secondly, a survey in which questionnaires were distributed ad hoc to community groups and through social networks could not be expected to provide representative data, but could be used to heighten public awareness of health issues by acting as a stimulus to group discussion, formal and informal, and offering opportunities for feedback of information and data at individual and group level.

Thirdly, the size of the survey sample would need to be flexible. Groups may rapidly fluctuate in size, for example mother and toddler groups, so that demand may be greater or less than anticipated. Rigid restrictions on sample size may therefore reduce the opportunity to fully capitalise on an individual's or a group's interest in the survey, and opportunities for feedback may be lost.

It could be argued that the eligible opportunity sample should consist of all community groups focusing on Staveley. However, the practicalities and cost of surveying all community groups was deemed to be prohibitive. It was decided that those invited to participate would include people that lifestyle surveys have found "hard to reach" and who are most likely to be the target for health promotion activity: the elderly, working women, men in high-risk industries such as mining, the unemployed and single parents, or those with the potential to press for, or provide, health-related services to the area, such as councillors and employers. In addition, the assistance of local post-office staff would be sought as post offices are focal points for the community and offer opportunities for publicity. It was also decided that groups of different sizes would be included in the study sample in order to explore the

possible effect of size on response.

Summary

The rationale used to identify the samples from GP Practices in the area, local schools and community groups hinged not only on the clear specific objectives for the use of the data generated by the survey, but also on the potential of the method in heightening the health awareness of individuals and groups. Thus through the choice of samples the survey method had the potential to be developed into a flexible, action based health promotion tool for use in a defined area and the community focused upon it. The following section describes the methods by which the three samples were drawn and the administrative procedures used in the surveys.

3.3.2 The GP Practice 20% Sample

3.3.2.1 Selection of the sample

The eligible sample consisted of 20% of all patients aged 16 and over recorded on the Derbyshire Family Practitioner Committee's computerised patients' lists for GPs based in Staveley. Before drawing the sample all nine GPs in the three Staveley practices were approached by letter, and their co-operation in the survey sought. Seven doctors, comprising two practices, agreed in principle to participation during follow-up telephone conversations, and agreed to co-operate with the survey in subsequent visits when their role was discussed further. The two participating practices together had 75% of patients registered in the three practices in the Staveley area on their lists, using figures supplied by the Family Practitioners' Committee.

As one practice declined to participate and contained 25% of the eligible sample it was decided to explore whether differences between the two participating and one non-participating practice in Staveley existed, before drawing the sample. FPC data from the practice populations were compared, having been stratified by age and sex. Other comparisons were not possible as further data, for example, social class, were not available on the FPC lists. A comparison of the age/sex distribution of patients between the participating practices together and the non-participating practice is given in Table 3.1.

Table 3.1: Age/sex distribution of patients registered with three GP Practices in Staveley by participation in the survey

Sex and Age	Participating Practices N=10124		Non-participating Practice N=3296	
Males	n	%	n	%
16 - 21	674	14	180	11
22 - 35	1328	27	416	25
36 - 55	1542	32	501	30
56 - 65	701	14	264	16
≥ 66	639	13	297	18
Subtotals	4884	100	1658	100
Females				
16 - 21	690	13	192	12
22 - 35	1252	24	375	23
36 - 55	1576	30	455	28
56 - 65	768	15	210	13
≥ 66	954	18	406	25
Subtotals	5240	100	1638	100

Males: $\chi^2 = 33.2$ with 4 d.f.; $p < 0.0001$

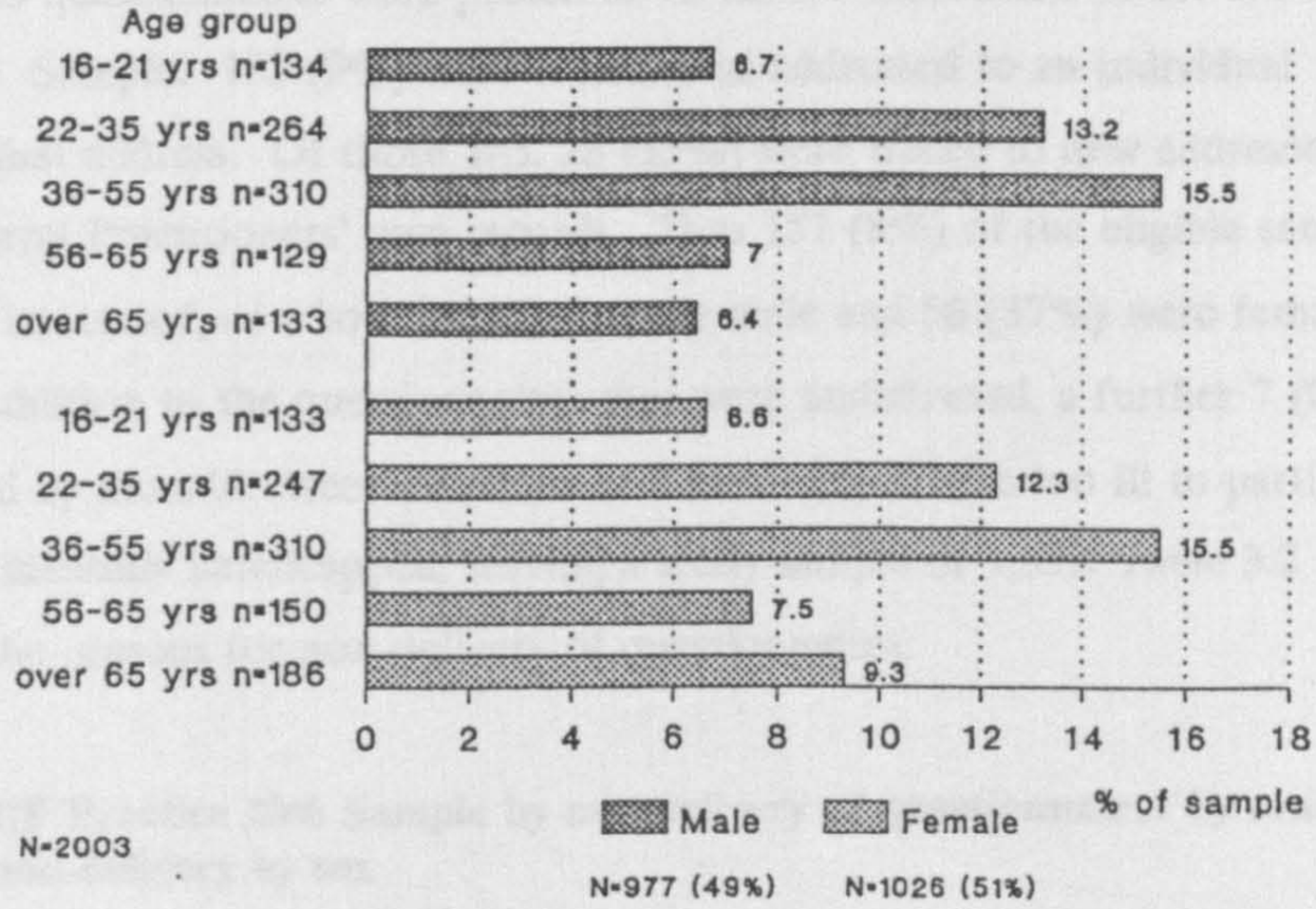
Females: $\chi^2 = 35.1$ with 4 d.f.; $p < 0.0001$

Table 3.1 shows that there was a statistically significant difference in the age distributions between the participating and non-participating practices. For example, the non-participating practice had fewer men in the youngest age group and more men and women aged 66 and over. However, in no case was there a percentage difference of more than 7% and so it seems fair to conclude that the participating and non-participating practices were reasonably comparable.

The GP Practice 20% Sample was subsequently drawn from a sampling frame comprising the two participating practices' patients of 16 years of age and over, using the FPC's computerised lists. The lists were stratified by age and sex to overcome possible bias observed in alphabetically organised sampling frames. A starting point was chosen randomly and then every fifth name was selected. A total of 2003 adults made up the stratified, systematic sample. Details of the sample by age and sex are given in Figure 3.3. Figure 3.3 shows that there were very similar proportions by age and by age and sex in each category.

Figure 3.3

The GP Practice 20% Sample by age and sex



3.3.2.2 Representativeness of the GP Practice 20% Sample

To check that the sample represented the population from which it was drawn the sample was compared to the two participating practices together. Then the sample was stratified by the two participating practices and compared to each practice by age and sex as appropriate. No important differences were observed. Further analyses by age and sex showed that the GP Practice 20% Sample represented all patients registered in Staveley. When compared to OPCS figures (OPCS, 1983) the sample also reflected the population of Staveley. Thus the use of the age/sex registers of 2 out of 3 local General Practitioners enabled a sample to be drawn that was not only predictably representative of participating practices' adult populations, but also reflected all local practice lists and the community as a whole by age and sex.

3.3.3 Response from the G.P. Practice 20% Sample

Data are presented under the following headings:

- undelivered questionnaires
- response rate from the GP Practice 20% stratified systematic sample
- characteristics of the G.P. Practice Survey study respondents
- representativeness of respondents to the G.P. Practicc 20% Survey
- representativeness of study respondents by G.P. Practice.

3.3.3.1 Undelivered Questionnaires

2,003 questionnaires were posted to all named individuals in the G.P. Practice 20% Sample. 185 (9%) were returned as addressed to an individual unknown at that address. Of those 185, 28 (15%) were traced to new addresses through General Practitioners' own records. Thus 157 (8%) of the eligible sample could not be contacted, of whom 99 (63%) were male and 58 (37%) were female.

In addition to the questionnaires that were undelivered, a further 7 (0.03%) were returned by the addressees' relations as 3 had died, 3 were too ill to participate and one was mentally handicapped, leaving a study sample of 1,839. Table 3.2 summarises the reasons for non-delivery of questionnaires.

Table 3.2: GP Practice 20% Sample by non-delivery of questionnaires by reasons for non-delivery by sex

N = 164

Reasons for non-delivery	Male		Female		All	
	n	%	n	%	n	%
Returned by Post Office	99	97	58	94	157	96
Addressee -						
died	2	2	1	1	3	2
too ill	1	1	2	3	3	2
mentally handicapped	-	-	1	1	1	1
Totals	102	100	62	100	164	100

When the numbers of delivered and undelivered questionnaires were compared by sex it was found that questionnaires were statistically significantly more likely to have been delivered to females than to males ($\chi^2 = 12.3$ with 1 d.f.; $p < 0.001$).

Data on the inaccuracy of the sampling frame of the specific age/sex registers used in this study were unavailable. It was therefore taken that, despite the possibility of some further non-response being due to non-delivery of questionnaires, the study sample consisted of all those to whom it was possible that questionnaires had been delivered, in this case 1,839.

3.3.3.2 Response rate from the GP Practice 20% stratified systematic random sample

1,094 (59%) of the study sample of 1,839 returned questionnaires. Table 3.3 shows the response after each mailing as a percentage of the study sample.

Table 3.3: GP Practice 20% Sample: response by each mailing of the questionnaire as a percentage of the total sample

N = 1839	Response	
MAILING	n	%
Initial	613	33
First reminder	387	21
Second reminder	94	5
Total response	1,094	59
Outstanding response	745	41

Of the 1,094 returned questionnaires, 15 were excluded from further analysis: 9 (1%) were blank or spoiled and 6 (1%) were completed by persons whose age and/or sex did not tally with the age and/or sex of the named individual taken from the Family Practitioner's age/sex register. This age/sex check was carried out to exclude response from individuals other than those to whom the questionnaire had been addressed assuming the FPC register was accurate. Thus a total of 1,079 usable questionnaires was returned, being 54% of the original eligible sample of 2,003 and 59% of the study sample of 1,839. It should be noted that all 1,079 questionnaires had sex recorded and 1,069 (99.1%) had both age and sex recorded.

3.3.3.3 Characteristics of the 20% GP Practice Survey study respondents

The characteristics of respondents to the GP Practice 20% Survey were analysed. 446 (42%) respondents were male and 623 (58%) were female. Further analyses by age and sex, own occupation and social class (OPCS, 1980), all respondents and their partners who were unemployed regardless of social class, pensioners and parents were carried out, as shown in Figure 3.4 and Table 3.4.

Figure 3.4

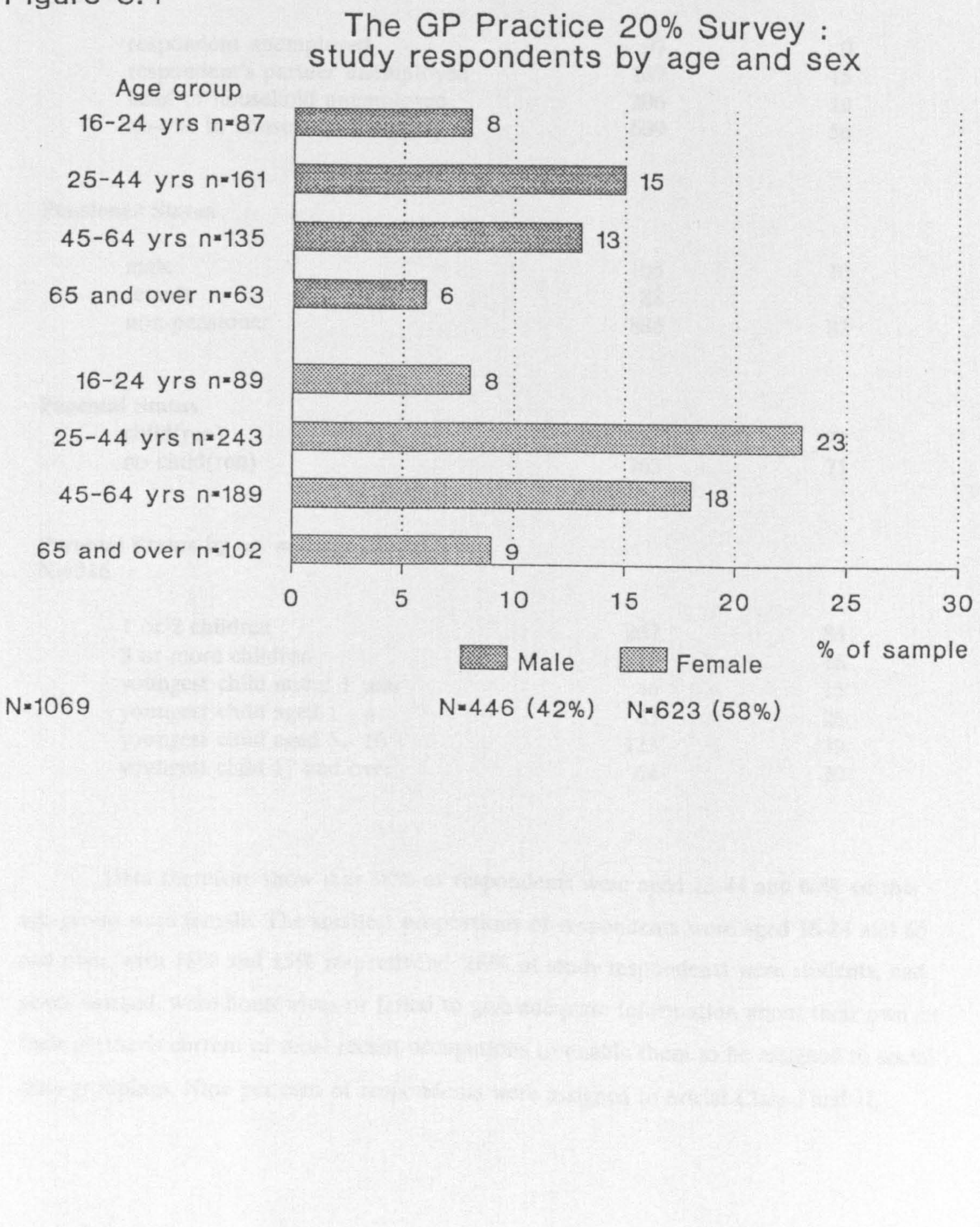

The GP Practice 20% Survey :
study respondents by age and sex
Age group
16-24 yrs n=87
8
25-44 yrs n=161
15
45-64 yrs n=135
13
65 and over n=63
6
16-24 yrs n=89
8
25-44 yrs n=243
23
45-64 yrs n=189
18
65 and over n=102
9
0
5
10
15
20
25
30
% of sample
Male
Female
N=1069
N=446 (42%)
N=623 (58%)

Table 3.4: The GP Practice 20% Survey respondents by social class, employment status, pensioner and parental status and no. and age of children

N = 1079 Characteristic	GP Practice 20% Survey Study Respondents	
Social Class	**n**	**%**
I and II	98	9
IIIN and IIIM	608	56
IV and V	196	18
Unclassifiable	177	16
Employment Status		
respondent unemployed	97	9
respondent's partner unemployed	167	15
head of household unemployed	206	19
no-one in household unemployed	609	56
Pensioner Status		
male	105	10
female	88	8
non-pensioner	886	82
Parental Status		
child(ren)	316	29
no child(ren)	763	71
Parental Status by no. and age of children N=316		
1 or 2 children	267	84
3 or more children	49	16
youngest child under 1 year	46	15
youngest child aged 1 - 4	83	26
youngest child aged 5 - 16	123	39
youngest child 17 and over	64	20

Data therefore show that 38% of respondents were aged 25-44 and 60% of this age-group were female. The smallest proportions of respondents were aged 16-24 and 65 and over, with 16% and 15% respectively. 16% of study respondents were students, had never worked, were housewives or failed to give adequate information about their own or their partner's current or most recent occupations to enable them to be assigned to social class groupings. Nine per cent of respondents were assigned to Social Class I and II,

56% to Social Classes IIIN and IIIM and 18% to Social Classes IV and V. Regardless of social class by occupation, 97 respondents were unemployed at the time of the survey and made up 9% of all study respondents and 15% of respondents' partners were unemployed. In 206 (19%) cases respondents lived in households where the head of household was unemployed and further analysis showed that, of these, 58 (5%) lived in households where both partners were unemployed. There was no sex difference of importance in the 18% of pensioner status. Twenty-nine per cent of respondents had children living in their home, of whom 84% had 1-2 children. Eighty per cent of parents had, as their only or youngest child, either a pre-school or a school-aged child.

3.3.3.4 Representativeness of respondents to the survey from the GP Practice 20% Sample

The chi-square test was used to assess the representativeness of the 1,079 study respondents compared to the study sample of 1,839 by sex and age, see Table 3.5. Ten respondents (1%) failed to give their age. It was not possible to compare the eligible sample and respondents further by, for example, social class, as age and sex were the only complete data available about the eligible sample.

Table 3.5: GP Practice 20% Sample by study respondents by sex and by age and sex

Sex	GP Practice 20% Sample		Respondents	
	n	%	n	%
Males	888	48	450	42
Females	951	52	629	58
Totals	1839	100	1,079	100

$\chi^2 = 11.6$ with 1 d.f.; $p < 0.001$

Age and sex	GP Practice 20% Sample N = 1839		Respondents N = 1069	
	n	%	n	%
Males				
16 - 24	186	21	87	20
25 - 44	338	38	161	36
45 - 64	248	28	135	30
65 and over	116	13	63	14
Totals	888	100	446	100
	$\chi^2 = 1.4$ with 3 d.f.; NS			
Females				
16 - 24	162	17	89	14
25 - 44	333	35	243	39
45 - 64	266	28	189	30
65 and over	190	20	102	16
Totals	951	100	623	100

$\chi^2 = 6.8$ with 3 d.f.; NS

Table 3.5 shows that statistically significantly more females than expected responded to the survey. When the sample and respondents were stratified by age and sex, also shown in Table 3.5, the numbers of respondents in each cell showed no statistically significant differences from the numbers in the eligible sample and so it seems fair to claim that, otherwise, respondents were reasonably representative of the

eligible sample. The patterns of response were similar when data were stratified by each of the two participating practices and the tests were repeated.

3.3.4 The Adult Opportunity Sample

3.3.4.1 Participation by the Opportunity Sample

The Opportunity Sample was a purposive sample in that, in selecting community groups to participate in the Opportunity Sample, particular emphasis was placed on contacting working class groups, given their generally poor level of involvement in, and their priority for, health promotion activity, see 2.2. It was therefore decided to include community groups that were likely to have as members: unemployed men and women, employed men and women, the elderly and/or young single parents. It was recognised that groups may not be exclusively working class, because of the nature of the area discussed in 3.1.2. Knowing that Staveley's manual population, at 78%, was 23% higher than the national average, see Figure 3.1, it was however, likely that a high proportion of groups would contain working class members, qualified by the function of the group. For example, it seemed probable that a Miners' Welfare would have more working class members than a Conservative Club.

To obtain an overview of groups operating within Staveley and the area relating to Staveley, the local library was approached. The local library was able to supply background information about the town, and a card index detailing 86 local community and welfare agencies, social clubs, churches, women's groups, activities for the elderly, interest groups, facilities for the unemployed and local industry. Information about local politics was also made available. More detailed local knowledge about key individuals of potential use in accessing local groups, was given personally by librarians.

Details of groups were also sought in person from:

- primary health care teams
- the Chamber of Commerce
- the Department of Health and Social Security
- the Youth and Community Service
- local churches
- the Leisure Centre
- two Community Centres
- individuals suggested by these organisations.

Groups suggested by these sources were checked against the library list and added if necessary to the initial list of 86 community groups and organisations. A further 14 groups were added in this way, so that a list of 100 groups was compiled.

The 100 groups on the list were then reviewed for inclusion in the Opportunity Sample on the basis of:

a) size - as one of the objectives of the study was to explore the effect of group size on participation rates and feedback very large groups of over 200, such as Trade Union branches, to small groups of around 20 members, for example, a Job Club, were included.

b) whether or not they could be expected to overlap. For example, the organiser of a local church's women's group was also running the playgroup that met in the church-hall. As she reported that membership of both groups was common it was unnecessary to include both groups. However, as the mining and chemical works underpinned the political, social and economic structure of the community, it seemed unavoidable that some of the larger groups, for example the unions, would overlap with smaller, linked groups relating to, for example welfare and leisure.

c) whether they reflected the various population groups in the area, at risk in health terms, for example, the elderly, unemployed, working class men and women, and single parents.

d) whether they penetrated major local industries and so reflected characteristics of the working populations, both male and female, for example, the chemical industry employing mainly males, and clothing factories with female machinists.

e) whether the awareness of local community leaders would be raised by inclusion of, for example, trades' unions, the local town council.

f) whether the groups included some potential supporters of subsequent health promotion activities, for example, in the local library, leisure centre, unions and large shops.

The eligible sample comprised of 60 (60%) of the original list of 100 groups, fulfilling one or more of the criteria listed above. For example, the National Union of Mineworkers represented a major local industry; contained working men often in manual occupations; was a very large organisation with three branches totalling 1500 members; potentially raised the awareness of local community Trades' union leaders who may, in the future, support health promotion initiatives within the mining industry.

To establish contact with each of the eligible 60 groups letters were sent to named individuals, if known, or addressed to the secretary of the group. The letter is given in Appendix 3.2. Subsequently one letter was returned as the factory had closed down. One refusal letter was received as the committee of the group decided that too few members lived in Staveley for their participation to be useful.

58 (97%) groups remained for potential inclusion in the study sample. Telephone contact was then attempted with all 58 remaining groups. Despite six or more attempts to contact them 6 (10%) groups could not be reached. Thus 52 (87%) groups remained.

Of the 52 groups successfully contacted by telephone 2 (3%) refused to join the survey: one because the group was designed for handicapped people who would have been unable to complete questionnaires; one because the secretary felt it would be too much work. Nineteen (32%) groups agreed to co-operate at this stage.

The 31 (52%) remaining groups requested further information before agreeing to co-operate. Of these 11 (18%) were given information in person and 20 (33%) were posted information. All 31 groups agreed to participate after consultation with members formally through committees, for example, the Town Council, or informally through discussion, for example, a mother and toddler group. Participation and non-participation of groups is shown in the Table 3.6 below with reasons for non-participation.

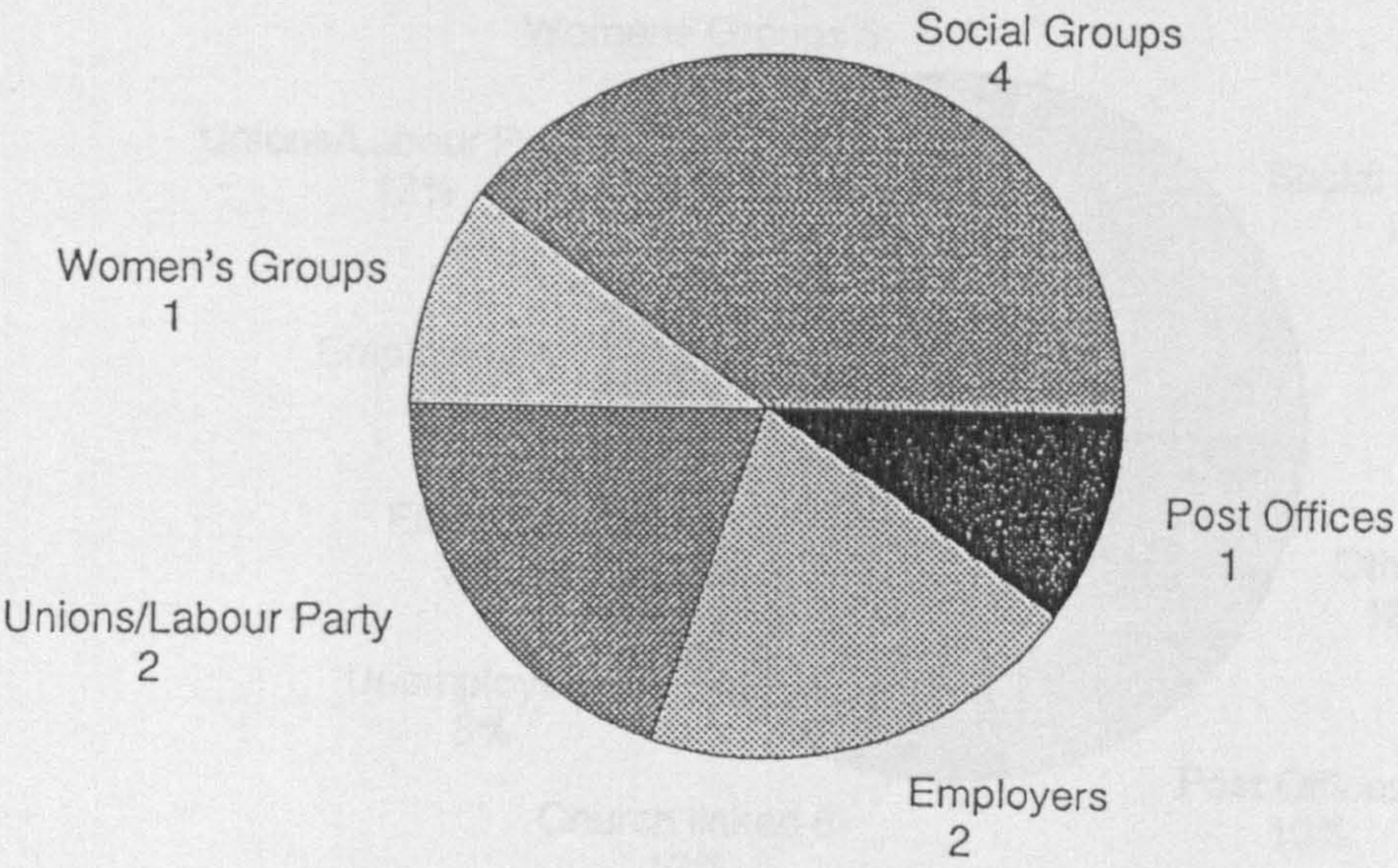
Table 3.6: The Opportunity Sample: participation and non-participation in the survey by groups in the eligible sample and at different stages of contact. (Percentages are of all 60 groups initially included in the sample.)

N = 60	Participation possible		Refusal to participate		Reasons for refusal to participate
Stage	n	%	n	%	
Initial letter	58	97	2	3	1 letter returned 1 refusal letter
Telephone contact	52	87	6	10	Unable to contact after 6 or more attempts
Agreement to participate during telephone contact	19	32	2	3	1 handicapped group 1 refusal
Agreement to participate after further information supplied	31	52	0	0	
Final totals	50	83	10	17	

Eligible groups that did not participate in the survey are shown in Figure 3.5 by type of groups approached for participation in the survey.

Figure 3.5

The Opportunity Sample: non-participating eligible groups by type of group



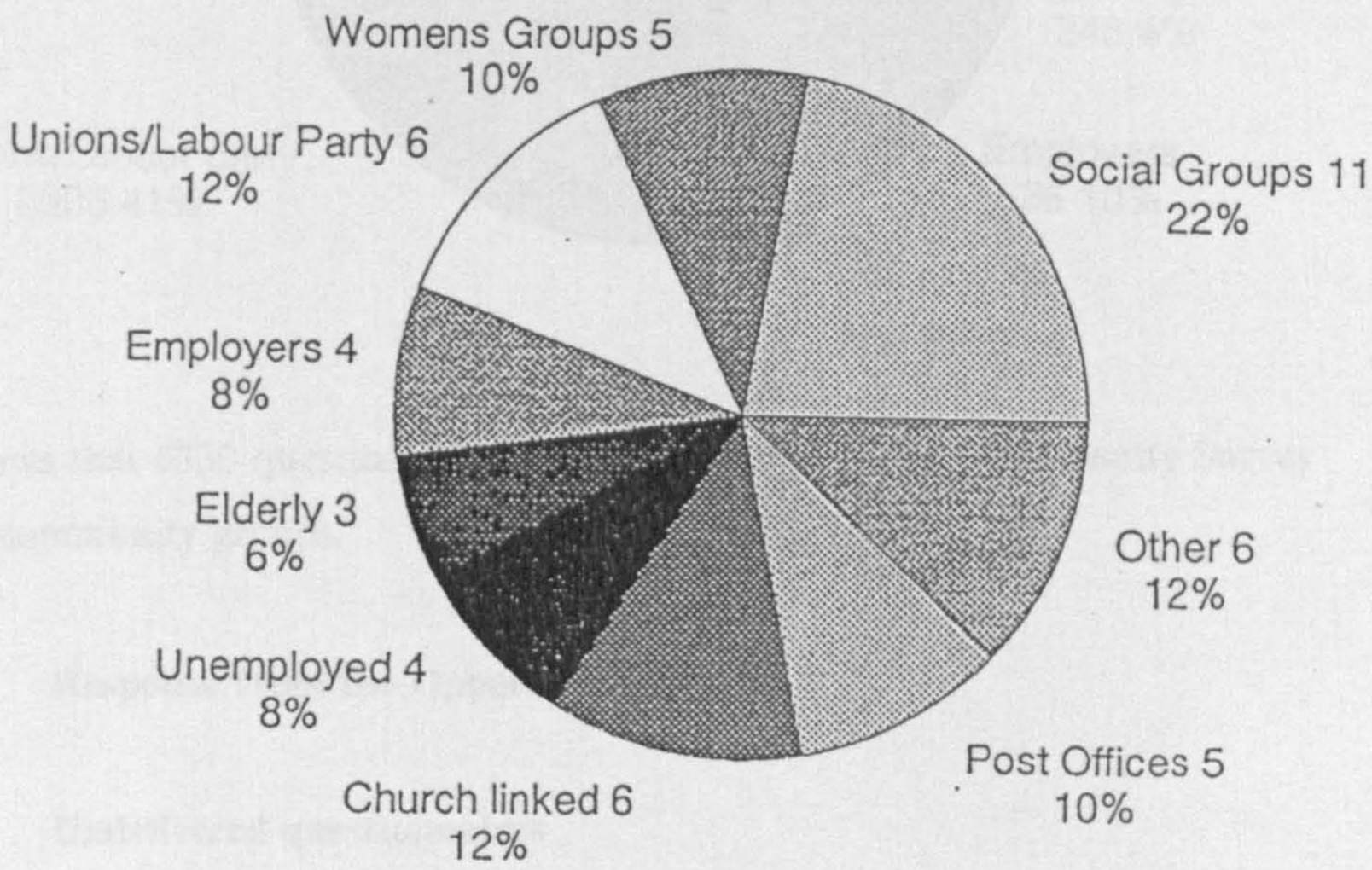
N = 10

Thus the Opportunity Study Sample consisted of 50 groups, being 83% of the eligible sample.

3.3.4.2 The Opportunity Sample

50 community groups and organisations made up the Opportunity Sample. Figure 3.6 illustrates the type and numbers of groups that made up the Opportunity Sample.

Figure 3.6
The Opportunity Sample: nature and number of groups



N = 50

The number of questionnaires given to each group contact was discussed with the group contact. Distribution was dictated by the view of the group contact as to, realistically, how many people were likely to be contacted during the period of data collection. Thus, in groups with a register of members the figure was not always determined by the number enrolled, for example, members' attendance at Job Clubs fluctuates week by week. Unions, however, took a questionnaire for each registered member stating the intention to distribute them at Union meetings in the workplace. Probable distribution within groups that did not have identifiable membership, such as post office and Job Centre users, was estimated by the group contact. Figure 3.7 shows the number of questionnaires distributed to each type of group.

Figure 3.7
Opportunity Sample by type of group participating & number of questionnaires

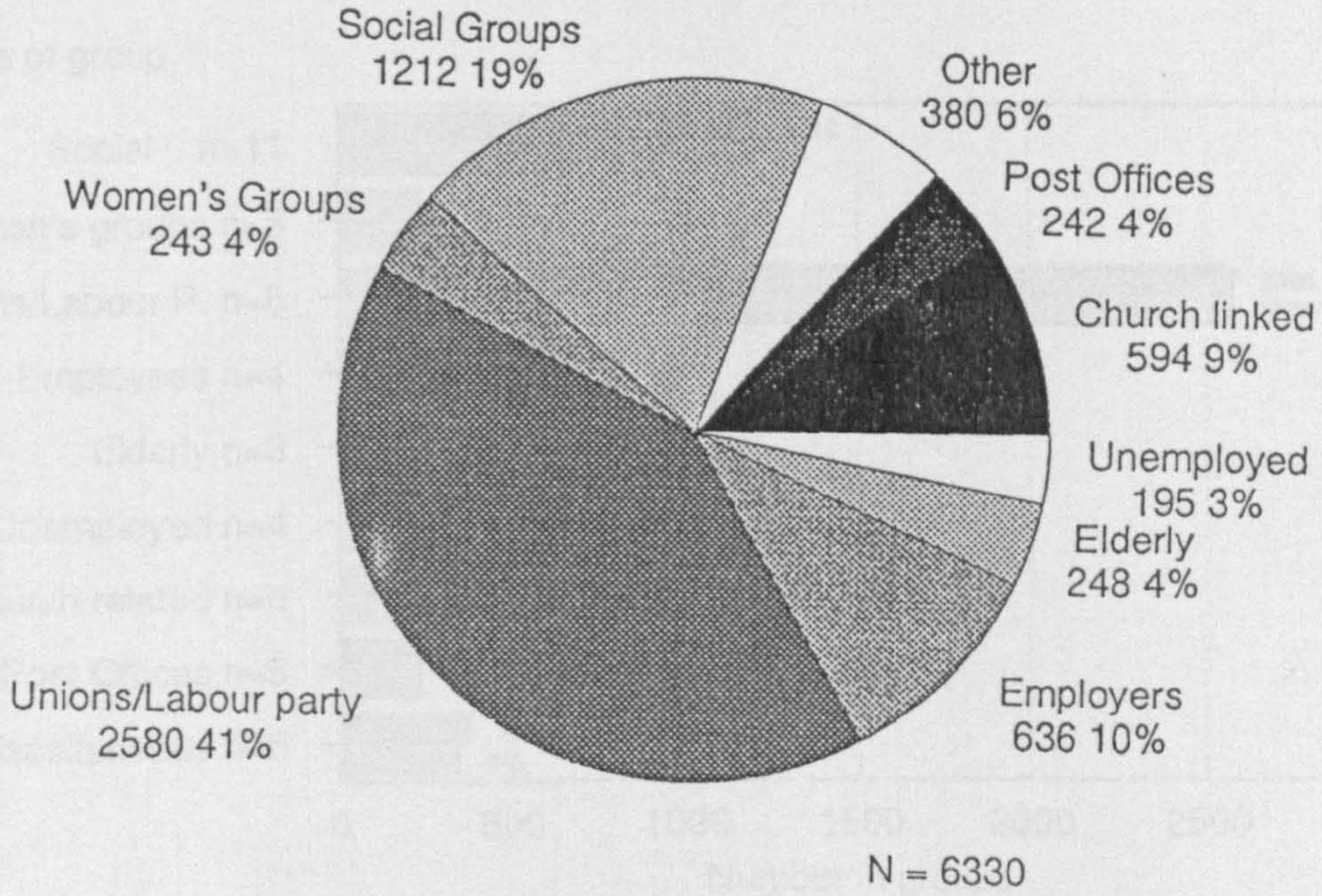


Figure 3.7 shows that 6330 questionnaires were distributed to the Opportunity Survey sample of 50 community groups.

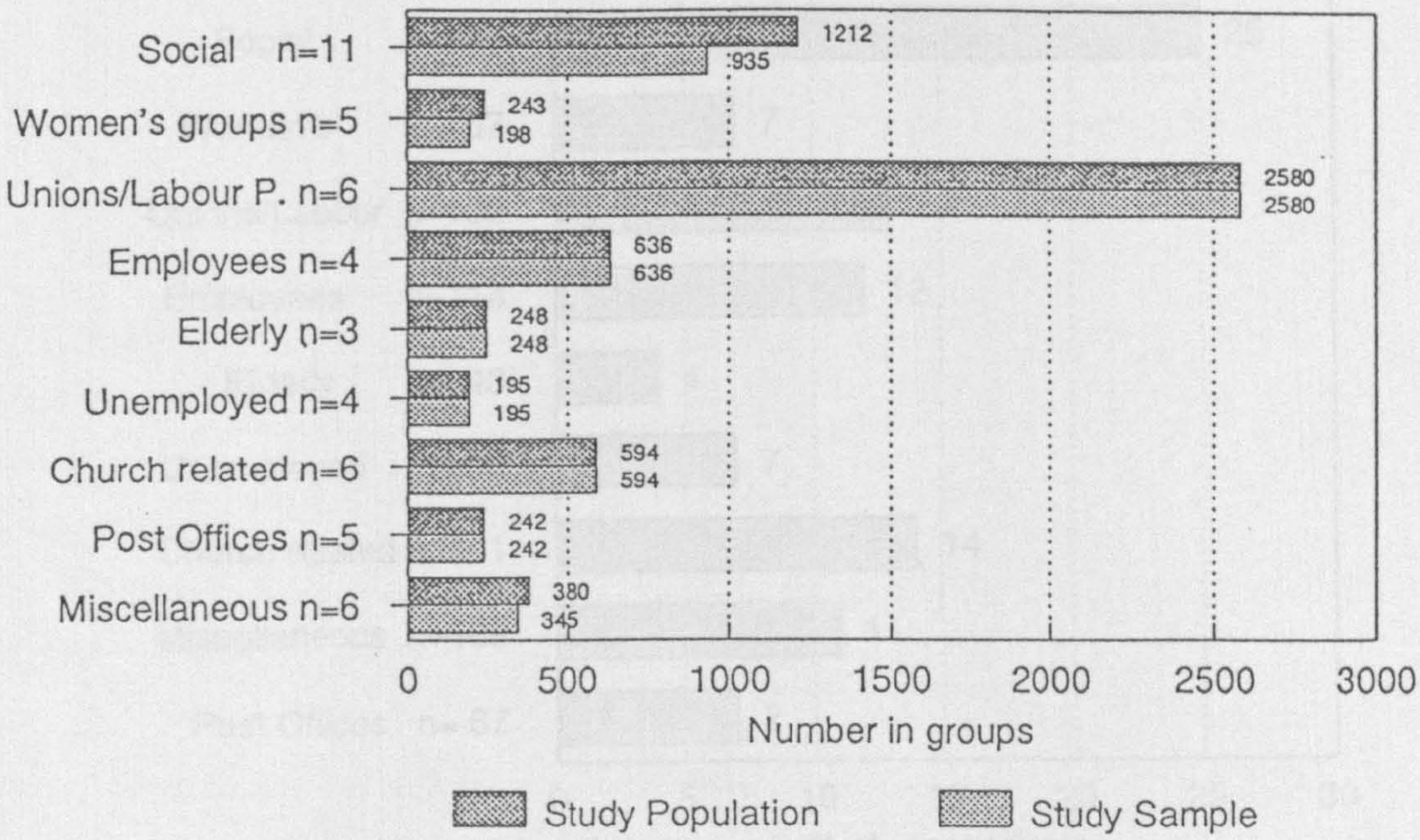
3.3.5 Response from the Opportunity Sample

3.3.5.1 Undelivered questionnaires

50 (100%) group contacts accepted questionnaires for delivery to their group members. A total of 6,330 questionnaires were thus distributed. Subsequently 339 (5%) questionnaires were retrieved as surplus to 7 groups' requirements. 5 groups, returning 259 (4%) questionnaires, were social in nature. The remaining 35 (0.6%) and 45 (0.7%) questionnaires were returned by a doctor's receptionist and a social services nursery respectively. It must therefore be assumed that the study sample was made up of 5,991

individuals belonging to 50 community groups. The Opportunity Survey Sample by size of group is shown in Figure 3.8.

Figure 3.8
The Opportunity Sample: Study population
by study sample by type of groups



3.3.5.2 Response from the groups

A total of 50 groups made up the Opportunity Sample. 3 (6%) of the groups returned no questionnaires and so response by groups was 94%. The 3 non-responding groups were staff in a Post Office and a small supermarket, and members of the congregation of an evangelical church. The numbers in the 3 non-responding groups were 2, 12 and 20 respectively, making a total of 34, being 0.6% of the study sample of 5,991.

A total of 985 (16%) questionnaires were returned from members of groups in the Opportunity Sample. Figure 3.9 shows the response to the Opportunity Survey by type of groups.

Figure 3.9
The Opportunity Sample:
% of all response by type of group

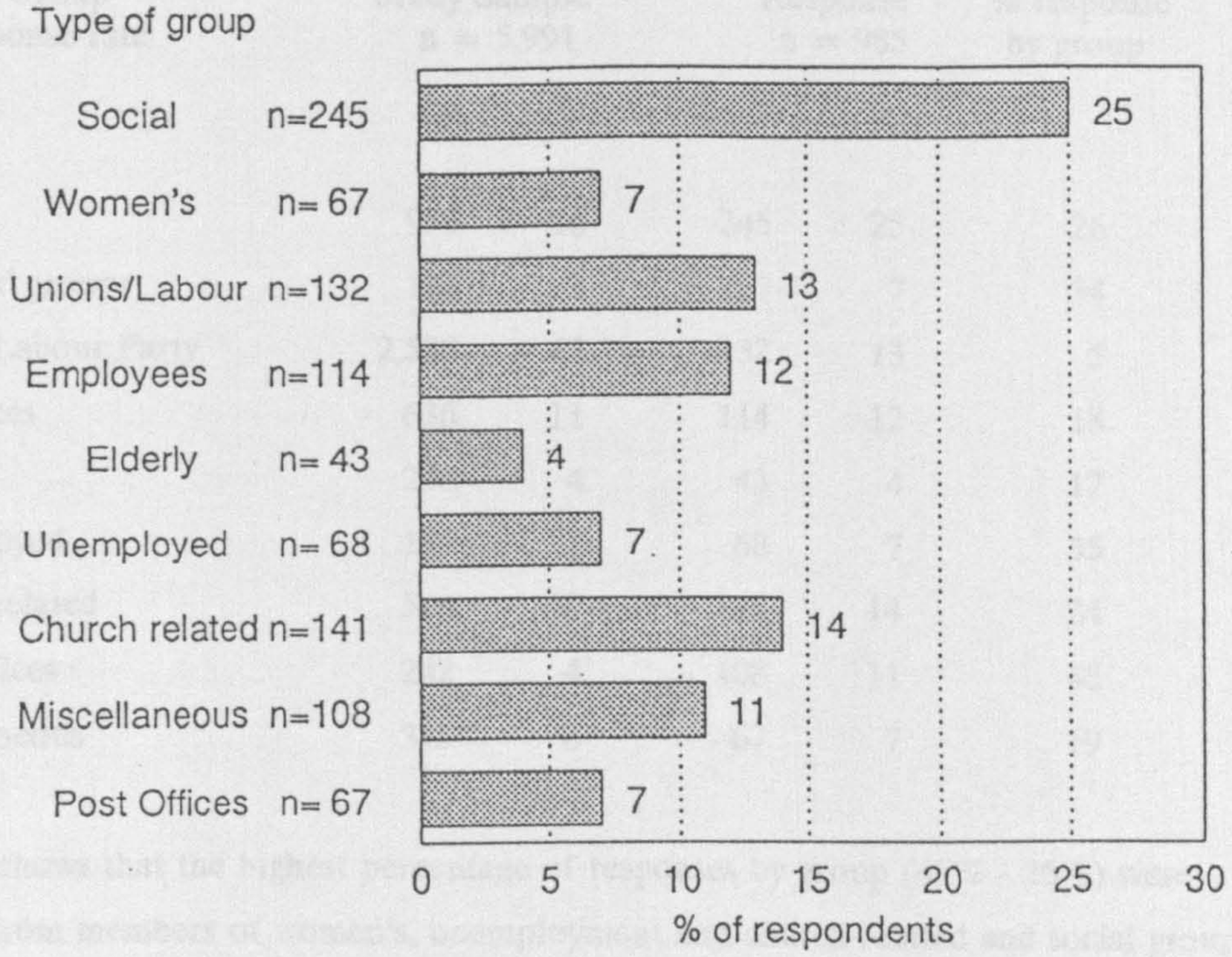


Figure 3.9 shows that members of social groups contributed most to the survey, with 25% of response, almost twice that of the next most represented group. The least represented in the survey response were the elderly, women groups' members and Post Office staff and customers, at 4%, 7% and 7% respectively.

The response by type of group was then compared to the study sample by type of group to assess which groups produces higher percentage responses, see Table 3.7.

Table 3.7: **The Opportunity Sample: study sample by all response by type of group and % response from each group**

Type of Group and response rate	Study Sample n = 5,991		Response n = 985		% response by group
	n	%	n	%	
Social	953	16	245	25	26
Womens' groups	198	3	67	7	34
Unions/Labour Party	2,580	43	132	13	5
Employees	636	11	114	12	18
Elderly	248	4	43	4	17
Unemployed	195	3	68	7	35
Church-related	594	10	141	14	24
Post Offices	242	4	108	11	45
Miscellaneous	345	6	67	7	19

Table 3.7 shows that the highest percentage of responses by group (45% - 26%) were obtained from members of women's, unemployment and church-related and social groups and Post Office customers. Union and Labour Party members achieved the poorest responses (5%).

Each category of groups was made up of a number of community groups. The response rates for individual groups within each category was calculated and the range of response is shown in Figure 3.10.

Figure 3.10
The Opportunity Sample: variation of % response by number and type of group

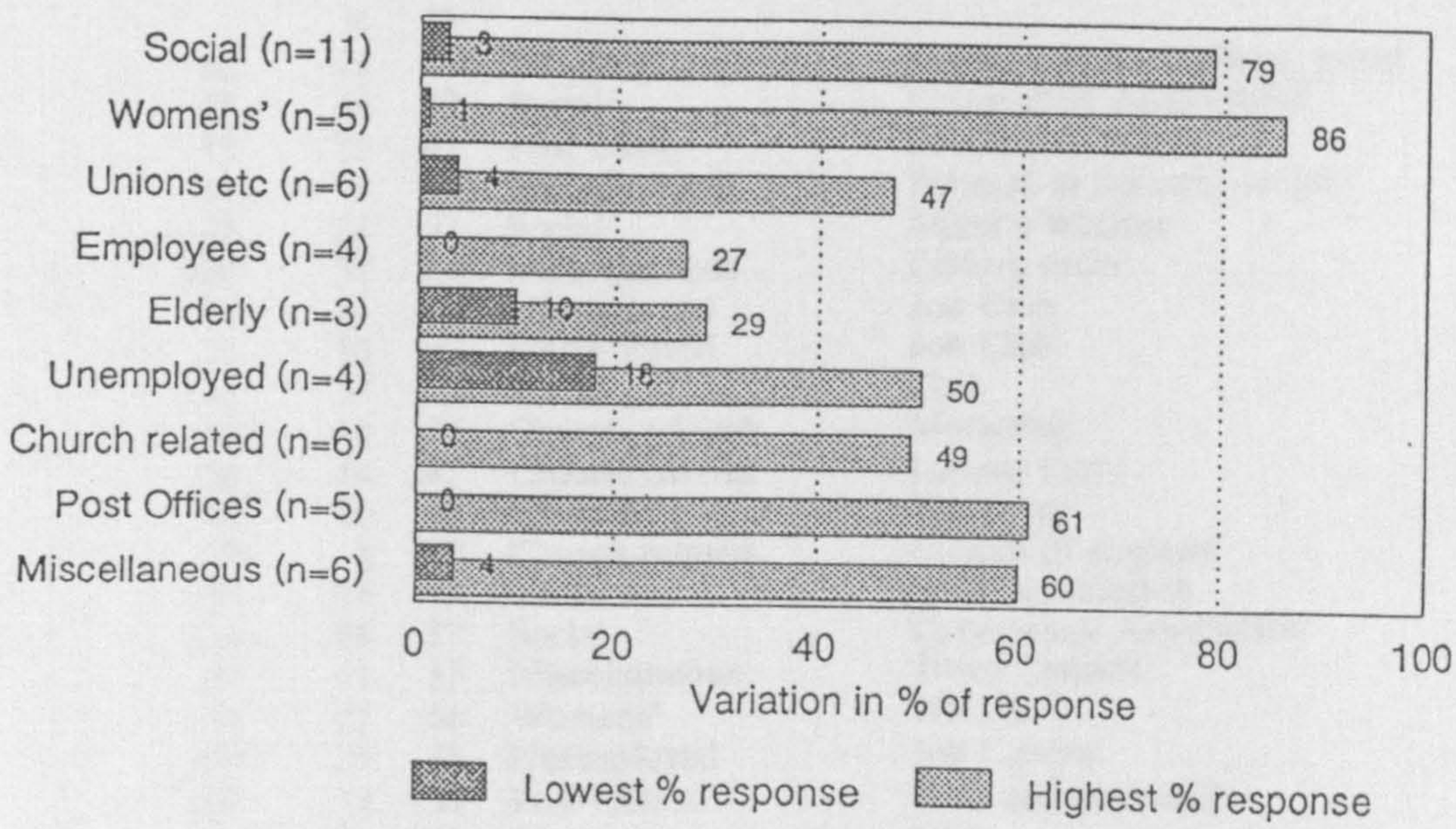


Figure 3.10 shows that the widest range of responses was from five womens' groups, 1% to 86%, and the most consistent response was from the three elderly groups with a range from 10% - 29%.

3.3.5.3 Size of groups and response

To examine whether the size of groups, regardless of the type of function the group performed, affected response the response rate for each of the 50 groups was calculated. Table 3.8 shows these calculations, together with the general and specific nature of the groups. The Table is arranged in descending order of percentage response.

Table 3.8: Individual community groups by size: % response and type of group

Size of Group n = 5,991	Response		General Type of Group	Specific Nature of Group
	n	%		
22	19	86	Womens'	Social services mothers' group
43	34	79	Social	Community Association
18	11	61	Post Office	Post Office Staff
15	9	60	Miscellaneous	Patients at doctors' surgery
42	24	57	Social	Miner's Welfare
100	52	52	Miscellaneous	Library users
30	15	50	Unemployed	Job Club
20	10	50	Unemployed	Job Club
74	37	50	Social	Club
30	14	47	Church-related	Methodist
30	14	47	Unions/Labour	Labour Party
50	20	40	Womens'	Playgroup
20	8	40	Church-related	Church of england
36	14	39	Social	Staff Association
230	86	37	Social	Community Association
30	11	37	Miscellaneous	Town Council
70	25	36	Womens'	WRVS
100	35	35	Unemployed	Job Centre
100	34	34	Post Office	Staff and customers
96	30	31	Social	Club
48	14	29	Elderly	Lunch club
50	14	28	Miscellaneous	Leisure Centre
44	12	27	Employees	Department store
300	78	26	Employees	Clothing factory
100	25	25	Church-related	Catholic Church
25	6	24	Social	Works band
400	89	22	Church-related	Christian Action Group
24	5	21	Church-related	Choir
100	20	20	Miscellaneous	Patient at surgery
100	20	20	Post Office	Staff and customers
45	8	18	Unemployed	Job Club
150	24	16	Elderly	Age Concern
24	3	13	Social	Gardeners Club
33	4	12	Social	Cricket Club
50	5	10	Elderly	Club
22	2	9	Post Office	Staff and customers
280	24	9	Employees	Supermarket
1,500	75	5	Union/Labour party	Union NUM members
37	2	5	Womens'	British Legion
50	2	4	Miscellaneous	Community Education Tutor
600	25	4	Union/Labour party	AUEW Union members
450	18	4	Union/Labour party	GWM Union members
150	5	3	Social	Miners Welfare
19	1	1	Womens'	Womens Institute
200	2	1	Social	Community Association
12	0	0	Employees	Supermarket
20	0	0	Church-related	Evangelical Church
2	0	0	Post Office	Staff

Table 3.8 shows that the size of individual groups with the highest response rates were 22 and 43 respectively, and those with the lowest responses had between 2 and 20

members. There was no consistency in the individual types of group with highest or lowest response rates. It was decided to divide the groups in two ways in order of percentage response rates to calculate response by average group size. Tables 3.9 and 3.10 give the results of these analyses, first by conflating batches of five groups in descending order of response so that, for example, the five groups with the highest responses have been conflated and, secondly, by dividing groups into bands of 10% response rates so that, for example, those groups with 50-59% response have been grouped together.

Table 3.9: The Opportunity Sample: average size of groups by response rates in groups of five

Response Rates as %	Number of Groups n = 50	Average Size of Groups
86 - 57	5	28
52 - 47	5	51
47 - 37	5	73
37 - 34	5	79
31 - 26	5	108
25 - 20	5	130
18 - 10	5	60
9 - 5	5	360
5 - 3	5	257
1 - 0	5	51

Table 3.10: The Opportunity sample: average size of groups by response rates in bands of 10%

Response Rates as %	Number of Groups n = 50	Average Size of Groups
80 - 89	1	22
70 - 79	1	43
60 - 69	2	17
50 - 59	5	53
40 - 49	4	26
30 - 39	7	132
20 - 29	10	238
10 - 19	5	60
0 - 9	15	668

Table 3.9 shows that groups with 28 - 80 members were more likely to achieve response rates of 30% and over than larger groups, although this pattern was not

consistent. Table 3.10 suggests that optimum group size for response rates of 40% or more was 22 - 53 members.

To examine how many members community groups may be expected, on average, to contain and compare these figures to average response rates the groups were analysed for average group size and average response rates. The results of this analysis are shown in Table 3.11 in order of average group size.

Table 3.11: The Opportunity Sample: average group size by average response rate by type of group

Type of Group	Average Size of Group	Average Response	
		n	%
Women's groups	40	13	33
Post Office customers	48	22	46
Unemployed	49	17	35
Miscellaneous	58	11	19
Elderly	83	14	17
Social	85	22	26
Church-related	99	24	24
Employees	159	29	18
Union/Labour Party	430	22	5

Table 3.11 shows that response was likely to be greatest from women's groups, Post Offices and groups for the unemployed. In all three cases responses was over 30% and groups had on average 40 - 49 members. The largest groups with an average of 430 members were shown to be the least likely to respond.

3.3.5.4 Characteristics of Opportunity Survey study respondents

A detailed analysis of the characteristics of study respondents was not carried out as respondents were not representative. However, as the Opportunity Sample was selected with the intention of including men and women in unskilled occupations, the unemployed and others of interest to health promotion, four characteristics of study respondents were collated: sex, type of occupation, employment and parental status. The results of these analyses are shown in Table 3.12.

Table 3.12: The Opportunity Survey: characteristics of study respondents

Characteristic	Opportunity Survey Study Respondents N = 985	
Sex	**n**	**%**
Male	316	32
Female	606	62
Not known	63	6
Total	985	100
Occupation		
Skilled	217	22
Unskilled	434	44
Unclassifiable	334	34
Total	985	100
Unemployed	231	23
Other	754	77
Total	985	100
Single Parent	60	6
Other	925	94
Total	985	100

Table 3.12 shows that overall the Opportunity Survey respondents were twice as likely to be female as male. There were twice as many unskilled as skilled respondents, whilst 23% of respondents were unemployed. Six per cent of respondents were single parents.

To further explore sex and social class characteristics of groups participating in the Opportunity Survey the 20 groups with response rates of 30% or more were analysed firstly by sex and then by social class. The results of these analyses are shown in Table 3.13 and 3.14.

Table 3.13: **The Opportunity Sample: sex of members of the 20 community groups with response rates of 30% or more**

Type of Group		Sex					
		Male n=201		Female n=288		Not given n=15	
		n	%	n	%	n	%
Women's	n=19	0	0	19	100	0	0
Social	n=34	14	41	20	59	0	0
Post Office	n=11	1	9	9	82	1	9
Miscellaneous	n=9	5	56	4	44	0	0
Social	n=24	14	58	10	42	0	0
Miscellaneous	n=52	15	29	25	48	12	23
Unemployed	n=15	12	80	3	20	0	0
Unemployed	n=10	1	10	9	90	0	0
Social	n=37	27	70	10	30	0	0
Church	n=14	7	50	7	50	0	0
Union	n=14	7	50	7	50	0	0
Women's	n=20	2	10	18	90	0	0
Church	n=8	2	25	6	75	0	0
Social	n=14	8	57	6	43	0	0
Social	n=86	33	38	53	62	0	0
Miscellaneous	n=11	6	55	5	45	0	0
Women's	n=25	9	36	16	64	0	0
Unemployed	n=35	15	43	20	57	0	0
Post Office	n=34	10	29	24	71	0	0
Social	n=30	13	43	17	57	0	0

N=502

Table 3.14: **The Opportunity Sample: social class of members of the 20 community groups with response rates of 30% or more**

Type of Group		Social Class					
		Skilled n=158		Unskilled n=220		Unknown n=124	
		n	%	n	%	n	%
Women's	n=19	2	10	11	58	6	32
Social	n=34	12	35	16	47	6	18
Post Office	n=11	1	9	9	82	1	9
Miscellaneous	n=9	7	78	2	22	0	0
Social	n=24	1	4	17	71	6	25
Miscellaneous	n=52	16	31	13	25	23	44
Unemployed	n=15	3	20	8	53	4	27
Unemployed	n=10	2	20	3	30	5	50
Social	n=37	13	35	15	41	9	24
Church	n=14	7	50	4	28	3	21
Union	n=14	3	21	11	79	0	0
Women's	n=20	7	35	13	65	0	0
Church	n=8	4	50	2	24	2	25
Social	n=14	2	14	8	57	4	29
Social	n=86	34	40	35	41	17	20
Miscellaneous	n=11	8	73	1	9	2	18
Women's	n=25	11	44	8	32	6	24
Unemployed	n=35	7	20	16	46	12	34
Post Office	n=34	6	18	16	47	12	35
Social	n=30	12	40	12	40	6	20

N=502

Table 3.13 shows that in 12 (60%) groups female response rates were greater than male response rates: two were predictably women's groups. Response rates from males in two groups were noticeably higher than that from females: a social group and a group for the unemployed. Table 3.14 shows that in 6 (34%) groups response was proportionally greater from skilled people and 14 (70%) generated higher response rates from predominantly unskilled people. Care must be taken in the interpretation of this table because of the high proportion (25%) of unclassifiable respondents.

3.3.6 Comparison between respondents to the Opportunity Survey and the GP Practice 20% Survey

It was possible to compare both sets of respondents by some details of demography, behaviour , beliefs and attitudes, as shown in Table 3.15. In this Table, chi-square tests exclude unknown values.

Table 3.15: Comparison between respondents to the Opportunity Survey and the GP Practice Survey

Characteristic	Respondents			
	GP Practice N = 1079		Opportunity N = 985	
Sex:	n	%	n	%
male	450	42	316	32
female	629	58	606	62
not known	0	0	63	6
Total	1079	100	985	100
	$\chi^2 = 11.3$ with 1 d.f.; $p < 0.001$			
Single parent:				
yes	40	4	60	6
no	1039	96	925	94
Total	1079	100	985	100
	$\chi^2 = 5.8$ with 1 d.f.; $p < 0.05$			
Respondent unemployed:				
yes	79	7	231	23
no	982	91	754	77
not known	18	2	0	0
Total	1079	100	985	100
	$\chi^2 = 100.5$ with 1 d.f.; $p < 0.0001$			
Head of household unemployed:				
yes	206	19	231	23
no	873	81	754	77
Total	1079	100	985	100
	$\chi^2 = 5.6$ with 1 d.f.; $p < 0.05$			
Smokes daily or occasionally:				
yes	311	29	342	35
no	768	71	643	65
Total	1079	100	985	100
	$\chi^2 = 8.0$ with 1 d.f.; $p < 0.01$			
Wants public smoking banned:				
yes	521	48	296	30
no	558	52	689	70
Total	1079	100	985	100
	$\chi^2 = 70.1$ with 1 d.f.; $p < 0.0001$			

Characteristic	Respondents			
Chacteristic				
Believes makes health worse:	392	36	407	41
Weight:	687	64	578	59
yes	1079	100	985	100
no				
Total				
	χ^2 = 16.8 with 1 d.f.; p < 0.0001			
Exercise:				
yes	393	36	457	46
no	686	64	528	54
Total	1079	100	985	100
	χ^2 = 20.7 with 1 d.f.; p < 0.001			
Diet:				
yes	382	35	423	43
no	697	65	562	57
Total	1079	100	985	100
	χ^2 = 12.0 with 1 d.f.; p < 0.001			
Alcohol:				
yes	181	17	276	28
no	898	83	709	72
Total	1079	100	985	100
	χ^2 = 37.3 with 1 d.f.; p < 0.0001			
Others' smoking:				
yes	624	58	443	45
no	455	42	542	55
Total	1079	100	985	100
	χ^2 = 33.6 with 1 d.f.; p < 0.0001			

Table 3.15 shows that, compared to the GP Practice survey, more Opportunity Survey respondents than expected were: female; single parents; unemployed; from a home with an unemployed head of household; smokers; non-supporters of banning public smoking and to believe that weight, exercise, diet and alcohol consumption were making their health worse, although less likely to believe that passive smoking was making their health worse.

3.3.7 The School Pupil Sample

3.3.7.1 Participation

After consultation with the Health Promotion Programme Director for Schools three secondary schools were identified as serving the Staveley area. The three schools were approached initially by letter and subsequently both by telephone and in person to

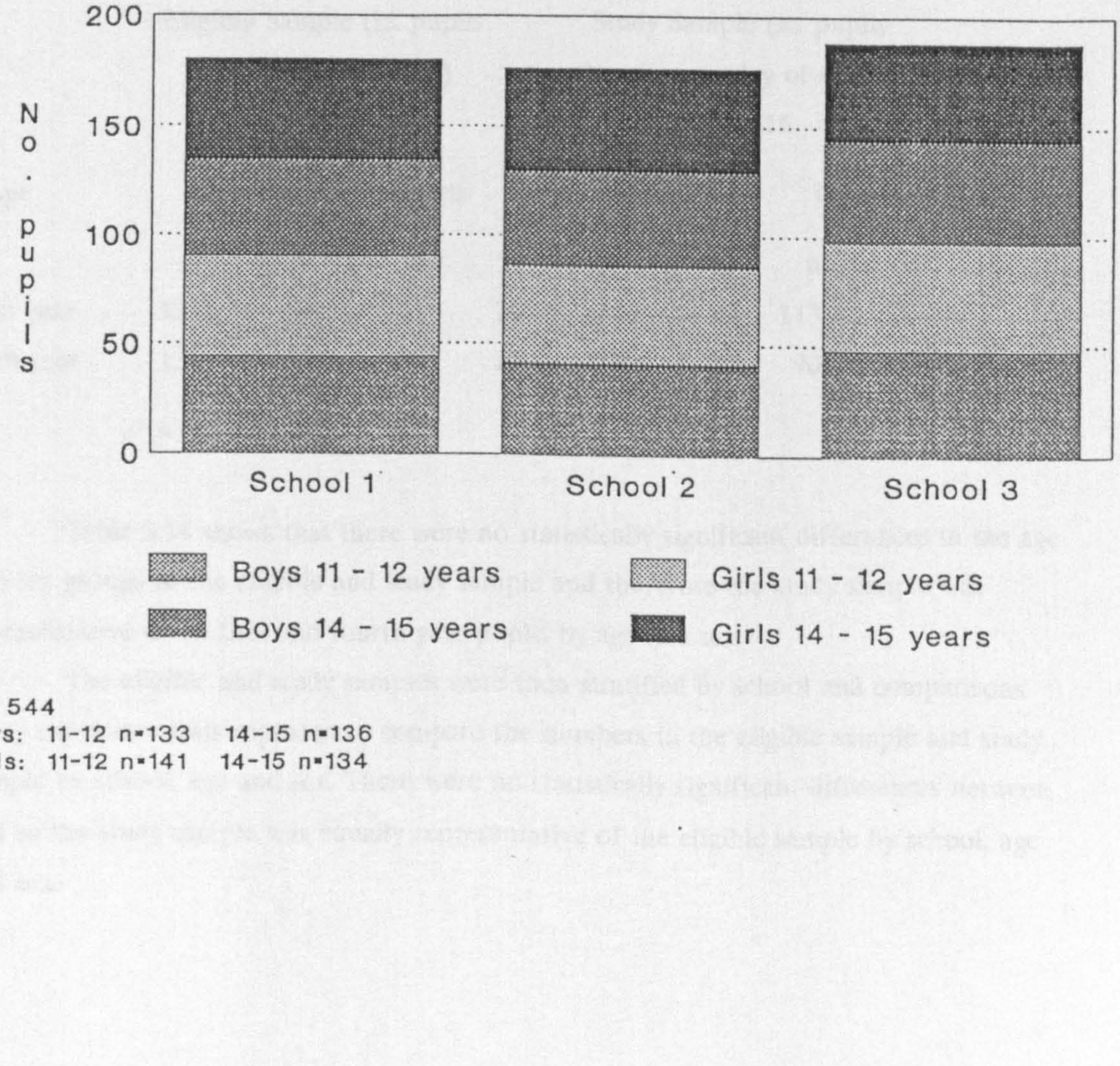
discuss the survey further. All three schools agreed to participate and to survey whole first and fourth year groups, identified by Personal and Social Education tutors.

Because of the potentially sensitive nature of some of the questions, for example about drug usage and contraception, the need for parental approval for individual pupil's participation was discussed with staff at each school. However, despite having the option, in each case staff decided that it was unnecessary to request parental approval prior to their pupils' participation in the survey.

3.3.7.2 The School Pupil Sample

The eligible sample comprised all first year, 11 - 12 years of age, and fourth year, 14 - 15 years of age, pupils registered in the three schools participating in the survey. Details of the eligible sample are shown in Figure 3.11.

Figure 3.11: The eligible sample of pupils by school, age and sex



N = 544
Boys: 11-12 n=133 14-15 n=136
Girls: 11-12 n=141 14-15 n=134

3.3.7.3 Representativeness of the School Pupil Sample

As all first and fourth year pupils were included in the eligible sample, the School Pupil sample was inevitably representative of the year groups of which it was comprised.

3.3.8 Response from the School Pupil Sample

The eligible School Pupil Sample was made up of all 544 first and fourth year pupils registered in the three secondary schools. Four hundred and sixteen (76%) pupils attended school that day and all, 100%, participated in the study by completing questionnaires.

3.3.8.1 Representativeness of respondents to the School Pupil Survey

Table 3.16 gives details of the 544 pupils registered with the school by the 416 attending school on the day of the study, all of whom participated in the survey by age and sex.

Table 3.16: The School Pupil Sample: pupils registered (eligible sample) by those attending school and participating in the study (study sample) by age and sex

	Eligible Sample (ie. pupils registered in schools) N = 544				Study Sample (ie. pupils attending on day of survey) N = 416			
Age	Boys		Girls		Boys		Girls	
	n	%	n	%	n	%	n	%
1st year	133	24	141	26	121	29	113	27
4th year	136	25	134	25	92	22	90	22

$\chi^2 = 3.5$ with 3 d.f.; NS

Table 3.16 shows that there were no statistically significant differences in the age and sex groups in the eligible and study sample and therefore the study sample was representative of all first and fourth year pupils by age and sex.

The eligible and study samples were then stratified by school and comparisons using chi-square tests repeated to compare the numbers in the eligible sample and study sample by school, age and sex. There were no statistically significant differences between and so the study sample was equally representative of the eligible sample by school, age and sex.

One hundred and twenty-eight (24%) eligible pupils did not attend school on the day of the survey and so did participate in the survey. There were no important differences by school, age and sex between attenders and non-attenders.

3.4 Data Collection

3.4.1 Instruments for data collection

3.4.1.1 The Adult Questionnaire

3.4.1.1.1 Development and content of the Adult Questionnaire

The adult questionnaire used in the GP Practice 20% survey and the Opportunity Survey covered demographic details, such as age, sex and social class: respondents' behaviour with regard to diet, smoking, alcohol consumption, exercise; views about factors contributing to their ill-health, and attitudes towards smoking. Respondents were also invited to ask for leaflets about health, and a summary of local health based on the survey's findings. Some questions were adapted from other questionnaires. For example: the smoking questions were adapted from the General Household survey; the diet and exercise questions were adapted from the Welsh Heart Health Survey questionnaire (HPAW, 1985a) and questions about ill-health were derived from health locus of control concepts originally formulated by Wallston and Wallston (1978).

As a result of comments from respondents to the pilot study, see Appendix 1.1, and experience in analysing the data in the pilot study some slight changes were made to the pilot questionnaire to clarify questions, facilitate completion and analysis. A copy of the questionnaire used in the main study appears as Appendix 3.3.

3.4.1.1.2 Coding adult questionnaires

On the first page of questions, each questionnaire had seven digits clearly marked. A five digit, unique code was used to identify individuals in the samples. In addition a two digit code was used to identify either the practice to which the individual belonged, or the community contact to whom the questionnaire was given. This system not only gave a double check of the distribution route of returned questionnaires, but also facilitated identification of groups within both the GP Practice 20% Sample and the Opportunity Sample. The number code was accompanied by a brief explanation that coding ensured confidentiality but not anonymity.

3.4.1.1.3 Analysis of adult questionnaires

The GP Practice 20% Survey respondents' questionnaires were analysed by computer using SPSSX programs.

The Opportunity Survey respondent's questionnaires were analysed by hand. Only key questions were analysed and entered in a summary sheet for each group, see Appendix 3.4. Only key questions were analysed as the Opportunity Sample was not representative and its inclusion in the survey was primarily to raise awareness of health issues and offer opportunities for future health promotion activity within existing community groups, using data from these key questions. The key questions related to response rate for the group, respondents' demography including age, sex and social class, views about factors that make their health worse and whether these factors cannot, can or will be changed, smoking patterns, exercise and which leaflets had been fed back to the group.

3.4.1.1.4 Development and content of the School Pupil Questionnaire

The school pupil questionnaire was developed during the pilot study, see Appendix 1.1. It was similar to the adult questionnaire both in content and layout. It included questions on age, sex and social class. Questions similar to those on the adult questionnaire on diet, exercise, alcohol consumption and locus of control were included. Social class and smoking questions were derived from a longitudinal survey of school pupils' smoking (Gillies et al., 1987). In addition questions were asked about drugs, incorporating existing lists (Plant, 1985) and sources of information about health.

As a result of the pilot study, using comments from staff who administered the survey and experience in coding and analysing the pilot study, slight changes to the pilot questionnaire were made, for example, to clarify the exercise questions. The invitation on the pilot questionnaire to respondents to ask for leaflets about health was excluded from the main study as, in practice, this proved to be extremely time-consuming to administer in the school context. Instead, staff were offered supplies of leaflets for use in teaching programmes.

A copy of the school pupil questionnaire used in the CHPS appears as Appendix 3.5.

3.4.1.1.5 Coding School Pupil Questionnaires

School pupil questionnaires were not numbered prior to distribution to ensure both the confidentiality and anonymity of respondents thereby encouraging honest

responses. On receipt each questionnaire was given a unique code, together with a school code to facilitate analysis.

3.4.1.1.6 Analysis of School Pupil Questionnaires

The School Pupil study respondents' questionnaires were analysed by computer using SPSSX programs.

3.4.2 Distribution and return of questionnaires

3.4.2.1 The GP Practice 20% Sample

2003 questionnaires with printed, freepost envelopes by which to return questionnaires were posted to each of the individuals in the GP Practice 20% Sample during the second week of August, 1988. Distribution, labelling and packaging was carried out by Derbyshire Family Practitioners' Committee.

Respondents were invited to return their questionnaire either through the normal mail service or through special post boxes placed around the Staveley area. These special post boxes are discussed in 3.8.1.

The distribution of the postal questionnaires was planned to take place 4 days before the distribution of questionnaires to the Opportunity Sample. This strategy was designed to overcome any possibility of a member of the GP Practice 20% Sample receiving a questionnaire first through the Opportunity Sample system. However, in practice, a delay of a week in posting out occurred from the FPC. As a result, some of the Opportunity Sample contacts received questionnaires before the GP Practice 20% Sample was posted out. Although it was unlikely that the community groups contacts would have affected distribution to the Opportunity Sample before the postal questionnaires arrived, the first follow-up letter asked non-respondents to the postal survey to indicate whether they had returned a questionnaire obtained elsewhere and, if so, where that questionnaire had been obtained. Eight responses indicated that returned questionnaires obtained elsewhere had already been returned. These were all traced and transferred to become part of the GP Practice 20% survey response, although it is possible that others in the GP Practice 20% Sample who took part in the Opportunity Sample did not respond and so could not be traced. It should be noted that no-one in the Opportunity Sample could, by error, be included in the GP Practice 20% Sample during the analysis of data because of the coding system described in 3.4.1.1.2.

Two follow-ups to be sent out by the Family Practitioners' Committee were planned, each enclosing a further copy of the questionnaire, a freepost envelope and a covering letter, see Appendix 3.6. These were to be posted to non-respondents to the

initial posting at three weeks and seven weeks after the initial mailing. However, in practice the timing of follow-up was not achieved. A protracted mail service strike and staffing shortages delayed the first follow-up by four weeks. Staffing shortages delayed the second follow-up by three weeks. Thus the data collection period was extended and took some sixteen weeks, rather than the anticipated nine which allowed two weeks for a response to the final reminder. The period over which data were collected therefore ran from the second week of August to the middle of December, 1988.

3.4.2.2 The Opportunity Sample

Questionnaires and freepost envelopes for returning questionnaires were delivered by the researcher to the Opportunity Sample via community group contacts during the first and second weeks of August, 1988. Questionnaires were then distributed to group members by the community group contacts, as they felt appropriate. Respondents were invited to return their questionnaires either through the normal mail service or through special post boxes placed around the Staveley area, see 3.8.1.

Reminders were not sent to individual members of each group but a poster to encourage response was sent or delivered to each of the 50 group contacts six weeks after the questionnaires were delivered, and again four weeks later, see Appendix 3.7.

3.4.2.3 The School Pupil Sample

Questionnaires were delivered personally by the researcher to each school in July 1988. The survey was carried out by staff known to first and fourth year pupils. Questionnaires were returned to staff having been placed in envelopes by pupils, and sealed by them to ensure anonymity. The envelopes were then either collected from the school by the researcher or, in one case, delivered by a member of the school staff to the researcher for analysis.

Instructions given to staff members supervising pupils whilst they completed questionnaire are given in Appendix 3.8.

3.5 Reliability

3.5.1 Reliability of the Adult Questionnaire

The adult questionnaire was designed to be used at intervals to measure changes in health-related behaviour. It was also designed for use with adults with differing levels of literacy. It was therefore important to check the reliability of the questions asked on the questionnaire. One method of checking reliability is to readminister the same questions in the same way and another is to ask the same questions in a different way see, 1.3. In this study, as in others, there were two major problems when assessing the reliability of question about health behaviour using these methods. First, if respondents were asked the same questions again after a short period, they may remember the original response and reproduce it, regardless of the way in which questions were asked. Secondly, if there were a long delay before asking the same questions then behaviour may have changed so that answers are not consistent, but are reliable given the changed circumstances of the respondent. In this study, the possibility of behaviour change, or answers being tailored to fit the assumed interest of the researcher, was compounded by the fact that the eligible sample may have received feedback they had selected about healthy living and/or local health behaviour. Consequently, increased knowledge about preferred health behaviour may have influenced response, seasonal changes in diet or behaviour may have occurred or, less likely, actual behaviour may have changed, stimulated by the survey method itself. Nevertheless, it was decided to adopt an accepted method by which to assess the reliability of questions: readministration of the questionnaire.

3.5.1.1 The repeat survey to assess the reliability of the Adult Questionnaire

The eligible sample for the repeat survey consisted of 266 adult respondents to the pilot study. These respondents had given their names and addresses in an otherwise confidential survey and requested leaflets about healthy living or the summary of local health behaviour. They were therefore not representative of respondents to the pilot study. Each of the 266 adults in the eligible sample was sent a repeat questionnaire with a letter requesting co-operation by repeating the questionnaire, together with a pre-paid, addressed envelope. Two reminders were sent. Administration took place some four months after distribution of the first questionnaires.

Two hundred and one (76%) of the repeat questionnaires were returned with 3 (1%) further questionnaires returned uncompleted. The relatively high response was probably due to the nature of participants, all of whom had taken part in a previous

survey and also requested leaflets: they could therefore be expected to be more interested in health than others.

It was decided that as several questions were asked in the same way, for example in the food section, a total of 21 key questions would be analysed. Of these 3 were related to demography and 18 to key health behaviour. It was anticipated that if the questions were reliable high levels of consistency would be obtained on items unlikely to change, for example, sex, living circumstances, economic activity, attempts to give up smoking and if alcoholic drink is never consumed. Lower consistency would be likely on items more readily changed, for example, diet and exercise behaviour may be affected not only by deliberate decisions to change it but also by the weather, time of year and the seasonal cost of foods.

Table 3.17 shows the results of kappa statistical tests, together with the data from the pilot and repeat study for the 201 study respondents participating in the reliability study. The kappa statistic measures the level of agreement in excess of that expected by chance in a table where two repeated questions are being compared, see 3.9.2. Briefly, using the kappa test result responses may be categorised into a level of agreement as suggested by Landis and Koch (1977): almost perfect (0.81 - 1.00); substantial (0.61 - 0.80); moderate (0.41 - 0.60); fair (0.21 - 0.40); slight (0.00 - 0.21) and poor (<0.00).

Table 3.17: Responses to 21 key questions on the pilot and repeat questionnaires

N=201

Key question	Pilot		Repeat		Agreement	
	n	%	n	%		k
sex						
male	76	38	75	37	almost perfect	0.915
female	125	62	125	62		
economic activity						
retired	20	10	18	9	almost perfect	0.894
economically active	181	90	183	91		
living circumstances						
married	145	72	151	75	almost perfect	0.960
not married	56	28	50	25		
On most days eats:						
chicken or fish	26	13	40	20	moderate	0.425
fresh fruit	117	58	119	59	moderate	0.451
low fat margarine	117	58	126	63	moderate	0.439
chips	11	5	13	6	moderate	0.480
brown bread	122	61	112	56	moderate	0.494
grilled foods	147	73	144	72	moderate	0.565
Smoking						
lives with a smoker	63	31	63	31	almost perfect	0.815
spends time with smokers	84	42	80	40	moderate	0.526
uses non-smoking areas	117	58	126	63	substantial	0.699
wants smoking banned	122	61	127	63	moderate	0.589
has never smoked	99	49	97	48	almost perfect	0.850
smokes	47	23	48	24	almost perfect	0.870
ex-smoker	54	27	51	25	substantial	0.758
has tried to stop smoking	30	15	31	15	substantial	0.671
exercise						
usually does no exercise	54	27	46	23	moderate	0.469
alcohol						
never drinks	29	14	27	13	substantial	0.751
drinks once a week or more	119	59	121	60	moderate	0.456
health checks						
examines breasts for lumps at least every 3 months	31	15	33	16	moderate	0.557

The kappa test results, given in Table 3.17, show that in all cases numbers of agreeing responses were greater than could be expected by chance suggesting either almost perfect, substantial or moderate agreement. It was noticeable that the results for diet and exercise generally showed the least congruity, and demographic and smoking behaviour data the greatest. It therefore seems reasonable to claim that questions were reliable when re-administered, even after a 16 weeks time lag and access to information about health.

3.5.2 Reliability of the School Pupil Questionnaire

Many of the questions in the school pupil questionnaire were the same as those on the adult questionnaire, and therefore the reliability checks reported in 3.5.1 indicated some degree of the school pupil questionnaires' reliability. Social class and smoking questions had already been checked for reliability (Gillies et al., 1987). Nevertheless, to check that school aged pupils could repeat the questionnaire consistently, the questionnaire was re-administered to pupils who had taken part in the pilot study. The results of the reliability check are given in Appendix 3.9. Briefly, 19 key questions about self-reported health-related behaviour were answered consistently by school pupils in that the chi-square test showed no statistically significant differences in any instance. As data were anonymous answers could not be matched by individuals and so the more sensitive kappa test to assess congruity of response could not be applied.

3.5.3 Conclusions about reliability of questions

The reliability checks applied to original key questions on the adult self-completion questionnaire showed that responses were consistent when self-reported twice. Key responses to the school pupil questionnaires were also shown to be reliable as questions were checked during the adult questionnaire reliability study, were shown to be reliable in other studies and were consistent when self-reported twice. It is therefore reasonable to claim that both the adult and school pupil questionnaires produced reliable data. This reliability in itself suggests validity of data, as discussed in 1.3.

3.6 Readability and ease of the questionnaires

It was decided during the pilot study that, in designing the self-completion questionnaires, strategies would be introduced to make the questionnaires easy to read, easy to answer and easy to complete. Three strategies to increase and check readability were used: introducing factors into the text and layout of the questionnaire known to increase readability; assessing the text using a standardised readability score, and surveying respondents' views about the ease of reading, answering and completion of the

questionnaires. These three strategies are reported in Appendix 3.10. Briefly, the studies showed that the questionnaires were easy for respondents to read, understand and complete assessed by a standardised reading test, adult respondents' views and teachers' assessments of their pupils' performance.

3.7 Feedback

Feedback was seen as an integral and essential part of the method. During the pilot study the feasibility of offering feedback to individual General Practitioners, school teachers and adult respondents to the survey had been assessed, and found to be practical and of interest to recipients, see Appendix 1.1.

It was therefore decided that, in addition to providing Health Promotion Staff with base-line data for their own purposes, they would also be provided with data appropriate for them to feed back to a range of health professionals and lay people:

- General Practitioners
- School teachers responsible for health education
- adult respondents
- community groups
- the community.

The purpose of enabling Health Promotion Staff to offer feedback to health professionals was to provide colleagues with base-line data about relevant health-related behaviour and thereby enable them to set priorities for practice. The purpose of enabling them to provide feedback to lay people was twofold. First, it was to provide accurate information about health-related topics of interest to individuals, thereby promoting an awareness of health. Second, feedback to lay people was designed to stimulate awareness of and interest in the community's health-related behaviour identified in the health survey thereby priming the community for future activity. It was recognised that feedback of such different types, serving different functions, needed to be presented in different formats. It was therefore decided to present data to Health Promotion Staff in the following ways:

- computer print outs of all variables labelled as clearly as possible to Health Promotion Staff, introduced to them by the researcher to aid interpretation where necessary
- individual summaries of GP Practices and schools on feedback booklets derived from the adult and school questionnaires, as appropriate, together with barcharts of key findings, with the intention that this be introduced personally by Health Promotion Staff

- information about healthy living using Health Education Authority leaflets to be posted to individual adult respondents
- summaries of community health-related behaviour in an easy-to-read leaflet and poster format to be offered to individual adult respondents, community groups and the wider community, delivering leaflets and posters by post or in person as appropriate
- summaries of local groups' health-related behaviour for Health Promotion Officers to present in face to face contacts with community group contacts and/or community groups participating in the Opportunity Survey.

It was envisaged that in addition to the planned feedback outlined above, demand for further feedback may be stimulated to meet the needs of, for example, Environmental Health Officers or Local Education Authority Officers. The data-bank was therefore viewed as a flexible resource which could be used to respond to information needs identified by Health Promotion Staff.

3.8 Publicity

Throughout the survey an identifiable logo and name were used on questionnaires, posters, special post boxes, compliment slips, letter heads and in the media, as recommended by the World Health Organisation (1984). The name under which the health survey was publicised was, "Peak Health Project", the overall title of North Derbyshire Health Promotion Unit's campaign. The logo incorporated this title and is shown in Appendix 3.3 on the front of the adult questionnaire.

Three strategies were used to publicise the health survey in Staveley; the use of community-based special post boxes, posters and the media.

3.8.1 Community-based special post boxes

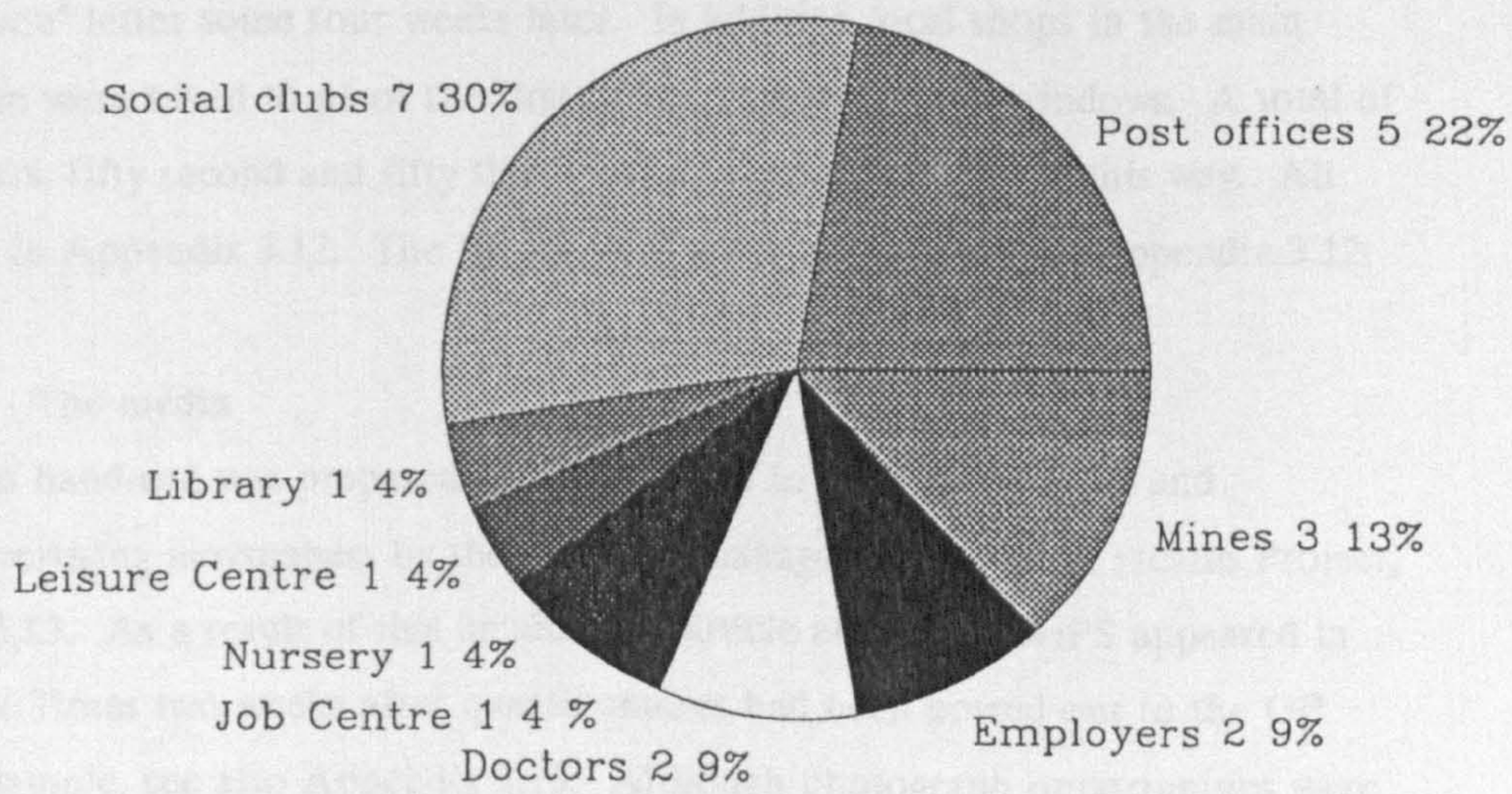
To publicise the survey community-based special post-boxes that were donated to the project, and so incurred no financial costs, were located in the Staveley area. Postboxes carried the logo and title of the campaign, see Appendix 3.11. By inviting postmasters/mistresses to join the survey it was possible to locate special post-boxes in five local post offices. Eighteen other locations linked to community groups were also used to house special post boxes. Twenty-three special post boxes were located in key positions in the community at the beginning of the CHPS to coincide with questionnaires being delivered to community groups.

Postboxes were checked regularly by the researcher. Eighty-three visits were made to their locations during the 10-12 weeks they remained in situ. Four hundred and eighty-two questionnaires, 23% of the 2082 returned by both the GP Practice 20% Sample and the Opportunity Sample, were known to have been returned through the special postboxes. Returns via three post-boxes at NUM premises were not recorded. A minimum saving of £69.89 (23%) was made on the postage costs incurred in returning questionnaires by freepost, calculated at 14.5p per freepost return. More importantly the contacts made with community members during delivery and checking of special post boxes offered opportunities for discussion about the purpose of the survey and potential health promotion action in the community.

Figure 3.12 gives details of the location of 23 special postboxes in the Staveley area, and Figure 3.13 gives details of the number of questionnaires collected from each postbox.

Figure 3.12

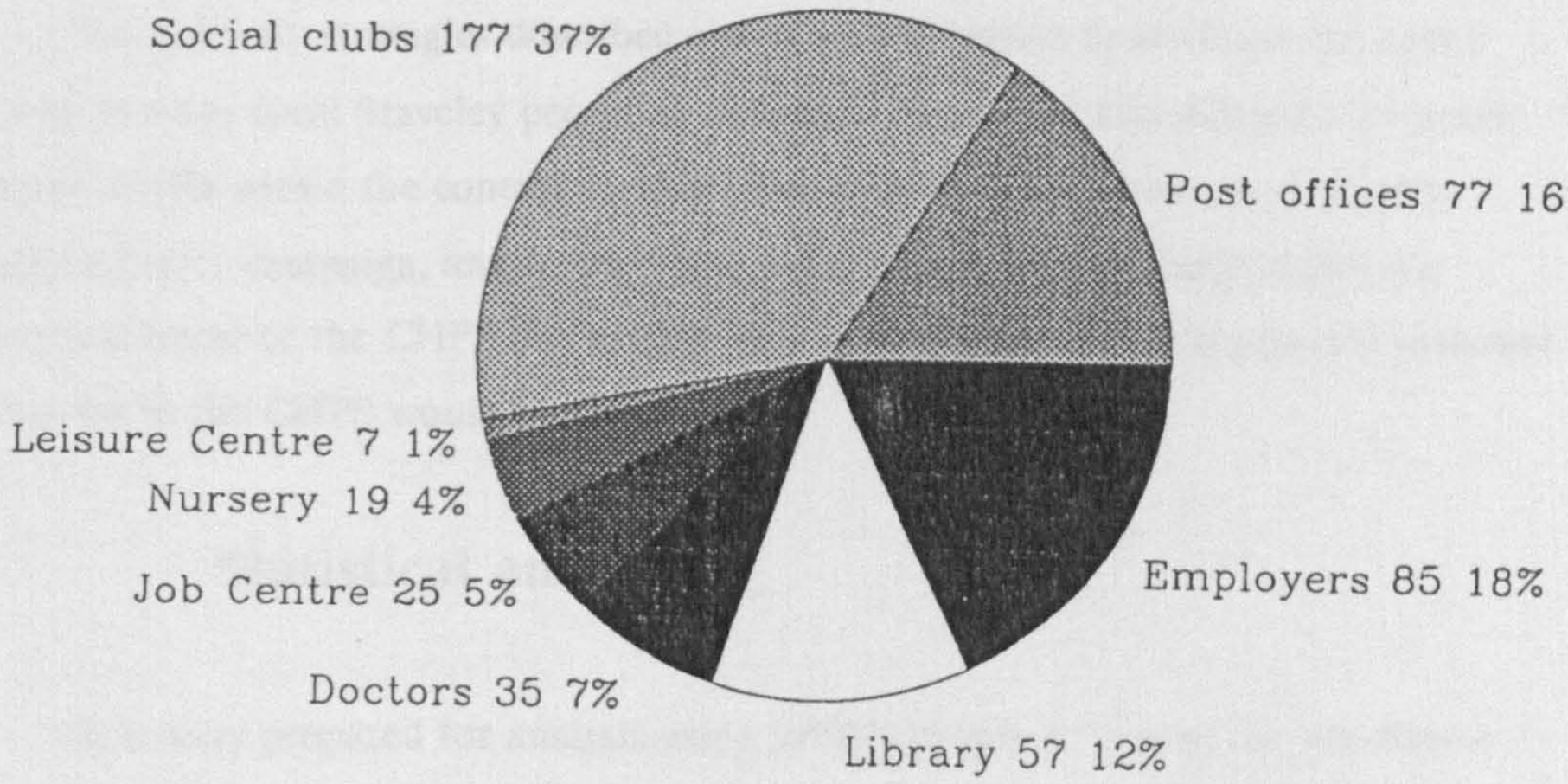
Location of special post boxes



N=23

Figure 3.13

Numbers of questionneires returned by 20* special post boxes by type of location



N=482

*NUM staff emptied 3 boxes. Totals for these boxes were not recorded

3.8.2 Posters

Three posters were used to publicise the survey. Community contacts were asked to display these and given the first poster at the same time as questionnaires and special post-boxes were distributed. The second poster was sent or given in person when special post boxes were emptied six to eight weeks later and the third poster was posted together with a "thank you" letter some four weeks later. In addition local shops in the main shopping square were asked to place the first of the posters in their windows. A total of sixty first posters, fifty second and fifty third posters were distributed in this way. All posters appear in Appendix 3.12. The "thank you" letter also appears in Appendix 3.12.

3.8.3 The media

A press hand-out was prepared and distributed to local newspapers and commercial advertising newspapers by the publicity manager for the Peak Health Project, see Appendix 3.13. As a result of this handout an article about the CHPS appeared in The Derbyshire Times two weeks after questionnaires had been posted out to the GP Practice 20% Sample, see also Appendix 3.13. Although photograph opportunities were also made available they were not taken up by the press. Other articles about the Peak Health Project's work were published during the time the CHPS took place designed to

maintain the Project's image in the public's eye. These included a regular monthly page in The Derbyshire Times. Personal contact with the local radio station, Radio Derby, by the Peak Health Publicity Manager resulted in interviews being broadcast during the first week of the survey.

The publicity strategies described above were designed to publicise the health survey to as many local Staveley people as possible. They were also designed to clearly locate the CHPS within the context of North Derbyshire Health Authority's Health Promotion Unit's campaign, and so to give it public credibility. By heightening the public's awareness of the CHPS and establishing its credibility it was hoped that response and interest in the CHPS would be encouraged.

3.9 Statistical analyses

Data were prepared for analysis using SPSSX programs run on the mainframe computer facility of the University of Nottingham. Further analyses were carried out using Department of Community Medicine and Epidemiology, Nottingham University Medical School, "in house" computer programs, or by hand. Data from closed questions from the main study were entered by North Derbyshire Health Authority Consumer Operational Research and Development Section. Other non-descriptive data were entered by staff in the Department of Community Medicine and Epidemiology.

Descriptive data were analysed using content analysis. One third of descriptive data generated by open-ended questions was read prior to identifying common themes and pinpointing common constraints, concepts and descriptive words used to describe particular phenomena. Data were then entered systematically and according to identified categories.

Statistical tests used to calculate probability and importance of differences and similarities were: chi-square and Fisher exact probability tests; kappa; McNemar test and odds ratio with Mantel Haenszel tests, each of which is described below.

3.9.1 Chi-square (χ^2) and Fisher Exact Probability tests

Chi-square

The chi-square test tests the hypothesis that two categorical variables described in a two-way table are independent. To accept or reject this null hypothesis the differences between the numbers observed ,O, and expected, E, under the assumption of independence are compared when three conditions have been met. First, individual observations must be independent of each other; secondly, the numbers and not the

percentages must be used in calculation and, thirdly, the test requires adequate numbers of expected observations, at least five, in more than 20% of table cells. It can be shown that the quantity

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

follows a chi-square distribution with degrees of freedom given by (row - 1) multiplied by (column - 1). If the observations agree with the null hypothesis, then observed and expected numbers are similar and chi-square is small. If the null hypothesis is not supported by the observations there are large discrepancies between the observed and expected numbers and chi-square is large. The value of chi-square increases as the discrepancies between O and E increase. The probability of obtaining a value greater than or equal to the calculated chi-square is given in tables, for several levels of significance and degrees of freedom.

Fisher Exact Probability Test for 2 x 2 Tables

Where cells of less than 5 expected observations occur in more than 20% of cells, the Fisher exact test was used instead of χ^2. In some instances cells were added together as the test may only be used on 2 x 2 tables. The test assesses all possible differences between numbers in cells and calculates an exact probability of the observation arising if the null hypothesis is valid. It calculates the probability of the observed, or any more extreme, result, using first the calculation:

$$p^1 = \frac{(a+b)!\ (c+d)!\ (b+d)!}{n!\ a!\ b!\ c!\ d!}$$

where a,b,c,d are the cells in the 2 x 2 table, n = the total number of observations and ! means factorial, or multiplied by each member less than that in the cell. To calculate more extreme possibilities of difference the smallest number in any cell is reduced by one, whilst the remaining cells are increased appropriately. The same equation is then recalculated to produce p^2. This procedure is repeated until the "p" rating for "0" has been calculated. For example, if the number in the cell is three then four calculations are added

together to give the test value. For example, if the smallest observation is 2 then calculate p^2, p^1 and p^o and if the smallest observation is three then calculate p^3, p^2, p^1 and p^o.
In both Fisher and Chi-square tests statistical significance is conventionally assessed as occurring when $p \leq 0.05$ occurs, although other levels may be used.

3.9.2 Kappa

The kappa statistic measures the level of agreement over and above chance where two sets of responses to repeated questions are compared. In matched data only the kappa test allows for equal numbers of respondents changing the behaviour reported, a factor which the chi-square test cannot accommodate. For example, if an equal number of smokers had given up smoking as non-smokers had started smoking, the crude number of smokers would remain the same, and would not show up in the chi-square test. The kappa test, however, would measure the degree of agreement between two sets of responses. If complete agreement was achieved, $k = +1$. If observed agreement was greater or equal to chance $k \geq 0$ and if observed agreement was less or equal to chance $k \leq 0$ (Cohen, 1960). Kappa test results may be categorised into levels of agreement as suggested by Landis and Koch (1977): almost perfect (0.81 - 1.00); substantial (0.61 - 0.80); moderate (0.41 - 0.60); fair (0.21 - 0.40); slight (0.00 - 0.21) and poor (<0.00): these categories are recommended but not rigid. Calculations were according to those described by Cohen (1960).

3.9.3 McNemar test

The McNemar test is used to assess the significance of changes in matched data, with the null hypothesis that there is no change. To test the significance of any observed change a fourfold table is used, as shown in the table below and in which cells A and D contain changed responses and B and C contain the same, repeated responses.

		After	
		-	+
Before	+	A	B
	-	C	D

Using calculations described by Siegal and Castellan (1988) only the numbers in cells A and D are used. If the change in responses is evenly distributed between cells A and D then change is not statistically significant. Where change is greater in cell A or cell D then the change is assessed for levels of significance according to chi-square, described in 3.9.1.

The direction of change is indicated by the higher number in either cell A or D. The equation used in calculations was:

$$\chi_1^2 = \frac{(|n_2 - n_3| - 1)^2}{n_2 + n_3}$$

3.9.4 The Odds Ratio and Mantel-Haenszel analyses

Odds Ratio

The odds ratio or relative odds linking two factors is the first stage in assessing their relationship. The odds ratio may be calculated as shown in the following example related to alcohol consumption.

Data appear as :-

	Female	Male
Drinks heavily	a	b
Does not drink heavily	c	d

Thus the odds of drinking heavily amongst females relative to the odds of drinking heavily amongst males would be:-

$$\frac{a\ d}{b\ c}$$

Mantel-Haenszel Analysis

The Mantel-Haenszel test (Mantel and Haenszel, 1959; Mantel, 1963) is usually used in case-control studies to allow data to be analysed controlling for a confounding factor. The overall relative risk ratio, or Mantel-Haenszel test result, is the weighted average of the odds ratios within the separate strata, allowing for the numbers in each category. The expected numbers are calculated in the individual strata and summed to give the total of expected numbers. Expected factors are thereby corrected for the distribution of the confounding factor and an overall adjusted odds ratio and chi-square value calculated which allow for the confounder. The calculation may result in a probability value that: eliminates the statistical importance of the second factor; reduces

the importance of the second factor or shows that the second factor remains statistically important.

The equation used in calculations was:

$$overall\ \chi^2 = \frac{\sum_1 a_1 d_1 / t_1}{\sum_1 b_1 c_1 / t_1}$$

where t_i is the total number of individuals and a_i, b_i, c_i and d_i are the cross product terms.

3.10 Results from the CHPS: feedback

Recipients of feedback integral to the survey method were:

i) adult respondents to
the GP Practice Survey and the Opportunity Survey
ii) health promotion officers
iii) General Practitioners participating in the survey
iv) community groups
v) the wider community
vi) school teachers of pupils participating in the School Pupil Survey

3.10.1 Adult respondents and feedback

3.10.1.1 The GP Practice 20% Sample: requests for feedback

Nine leaflets about healthy living shown in Appendix 3.14 and one leaflet summarising the results of the CHP Survey also shown in Appendix 3.14 were offered to respondents to the GP Practice survey. All 10 leaflets were listed on the final sheet of the self-completion questionnaire, and respondents were invited to indicate those of interest, adding their names and address for return of leaflets. The healthy living leaflets were returned within one or two days of receipt of the request; the summary of the health survey was sent 20 weeks after data collection was completed. Opportunistically a leaflet explaining Peak Health and one giving telephone numbers and addresses of local services were posted with the summary of the health survey.

670 (62%) of the 1,079 respondents to the GP Practice Survey requested a total of 1,992 leaflets. The average request rate for leaflets in the GP Practice Survey for all respondents and respondents requesting leaflets was 1.8 and 3.0 respectively. Requesters and non-requesters were compared to identify any differences between the two groups. The results of these analyses are shown in Table 3.18.

Table 3.18: The GP Practice Survey: respondents requesting one or more leaflets by respondents not requesting leaflets, by sex, age, social class and employment status

Characteristic of respondents	Respondents requesting one or more leaflets		Respondents not requesting leaflets	
Sex	n	%	n	%
males n=450	264	59	186	41
females n=629	406	77	223	23
all n=1079	610	60	409	40
	$\chi^2 = 3.6$ with 1 d.f.; NS			
Age				
16 - 24 n=176	117	66	59	34
25 - 44 n=404	260	64	144	36
45 - 64 n=324	204	63	120	37
65+ n=165	84	51	81	49
all n=1069	665	62	404	37
	$\chi^2 = 11.2$ with 3 d.f.; $p < 0.05$			
Social Class				
I and II n=98	64	65	34	35
IIIN and IIIM n=608	393	65	215	35
IV and V n=196	121	62	75	38
	$\chi^2 = 0.6$ with 2 d.f.; NS			
Head of household employment status				
Unemployed n=206	137	66	69	34
all others n=873	533	61	340	39
	$\chi^2 = 1.9$ with 1 d.f.; NS			

Table 3.18 shows that there were no statistically significant differences amongst those who requested or did not request leaflets in terms of sex, social class or employment status of the head of household. However, the analysis did show that there were statistically significantly differences by age with those aged 16 - 24 most likely to request leaflets followed by those aged 25 - 64.

3.10.1.2 Respondents to the GP Practice Survey requesting feedback

670 (62%) of the 1,079 respondents requested a total of 1,992 leaflets, as shown in Table 3.19.

Table 3.19: Respondents requesting leaflet by leaflet requested and as a % of all respondents

	Respondents requesting leaflets N=670		All respondents N=1079
Leaflets requested:	n	%	%
Healthy eating	389	58	36
Exercise	245	37	23
Heart disease	248	37	23
Stop-smoking	153	23	14
Alcohol	82	12	8
Minor illnesses	182	27	17
Breast self-examination	145	22	13
Smear tests	89	13	8
AIDS	46	7	4
Summary: local health	413	62	38

Table 3.19 shows that, amongst the 62% of respondents who asked for leaflets, the most popular leaflets were the results of the survey (62%) and healthy eating (58%). The least popular leaflets were about AIDS (7%), alcohol (12%) and smear tests (13%). To examine the characteristics of the 670 respondents requesting each of the 10 leaflets offered, analyses were carried out to explore respondents' sex, age and social class. The results of these analyses are shown in Table 3.20, together with the average number of leaflets requested per respondent. An overall chi-square test was not carried out because the small numbers in some cells may have led to misleading results.

Table 3.20 **The GP Practice 20% Sample: characteristics of respondents requesting leaflets by leaflets requested**

		Sex N = 670			
Leaflet requested		Male N = 264		Female N = 406	
N=1992		n	%	n	%
1.	Healthy eating	142	52	247	61
2.	Exercise	92	35	153	38
3.	Heart Disease	115	44	133	33
4.	Stop smoking	61	23	92	23
5.	Alcohol	50	19	32	8
6.	Minor illnesses	63	24	119	29
7.	Breast self-examination	19	7	126	31
8.	Smear tests	16	6	73	18
9.	AIDS	16	6	30	7
10.	Summary of local health	170	66	243	62
Average number of leaflets per respondent		2.8		3.1	

Age of respondents*

Leaflet requested N = 1,977		16 - 24 N = 117		25 - 44 N = 260		45 - 64 N = 204		65 and over N = 84	
		n	%	n	%	n	%	n	%
1.	Healthy eating	86	74	138	53	111	54	51	61
2.	Exercise	66	56	98	38	64	31	16	19
3.	Heart disease	30	26	92	35	92	45	33	39
4.	Stop smoking	36	31	61	23	44	22	10	12
5.	Alcohol	30	26	38	15	11	5	2	2
6.	Minor illnesses	35	30	77	30	50	25	19	23
7.	Breast self-examination	33	28	75	29	31	15	5	6
8.	Smear tests	28	24	40	15	16	8	4	5
9.	AIDS	20	17	17	7	7	3	2	2
10.	Summary of local health	76	65	175	68	114	56	44	52
Average number of leaflets per respondent		3.8		3.1		2.6		2.2	

* 5 respondents failed to give their age

Social Class of Head of Household*

Leaflet requested N = 1,726		I and II n = 64		IIIN and IIIM n = 392		IV and V n = 121	
		n	%	n	%	n	%
1.	Healthy eating	35	55	216	55	79	65
2.	Exercise	27	42	132	34	55	46
3.	Heart disease	31	48	145	37	44	36
4.	Stop smoking	9	14	89	23	33	27
5.	Alcohol	8	13	43	11	18	15
6.	Minor illnesses	17	27	103	26	30	25
7.	Breast self-examination	12	19	87	22	28	23
8.	Smear tests	7	11	58	15	13	11
9.	AIDS	2	3	26	7	9	7
10.	Summary of local health	49	77	256	65	65	54
Average number of leaflets per respondent		3.1		2.9		3.1	

* 93 respondents could not be classified by social class

Leaflet requested	Employment Status N = 670			
	Unemployed		All Others	
N = 1,992	N = 137		N = 533	
	n	%	n	%
1. Healthy eating	65	47	324	61
2. Exercise	49	36	196	37
3. Heart disease	48	35	200	38
4. Stop smoking	42	31	111	21
5. Alcohol	14	10	68	13
6. Minor illnesses	41	30	141	26
7. Breast self-examination	22	16	123	23
8. Smear tests	11	8	78	15
9. AIDS	12	9	34	6
10. Summary of local health	86	63	327	61
Average number of leaflets per respondent	2.8		3.0	

Based on Table 3.20 the list below summarises the findings by sex, age, social class and employment status:

Sex

- men and women were equally likely to request feedback, requesting on average 2.8 and 3.1 leaflets respectively
- women were more likely than men to request 4 leaflets: healthy eating, minor illnesses, breast self-examination and smear tests
- men were more likely than women to request 1 leaflet on alcohol

Age

- average request rates per respondent showed that as age increased the average number of leaflets decreased from 3.8 at 16 - 24 to 2.2 at 65 and over
- 16 - 24 year olds were the most likely to request 5 leaflets: healthy eating, exercise, stopping smoking, alcohol and smear tests
- 45 - 64 year olds were the most likely to request 1 leaflet on heart disease

- 65 year olds and over were the least likely to request 7 leaflets: exercise, stopping smoking, alcohol, minor illnesses, breast self-examination, smear tests, and the summary on local health.

Social class

- individuals in each of the Social Classes were equally likely to request leaflets requesting, on average, 3.1, 2.9 and 3.1 leaflets in Social Classes I and II, IIIN and IIIM, and IV and V respectively
- individuals in Social Classes I and II were the most likely to request 2 leaflets: heart disease and the summary of local health
- individuals in Social Classes IV and V were the most likely to request 1 leaflet on stopping smoking

Employment status

- unemployed individuals were just as likely as others to request leaflets with an average 2.8 and 3.0 leaflets requested respectively
- unemployed individuals were more likely to request a stop-smoking leaflet than others.

3.10.1.3 Leaflets requested

A total of 1,992 leaflets were requested. Table 3.21 shows the total number of requests for each leaflet.

Table 3.21: The GP Practice 20% Sample: leaflets requested as a % of all leaflets

Leaflets requested:	n	%
Healthy eating	386	20
Exercise	245	12
Heart disease	247	12
Stop-smoking	151	8
Alcohol	81	4
Minor illnesses	181	9
Breast self-examination	144	7
Smear tests	88	4
AIDS	46	2
Summary of local health	428	21
Totals	1,992	100

Table 3.21 shows that the most popular leaflets were the results of the survey, which made up 21% of feedback, closely followed by information about healthy eating, which made up 20% of feedback. The least popular leaflets were about alcohol, smears and HIV/AIDS, which made up 4%, 4% and 2% of feedback respectively.

The proportions of leaflets requested by men and women, by those in different age groups, social classes and with employment status, were then calculated. The results of these analyses are shown in Table 3.22.

Table 3.22: Characteristics of all 1079 respondents to the GP Practice 20% survey by number of leaflets requested and average no. leaflets per respondent

Characteristic	Number of Leaflets requested N = 1,992		Average no leaflets requested
	n	%	
Sex			
male n=446	744	37	1.7
female n=623	1,248	63	2.0
not known n=10	0	0	0
Total n=1079	1,992	100	1.9
Age			
16 - 24 n=176	440	22	2.5
25 - 44 n=404	812	41	2.0
45 - 64 n=324	540	27	1.7
65 and over n=165	186	9	1.1
Not known n=10	14	1	1.8
Total n=1079	1,992	100	1.9
Social Class			
I and II n=98	197	10	2.0
IIIN and IIIM n=608	1,155	58	1.9
IV and V n=196	374	19	1.9
Not known n=177	266	13	1.5
Total n=1079	1992	100	1.9
Employment status			
unemployed n=97	390	20	4.0
all others n=982	1,602	80	1.6
Total n=1079	1,992	100	1.9

Table 3.22 shows that:

- 68% more leaflets were requested by women than by men and women asked for slightly more leaflets per respondent (0.3)
- those aged 16 - 24 were more likely to ask for leaflets than others with the average number of leaflets requested declining from 2.5 to 1.1 as age increased. As a percentage of all leaflets, most (41%) were requested by 25 - 44 year olds and least (9%) by 65 year olds and over
- the average number of leaflets requested per head by Social Class was very similar. As a percentage of all leaflets, most (58%) were requested by respondents in Social Classes IIIN and IIIM and least (10%) by respondents in Social Classes I and II

- unemployed people were just as likely to ask for leaflets as others but the average number of leaflets requested by unemployed respondents was slightly lower (0.2) than those requested by others. The unemployed requested a fifth of all leaflets distributed.

The 670 respondents who requested leaflets asked for a total of 1,992 leaflets and although an average of 3 leaflets per respondent were requested, the actual number of leaflets sent to individuals varied from 1 to 10. Eighty-two percent of respondents who requested leaflets asked for under 5, with most, 29%, asking for one leaflet. As the number of leaflets requested increased, so there was a decrease in the number of respondents requesting leaflets to 1 - 2% requesting 7 or more leaflets.

3.10.1.4 The Opportunity Sample

Table 3.23 shows the total number of leaflets returned to the 985 respondents to the Opportunity Survey. Respondents to the Opportunity Survey were not representative. Characteristics of those requesting leaflets were therefore not analysed in detail.

Table 3.23: The Opportunity Sample: leaflets requested by respondents

Leaflet requested	n	%
Healthy eating	316	20
Exercise	217	14
Heart disease	186	12
Stop-smoking	112	7
Alcohol	70	4
Minor illnesses	141	9
Breast self-examination	122	8
Smear tests	77	5
AIDS	58	4
Summary of local health	274	17
Totals	1,573	100

Table 3.23 shows that the most popular leaflet was about healthy eating (20%), followed by the summary of local health (17%). The least popular leaflets were about alcohol, AIDS and smear tests (4-5%). This pattern echoes that found amongst the GP Practice 20% sample. The average number of leaflets per head of responder was also similar, being 1.8 in the GP Practice 20% survey and 1.6 in the Opportunity Sample survey. To explore whether there were any differences in the number of specific leaflets

requested by the Opportunity Survey study respondents and the GP Practice Survey study respondents. The results of these analyses are shown in Table 3.24.

Table 3.24 Leaflets requested in the GP Practice Survey and the Opportunity Survey by leaflet requested

Leaflet requested N = 3,565	GP Practice Survey N=1079		Opportunity Survey N= 985	
	n	%	n	%
Healthy eating	389	36	316	32
Exercise	245	23	217	22
Heart disease	248	23	186	19
Stop-smoking	153	14	112	11
Alcohol	82	8	70	7
Minor illnesses	182	17	141	14
Breast self-examination	145	13	122	12
Smear tests	89	8	77	8
AIDS	46	4	58	6
Summary of local health	413	38	274	28

$\chi^2 = 13.9$ with 9 d.f.; NS

Table 3.24 shows that there were no overall differences in the proportions of leaflets requested by respondents in each sample and so interests were similar.

3.10.1.6. Summary of feedback to adult respondents

GP Practice Survey

The 1,079 respondents to the GP Practice survey requested an average of 1.8 leaflets each. Of the 670 (62%) requesting leaflets, the younger the respondents, regardless of sex, social class or employment status, the more likely was the request for leaflets.

Most interest in specific leaflets was expressed by:

- women - in healthy eating, minor illnesses, breast self-examination and smear tests
- men - in alcohol
- 16 - 44 year olds - in all but the leaflet on heart disease
- Social Class I and II - in heart disease and the survey results

- Social Class III - in stop-smoking
- the unemployed - in stop-smoking

Of the 1,992 leaflets requested, the most popular were those about local health (21%) and healthy eating (20%), and the least popular were about AIDS (2%), alcohol (4%) and smear tests (4%).

Most leaflets were requested by women (63%), those aged 25 - 44 (41%) and those in Social Classes IIIN and IIIM (67%), and the fewest to men (37%), those aged 65 and over (9%), and those in Social Classes I and II (11%). Unemployed adults requested 20% of all leaflets.

Opportunity Survey

985 respondents together requested 1,573 leaflets, an average of 1.6 per respondent.

Most interest was shown in the leaflets about healthy eating (20%) and the summary of local health (21%). Least interest was shown in alcohol (2%), AIDS (2%), and smear tests (2%).

Comparison between the GP Practice Survey and Opportunity Survey respondents' requests for leaflets

GP Practice Survey respondents compared to Opportunity Survey respondents:

- were more likely to ask for leaflets, averaging 1.8 leaflets each compared to 1.6 leaflets each
- showed more interest in the summary of local health and less interest in AIDS
- had similar interests in that both groups showed most interest in healthy eating and local health (20-21%), and least interest in AIDS and alcohol (2-4%). There was no more than 3% discrepancy in interest by the groups in any of the leaflets.

3.10.2 Feedback to Health Promotion Officers

Three health promotion officers staffing North Derbyshire Health Authority's Health Promotion Programme were directly involved in receiving and distributing feedback. These officers were : the Director who maintained overall responsibility for monitoring feedback and the dissemination of data, the Programme Manager for Schools,

and the Community Programme Manager for Staveley, who had special responsibility for the unemployed.

3.10.2.1 Type of feedback to Health Promotion Officers

Copies of feedback prepared by group were supplied. In addition computer printouts were supplied, giving statistical data by which:

- to compare findings for General Practices participating in the health survey
- to compare findings for schools participating in the health survey
- unemployed respondents, and respondents with an unemployed partner could be studied
- parents with at least one child living at home could be studied by age of youngest child
- to compare respondents by Social Class of head of household
- key behaviour by age, sex and Social Class could be studied, for example, alcohol consumption and smoking.

3.10.3 Feedback about General Practices participating in the survey

The two practices participating in the health survey served a total of 15,717 patients, 12,538 and 3,179 respectively. The larger practice was run by five practitioners and the smaller by two practitioners. Both practices were situated in the centre of Staveley.

3.10.3.1 Type of feedback

Data about both participating practices were analysed and documented in a specially developed booklet, based on the adult questionnaire and incorporating bar-charts of key health behaviour such as smoking, derived from computer analyses by sex. Examples of pages from the feedback booklet appears in Appendix 3.15. The booklet was given to the Director of the Peak Health Project, under whose auspices the survey was carried out, ready to be introduced by him to the two practices concerned.

3.10.4 Feedback to community groups

50 community groups made up the Opportunity Sample. Individual respondents in each of the groups were sent leaflets they requested, as described earlier in this section. In addition the 50 community group contacts were sent copies of the summary of local health behaviour for their own and their group's interest, together with a series of 4

posters about aspects of the community's health behaviours alcohol, diet, exercise and smoking for display purposes. Posters appear in Appendix 3.16.

20 (40%) community groups were selected as having the most potential for future health promotion activity. The groups selected were those catering for the unemployed and young patients and groups having facilities for display or group activities. Feedback for each group was prepared for health promotion staff using the summary sheets shown in Appendix 3.4.

3.10.5. Feedback to the public

Posters about aspects of local health were placed in public places by community group contacts, see 3.10.4, and in addition 10 local shops agreed to put up the first poster.

One local radio broadcast an interview about the results of the survey and one local free paper carried an article about some of the findings.

3.10.6 Feedback about pupils participating in the School Pupil Survey

Three secondary schools participated in the School Pupil Survey. Each school surveyed its first and fourth year pupils.

3.10.6.1 Feedback about individual school's pupils

Data about each of the three participating schools were analysed and documented by age in specially developed booklets, based on the school pupil questionnaire. The booklet incorporated bar-charts of health behaviour such as smoking derived from computer analyses by age and sex. The feedback booklet was similar to used for GPs', and examples of pages are shown in Appendix 3.15.

The booklets were given to the Health Promotion Programme manager for Schools, ready to be introduced by her to the three schools concerned.

In addition, on the request of the Programme Manager for Schools a comparison of schools was prepared so that teachers who wished to do so could compare their own results with those of other participating schools using a computer printout.

3.10.7 Summary

Feedback was prepared at six different levels, using different methods of data presentation. These are summarised in Table 3.25.

Table 3.25: feedback summary Type of Feedback		Intended Recipient	Intended Method of delivery	Individual Responsible for distribution	No. of potential recipients
1.	Leaflets about healthy living	Respondents to: - GP Survey - Opportunity Survey	 postal "	Health Promotion staff/researcher "	 1,079 985
2.	Summary of local health behaviours	Respondents to: - GP Survey - Opportunity Survey - Community Group contacts	 postal " "	 " " "	 1,079 985 50
3.	Posters about local health behaviours	Community Group contacts The Community	via public display e.g. in local shops, library and community centre	" and community contacts	50 All residents and users of Staveley
4.	Media reports	The Community	on local radio and in local newspapers	health promotion staff/ media staff	Radio listeners Circulation of newspapers
5.	Summary of individual GP Practices	Participating local GPs	individual summary booklets/in person	health promotion staff	2 GP Practices
6.	Summary of individual school year groups	Participating schools PSE tutors	individual summary booklets/in person	"	3 PSE tutors
7.	Summary of individual community group	Participating community groups	individual summary sheets in person	"	20 community groups

3.11 Results from the CHPS: costs of the CHPS

The total cost of the survey is difficult to assess for to do so would include a detailed analysis of "the effort and labour put in by the people involved" (Feuerstein, 1986). As over 55 individuals, doctors, teachers and community group leaders co-operated voluntarily in the survey method it was decided that, although their contribution was fully recognised as vital to the success of the survey, any attempt to place a financial figure on voluntary contributions would be an academic exercise contributing little to an appreciation of the major survey costs to those concerned with mounting health surveys.

It was therefore decided to identify specific costs per response to the GP Practice 20% Survey in terms of:-

paid professional and clerical staff time

postage and printing

travel

feedback

data entry

and these are shown in Appendix 3.17.

It was assumed that data analyses would be carried out by the professional staff and so this has not been costed separately. Some costs have also been omitted from the calculations, for example, photocopying and telephone charges. It is therefore stressed that the costs shown in detail in Appendix 3.17 and summarised below are only part of the overall costs of carrying out such a survey and have been included to illustrate some of the direct major financial implications of postage, printing questionnaires and offering individuals follow-up.

Summary of main costs

	Cost
Professional Staffing	£6250
Support staff	£2770.78
Postage of adult questionnaires	£987.25
Printing of questionnaires	£1296.36
Feedback: local health	£107.17
healthy living posters	£2794.22
travel	£369.60
	£200.25
Totals	£14771.63

The summary shows that the total costs were around £14,800. Therefore, per respondent the cost was around £5.70 (ie. £14,800 / 2470) although it seems likely that the cost per respondent to the GP Practice 20% sample was the greatest. For example, and as shown in Appendix 3.17, the administrative support, postage and feedback costs were individually all higher per GP Practice 20% Survey study respondent than for each Opportunity Survey respondent, and collectively there was £2.79 difference: £3.94 compared to £1.15. The cheapest aspect of the survey was the School Pupil Sample. For example, again as shown in Appendix 3.17, per response from school pupils the cost, in terms of printing, was £0.12 each compared to an average £0.39 for each study respondent to the GP Practice Survey. The printing costs per response to the GP Practice Survey rose from £0.39 to £0.47 and then £3.45 at initial, first and second reminders respectively,

although, on average, each response cost less than a response to the Opportunity Survey, £0.72.

Comparisons of the cost of the GP Practice, Opportunity and School Pupil Surveys must be made with caution, bearing in mind the different design and purpose of each survey. For example, the Opportunity Survey, although the cheapest of the adult surveys, was not representative of the population; school pupils were readily contactable through class teachers; the representative survey did not generate community group participation.

3.12 Results from the CHPS: data

It has been stressed throughout the thesis that the main objective of the research was to evaluate the survey method as a process. Consequently emphasis so far has been placed on methods of collection and use of data, rather than the data. However, it is important to illustrate how data may be analysed over and above presenting the basic frequencies which may be used as baseline measures, derived from both the GP Practice 20% survey data and the School Pupil Survey data shown in Appendix 3.18. Statistical analyses of some of the GP Practice data related to health-related behaviour are therefore shown by age, age and sex and social class in Appendix 3.19 to illustrate how statistical procedures may be used to identify patterns of behaviour relevant to health promotion. Analyses by chi-square and Mantel-Haenzel were both carried out. More complex multivariate analyses were not carried out as numbers in cells were often too small for meaningful results.

Briefly, the chi-square analyses presented in Appendix 3.19 illustrate the complex interplay of factors that are associated with specific health-related behaviour using only age, sex and social class to stratify data. For example, eating fresh fruit on most or every day appears to be associated in some degree of strength to those in Social Classes I and II, females and older people. Generally, however, it seems reasonable to conclude from the data that social class and age have stronger associations with health-related behaviour as, regardless of sex, they recur most often on tables. For example, lower intake of sugar, less use of salt in cooking, greater consumption of fresh fruit, skimmed or semi-skimmed milk, and high fibre bread, less exposure to passive smoking, being an ex-smoker or non-smoker and taking higher levels of exercise are all associated with Social Classes I, II and III. Social Classes IV and V appear to have higher intake of eggs, more exposure to passive smoking at home or elsewhere, to be more likely to smoke and take less exercise. Age differences suggest that older people use more salt in cooking, eat fruit less

frequently but are more likely to drink skimmed or semi-skimmed milk and eat high fibre bread, support banning public smoking; are the most likely to be ex-smokers, take less exercise and are less likely to have smear tests done than younger people. Younger people appear to be more likely than older people to live with a smoker, be exposed to others' passive smoking, smoke themselves, and drink heavily. The general patterns observed using chi-square do not indicate which of the associations is the strongest. For example, the consumption of high fibre bread may be more strongly associated with sex than with age or social class. Thus, the initial analysis enabled characteristics of people most likely to adopt a particular health behaviour to be identified. However, further analysis was necessary to explore which, if any, variable had a stronger association with a behaviour. Mantel-Haenszel analyses were therefore carried out on all variables by age and sex, age and social class and social class and sex. Analyses showed that, without exception, the associations between respondents' characteristics and a health-related behaviour remained strong and were not eliminated or greatly reduced when controlled for other characteristics.

Chapter 4

EVALUATIONS OF THE COMMUNITY HEALTH PROMOTION SURVEY

4.1 Introduction : objectives of the evaluations

The method used in the CHPS and results in terms of response, quantity of feedback, costs, and measurements of behaviour and beliefs have been detailed in Chapter 3. However, it was crucial to the thesis to examine the impact of the CHPS on professionals and lay people, as well as the method's ability to monitor changes in health-related behaviour. Consequently, three evaluations of the CHPS method were carried out.

First, a principal objective of the CHPS method was to raise public awareness of the CHPS. It was therefore decided to collect data from a representative sample of Staveley's population by which to measure public awareness of both the CHPS and the Peak Health Project. Secondly, an objective of carrying out the CHPS was to explore whether a postal survey using self-completion questionnaires could measure changes in health-related behaviour. It was therefore decided to carry out a follow-up survey of a 50% random sample of the 1,069 respondents to the CHPS, stratified by age and sex. Finally, the receipt and use of data by a range of recipients was documented. Information collected pertained to who had received data, whether or not information obtained had been used, and whether it had contributed towards policy/planning decisions or stimulated activity by health promotion staff, allied professionals, local GPs, teachers, community groups or lay individuals within groups.

Presentation of the evaluations

The three evaluations are presented in separate sections, each describing objectives, the method and results of the evaluation. The first evaluation, involving a study of public awareness of the CHPS, appears in 4.2. The second evaluation, following-up respondents to the CHPS to explore the method's ability to measure changes in health-related behaviour appears in 4.3. The final evaluation, examining the use of and impact of data on lay and professional people, appears in 4.4.

4.2 Evaluation of the effectiveness of the CHPS in raising public awareness about health issues, and self-reported health-related behaviour change

4.2.1 Objectives

It was decided to approach a representative sample of the public in Staveley drawn from the electoral roll to find out what proportion of the population had heard about specific aspects of the CHPS and the Peak Health Project itself. In addition, it was decided to take the opportunity to explore whether or not respondents believed they had changed aspects of their health-related behaviour, and the role of the CHPS in effecting any such self-reported changes. Details of the Electoral Roll Survey method are given in the next section, followed by the results of the Survey.

4.2.2 The method

4.2.2.1 Sample

The 5 electoral rolls from the wards in Staveley were used as a sampling frame, stratified by gender. The sample was selected by taking the 20th name from each of the ten lists after a random number start had been selected for each list. In total 12,062 individuals were registered on the relevant electoral rolls (Electoral Registration Offices, 1989). The sample was made up of 595 individuals.

4.2.2.2 Response

Of the 595 questionnaires posted to the eligible sample, a total of 51 (10%) were returned as undelivered. A further 9 (2%) were returned uncompleted or unusable. Of the remaining 535 questionnaires, 287 (54%) were returned and usable. Thus the response was 48% of the eligible sample and 54% of the study population.

4.2.2.2.1 Representativeness of response

Study respondents were compared by sex to the eligible sample, as shown in Table 4.1.

Table 4.1: Study respondents by eligible sample by sex

	Study respondents n = 287		Eligible sample n = 595	
Sex	n	%	n	%
males	139	48	292	49
females	148	52	303	51

$\chi^2 = 0.0$; 1 d.f.; NS

Table 4.1 shows that there were no important differences between the two groups in terms of sex and so the study respondents could be reasonably assumed to represent the eligible sample. It was not possible to compare the groups by other variables such as age and social class, as such data were not available from the electoral role.

4.2.2.2.2 Characteristics of study respondents and study population

Data collected on the self-completion questionnaire showed the study respondents' age and sex, which are given in Table 4.2.

Table 4.2: Study respondents by age and sex

N = 287 Characteristic	Study Respondents	
Age	n	%
16 - 24	37	13
25 - 44	106	37
45 - 64	102	36
65 and over	42	15
Totals	287	100
Sex		
male	139	48
female	148	52
Totals	287	100

The age and sex of study respondents were compared to those of Staveley's adult population as a whole. The comparisons are shown in Table 4.3.

Table 4.3: Study respondents by adult population of Staveley by age and sex

	Staveley n = 13,664		Study respondents n = 287	
Characteristic	N	%	N	%
Age:				
16 - 24	2,514	18	37	13
25 - 44	4,440	32	106	37
45 - 64	4,150	30	102	36
65 and over	2,563	19	42	15
	$\chi^2 = 11.4$; 3 d.f.; $p < 0.01$			
Sex				
male	6,673	49	139	48
female	6,994	51	148	52
	$\chi^2 = 0.0$; 1 d.f. NS			

Table 4.3 shows that there were no differences between the study respondents and the adult population of Staveley by gender but by age there was a statistically significant difference between the study population and the study respondents. The difference lies, partially, in the higher proportion of 16 - 24 year olds in Staveley than amongst study respondents. This difference may be partly explained by the fact that the electoral roll, from which the study respondents were drawn, did not include those under 18 years of age, unlike Census data which included the whole age range. Consequently the difference here is probably less than the statistical test indicates, and therefore less important than shown. However, given the differences in other age groups which are as, if not more, important, it must be concluded that study respondents were only reasonably representative of the study sample and so care must be taken in the interpretation of data.

4.2.2.3 Data collection

4.2.2.3.1 Instrument for data collection

A self-completion postal questionnaire was developed. The questionnaire asked about:

- people's awareness of local events, including the CHPS

- how people had heard about the CHPS if at all
- whether individuals had received, completed and returned questionnaires
- whether people had requested leaflets and, if so, their views about the leaflets
- what changes in health-related behaviour, if any, the CHPS method itself had prompted
- whether people had heard about the results of the CHPS and, if so, how
- what, if anything, people had done to change their health-related behaviour since the CHPS was carried out
- whether people had heard of "Peak Health" and seen its logo and, if so, where
- respondents' age, sex and social class

A copy of the questionnaire appears in Appendix 4.1.

The questionnaire was piloted on a random sample of 40 individuals from the electoral rolls not included in the eligible sample. Questionnaires were posted out, together with a freepost envelope for return. No reminders were sent. A total of 19 (48%) questionnaires were returned, 3 (16%) of which were not completed. As a result of piloting some minor changes were made to the wording and layout of the questionnaire which appears in Appendix 4.1.

4.2.2.3.2 Distribution and return of questionnaire

Questionnaires were posted to the sample, together with an explanatory letter which appears in Appendix 4.1, and a freepost envelope. Questionnaires were returned by freepost.

4.2.2.3.3 Follow-up

One follow-up was sent, enclosing a second copy of the questionnaire and a second letter which also appears in Appendix 4.1.

4.2.3. Results: effectiveness of the CHPS method

4.2.3.1 Awareness of the CHPS

Public awareness of the CHPS was assessed by measuring whether or not respondents:

- knew about the CHPS and, if so, the source of their information
- had obtained a questionnaire and, if so, where it had been obtained
- had filled in a questionnaire and returned it
- had asked for leaflets, received them, and their views about leaflets' interest
- had heard about the results of the CHPS and, if so, how.

The data relating to each of these evaluations are presented in the following sections.

4.2.3.1.1 Knowledge about the CHPS

The results showed that of the 287 respondents, 117 (41%) had heard of the CHPS. The quoted sources of information about the CHPS are shown in Table 4.4: respondents could quote more than one source. Table 4.4 shows that knowledge about the CHPS was almost twice as likely to have been obtained from a friend than by any other method. It was least likely to have been obtained from mass media coverage: newspapers (7%); the radio (2%); and television (2%).

Women were more likely to have heard about the CHPS than men, see Table 4.5.

Table 4.4: Sources of information about the CHPS by respondents

N = 117	Respondents	
Source:	N	%
A friend	43	37
By post	30	26
Leaflet	25	21
A group	20	17
Family	19	16
Poster/display	18	16
Newspaper	8	7
Radio	2	2
Television	2	2

Table 4.5: Knowledge about the CHPS by sex

N=287

Knowledge about CHPS	Sex			
	Male n = 139		Female n = 148	
	n	%	n	%
Knew about Survey	42	30	75	51
Did not know about Survey	97	70	73	49

$\chi^2 = 11.59$; 1 d.f.; $p < 0.001$

Further analyses showed that those aged 65 and over were most likely to have heard of the CHPS through a newspaper, and those aged 25 - 64 least likely to have heard about it through this source of information. However, because of the very small numbers in some categories the findings must be treated with caution.

4.2.3.1.2. Obtaining questionnaires

59 (21%) of respondents had obtained a questionnaire from a variety of sources, as shown in Table 4.6. Previous receipt of a questionnaire may have prompted individuals to respond more readily than those who did not receive a questionnaire and so data must be interpreted with care as they may contain bias towards this group. All 59 who reported receiving a questionnaire appear in Table 4.4 in one or more categories. The 30 individuals who claimed to have obtained a questionnaire by post also cited the post as a source of information and are shown in Table 4.4.

Table 4.6 shows that half of those who obtained a questionnaire did so through the direct postal method. The next most likely method of obtaining a questionnaire was from a group (27%) and the least likely methods of obtaining a questionnaire were from a friend (10%) or someone in the family (5%).

Tables 4.7 and 4.8 show respondents who had received a questionnaire by sex and those who received one by post by sex and social class. Table 4.7 and 4.8 show that women were more likely to have obtained a questionnaire than men, and that men in Social Classes IV and V were least likely to have received one by post. Women and those in Social Classes I and II were most likely to have received a questionnaire by post.

Table 4.6: Source of questionnaire by respondents who obtained a questionnaire

	Respondent N = 59	
Source of Questionnaire:	n	%
via the post	30	51
from a group/ at work	16	27
picked up in a public place	9	15
from a friend	6	10
someone in the family	3	5

Table 4.7: Respondents obtaining questionnaires by sex

N = 287

	Sex			
	Male n = 139		Female n = 148	
Obtained a questionnaire	n	%	n	%
Yes	21	15	38	26
No	118	85	110	74

$\chi^2 = 4.28$; 1 d.f.; $p < 0.05$

Table 4.8: Post as a source of questionnaire by sex and social class

		Source of questionnaire: post			
		Yes		No	
Sex		n	%	n	%
Male	n = 139	7	5	132	95
Female	n = 148	23	16	125	86

$\chi^2 = 7.37$; 1 d.f.; $p<0.01$

Social class:

I + II	n = 34	9	27	25	73
IIIN + IIIM	n = 147	15	10	132	90
IV + V	n = 77	4	5	73	95

$\chi^2 = 11.18$; 2 d.f.; $p < 0.01$

4.2.3.1.3 Completion and return of questionnaires

59 (21%) of all 287 respondents reported receiving questionnaires. Of these 59 respondents, 55 (93%) reported completing them with 54 (92%) reporting returning completed questionnaires. The high proportion of those who received questionnaires who claimed to have returned them may have been influenced by those who had already participated in one study being more likely to respond to a subsequent one. The characteristics of the individuals who returned or failed to return questionnaires were analysed: no differences were found by sex, age or social class but as some numbers in cells were very small this finding must be interpreted with care.

36 (67%) of the 54 respondents who reported returning a questionnaire reported asking for leaflets about healthy living and/or the results of the study. There were no statistically significant differences by age, sex or social class amongst those requesting leaflets. Of the 36 who reported asking for leaflets, 31 (86%) reported that they had actually received leaflets. Of the 31 respondents to the CHPS who received leaflets about healthy living or the result of the study:

- 3 (10%) thought they were not at all interesting
- 1 (3%) thought they were not very interesting

- 13 (42%) thought they were interesting
- 7 (23%) thought they were quite interesting
- 7 (23%) thought they were very interesting.

The data show that over 80% of respondents receiving leaflets thought them to be of interest. The views of respondents about leaflets were similar by respondents' age, sex and social class, although the numbers available for analysis were very small and findings must be treated with caution.

4.2.3.1.5 Knowledge about results of the CHPS

In reporting the data about those who had heard about the results of the CHPS it should be noted that, because of the time constraints, the Electoral Roll Survey had to be carried out one week after summaries of results were posted out to individual respondents to the CHPS and posters were sent out to community group contacts. Subsequently further posters were sent out, local displays mounted, and media coverage organised which would probably have increased knowledge about feedback in the community. The impact of these activities is not reflected in this report. Financial and time constraints precluded further investigation.

32 (11%) of the 287 respondents to the survey had heard something about the results of the CHPS. The data were analysed by age, sex and social class. No statistically significant differences were observed, and so it was concluded that individuals regardless of age, sex and social class were just as likely to have heard about the results of the survey. However, because of the small numbers in categories, these findings must be treated with caution. Of the 32 responses, results had been obtained from the following sources:

- 12 (38%) from posted leaflets (ie. sent as feedback to responders asking for this particular item)
- 9 (28%) from a poster
- 8 (25%) from a leaflet
- 2 (6%) from a group
- 1 (3%) from a family member
- 0 (0%) from the media.

These figures suggest that the most likely route by which results were obtained was from posted leaflets, but, as noted above, this assessment is not a reflection of the whole feedback process and so must be treated with caution. Because of the small numbers involved, further analyses exploring age, sex and social class differences into where results were obtained were not carried out.

4.2.3.2 Changes in public health-related behaviour

4.2.3.2.1 Changes directly attributed to the CHPS method

The 54 respondents to the CHPS who took part in the Electoral Roll Survey were asked to indicate whether taking part in the CHPS had, in itself, led to changes in health-related behaviour:

- 24 (44%) said they had not changed anything. Of these 2 (8%) reported that there was no need for change
- 8 (15%) had thought about change, but did not specify what changes had been considered
- 11 (20%) reported trying to change but failing to achieve the desired change. Of these, 5 respondents noted changes they had attempted to make with -
  - 3 (27%) attempting to change diet
  - 1 (9%) attempting to change exercise
  - 1 (9%) attempting to change weight.

10 (19%) reported having succeeded in changing an aspect of health-related behaviour because of having taken part in the CHPS. Of these, 9 (90%) reported what had been changed:

- 6 (60%) reported changing diet of whom -
  - 1 (10%) specifying cutting out sugar in drinks
  - 1 (10%) specifying cutting down fats in diet
  - 1 (10%) reported reducing cholesterol consumption
- 3 (30%) reported increasing exercise
- 1 (10%) reported changing weight.

One individual reported changing both diet and exercise.

Thus 29 (54%) of participants in the CHPS reported at least thinking about changing one or more health-related behaviour as a result of participating in the CHPS. Most participants reported consideration of changes to diet/weight and exercise. The sex, age and social class of these 29 respondents stimulated by the CHPS into at least thinking about change were compared to those who were not. Appendix 4.2 shows those who at least thought about change by those who did not, by sex, age and social class. Further analysis were carried out comparing those who claimed actual change by those stating that they had attempted, but not succeeded, in changing together with those who had considered change, as shown in Appendix 4.2. There were no statistically significant differences by age, sex and social class amongst respondents who reported actual change and those who had attempted/considered change.

Table 4.9 presents data showing respondents who attributed change to participation in the CHPS by requests for feedback.

Table 4.9: Respondents attributing change in health-related behaviour to the CHPS, by request for leaflet.

N = 54	No change		Change	
	n = 44		n = 10	
Request for leaflet	n	%	n	%
Yes	21	48	10	100
No	23	52	0	0

Fisher exact probability: $p < 0.01$

Table 4.9 shows that all those attributing change to the CHPS also received leaflets. They made up around 30% of all recipients of leaflets who responded to this survey. No further analyses were carried out because of small numbers but it seems probable that respondents were biased towards those who had some change to report, and so data must be interpreted with care.

4.2.3.2.2 Changes in health-related behaviour not directly attributed to the CHPS

A total of 219 (76%) of all respondents reported making changes to their health-related behaviour, including the 10 (3%) attributing change to the CHPS method. In the following analyses of behaviour change it was decided to exclude all those 29 individuals reporting that the CHPS method had stimulated consideration of attempts to change, or success in changing, health-related behaviour. Consequently the data reported below relates to the 258 respondents who reported that the survey did not influence them in any way. Of the 258 respondents not influenced by the CHPS, 209 (81%) reported attempting or achieving changes in one or more health-related behaviour and 49 (19%) reported no changes. These figures are higher than those for participants in the CHPS amongst whom 44% stated that they had not made any changes and 56% stated that they had attempted or achieved change. Table 4.10 gives details of changes reported in order of frequency mentioned.

Table 4.10: Respondents reporting changes in health-related behaviour not attributed to the CHPS, by type of change

Type of change	Respondents' reported change N = 209	
	n	%
Diet	119	57
Weight	91	44
Exercise	81	39
Alcohol	55	26
Own smoking	28	13
Others' smoking	28	13

Table 4.10 shows that the health-related behaviour most frequently mentioned as having been changed by factors other than the CHPS were diet (57%) and weight (44%) with own smoking (13%) and others' smoking (13%) least likely to be changed. The data were analysed by sex, age and social class to explore statistically significant differences between categories. Data are presented in Table 4.11 only where statistically significant differences were obtained.

Table 4.11 shows that changes in weight were most likely to have been claimed by women and those in Social Classes I and II, with men and those in Social Classes IV and V least likely to have claimed that they had changed weight. Women, rather than men, were likely to report changing their diet, but men rather than women were likely to report changing their alcohol intake. Changes in exercise were most likely to be reported by the youngest age group, 18 - 24 year olds, with fewer reported changes the older the respondent. In addition to the changes reported above 6 (2%) reported that no change was necessary and 3 (1%) reported reduced stress, one attributing this to divorce. Analyses comparing change in health-related behaviour between those attributing and non-attributing change to the CHPS were not carried out because of small numbers.

Table 4.11: Changes in health-related behaviour by behaviour changed by age, sex and social class of respondents not stimulated into at least considering change by the CHPS

N=258

Characteristic	Health-related behaviour changed			
	Weight			
	Yes		No	
Sex:	n	%	n	%
male (n = 131)	40	31	91	70
female (n = 127)	56	44	71	56

$\chi^2 = 4.51$ with 1 d.f.; $p < 0.05$

Social class:				
I and II (n = 29)	15	52	14	48
IIIN and IIIM (n = 128)	58	45	70	55
IV and V (n = 74)	18	24	56	76

$\chi^2 = 10.76$ with 2 d.f.; $p < 0.005$

	Diet			
Sex:	Yes		No	
male (n = 131)	56	43	75	57
female (n = 127)	77	61	50	39

$\chi^2 = 7.56$ with 1 d.f.; $p < 0.01$

	Exercise			
	Yes		No	
Age:	n	%	n	%
18 - 24 (n = 35)	21	60	14	40
25 - 44 (n = 92)	32	35	60	65
45 - 64 (n = 92)	29	32	63	69
65 and over (n = 39)	7	18	32	82

$\chi^2 = 15.16$ with 3 d.f.; $p < 0.0$

Table 4.11 cont.

	Alcohol			
	Yes		No	
Sex:	n	%	n	%
male (n = 131)	38	29	93	71
female (n = 127)	20	16	107	84

χ^2= 5.77 with 1 d.f.; $p < 0.05$

4.2.3.3 Awareness of the Peak Health Project

The Peak Health Project was the Health Promotion Unit under whose auspices the CHPS was carried out. It was therefore appropriate to explore public awareness of the Peak Health Project, particularly amongst those thought to be hard to reach such as the elderly and those in lower social classes, in terms of knowledge about the project and its publicity logo.

4.2.3.3.1 Knowledge about the Peak Health Project

Of the 287 respondents to the survey 75 (26%) reported having heard of Peak Health. The source of their information was reported in that:

36 (48%) had seen a poster

24 (32%) had seen a leaflet

7 (9%) had heard about it from a family member

6 (8%) had heard about it from a group

5 (7%) heard about it in a newspaper

4 (5%) heard about it on TV

3 (4%) had heard about it from a friend

1 (1%) heard about it on radio

The data were analysed by sex, age and social class. Differences are shown in Table 4.12 only where statistically significant differences were observed.

Table 4.12: Respondents reporting knowledge about Peak Health by sex, age and social class

Characteristic of respondents N = 287		Knowledge about Peak Health			
		Yes		No	
Sex:		n	%	n	%
male	(n = 139)	24	17	115	83
female	(n = 148)	51	35	97	66

$\chi^2 = 10.10$ with 1 d.f.; $p < 0.01$

Age:					
18 - 24	(n = 37)	8	22	29	78
25 - 44	(n = 106)	40	38	66	62
45 - 64	(n = 102)	25	25	77	76
65 and over	(n = 42)	2	5	40	95

$\chi^2 = 17.86$ with 3 d.f.; $p < 0.001$

Social class:					
I and II	(n = 34)	10	29	24	71
IIIN and IIIM	(n = 147)	47	32	100	68
IV and V	(n = 77)	11	14	66	86

$\chi^2 = 8.33$ with 2 d.f.; $p < 0.05$

Table 4.12 shows that women were more likely to have heard of Peak Health than men, those aged 25 - 44 were most likely to have heard about Peak Health, followed by those aged 45 - 64 and 16 - 24, with those aged 65 and over least likely to have heard of Peak Health. Knowledge about Peak Health was least likely amongst those in Social Classes IV and V. Further analysis indicated that women aged 25 - 44 years were the most likely to have heard of Peak Health and the least likely were women aged 65 and over: the numbers were very small in some cells and so this finding must be treated with caution. Table 4.13 shows data where statistically significant differences were observed when sources of information about Peak Health were analysed by age, sex and social class.

Table 4.13: Sources of information about Peak Health by age and social class

N = 287		Source of information			
		Poster			
		Yes		No	
		n	%	n	%
Age:					
18 - 24	(n = 37)	5	14	32	87
25 - 44	(n = 106)	22	21	84	79
45 - 64	(n = 102)	9	9	93	91
65 and over	(n = 42)	0	0	42	100
	χ^2 = 13.86 with 3 d.f.; p = <0.01				
		Friend			
18 - 24	(n = 37)	2	5	35	95
25 - 44	(n = 106)	0	0	106	100
45 - 64	(n = 102)	1	1	101	99
65 and over	(n = 42)	0	0	42	100
	χ^2 = 8.37 with 3 d.f.; p = <0.05				
		Leaflets			
Social Class:					
I and II	(n = 34)	4	12	30	88
IIIN and IIIM	(n = 147)	16	11	131	89
IV and V	(n = 77)	1	1	76	98
	χ^2 = 6.9 with 2 d.f.; p <0.05				

Table 4.13 shows that posters about Peak Health were most likely to have been seen by those aged 25 - 44 and least likely to have been seen by those aged 65 and over. Friends were more likely to have been the source of information for those aged 18 - 24 rather than older people, but numbers in categories were very small and so this finding must be treated with caution. Those in Social Classes IV and V were least likely to have seen leaflets about Peak Health

The 75 (26%) respondents who reported knowing of Peak Health were asked to describe the nature of the scheme. Of these 75 respondents 7 (9%), made no

effort to complete the question, whilst 68 (91%) made some attempt, even if it was simply to note that they had no idea what the scheme was about. Descriptions were then categorised as correct if respondents mentioned concepts such as helping people to help themselves to better health, and incorrect if respondents had no idea of the nature of the project, or wrong ones, such as believing it to be a private health care clinic. On this basis:

- 40 (60%) gave correct descriptions of the scheme
- 28 (40%) gave incorrect descriptions.

The data were then analysed by sex, age and social class. No statistically significant differences were observed, although it should be noted that numbers in some categories were low, and so the findings must be treated with caution.

4.2.3.3.2

Recognition of the Peak Health logo

The Peak Health logo appeared on literature distributed by North Derbyshire's Health Promotion Unit including the CHPS questionnaires, feedback material, letters and publicity posters. 71 (25%) of respondents to the Electoral Roll Survey stated that they had seen the Peak Health logo. The data were analysed by sex, age and social class and statistically significant differences are shown in Table 4.14. Table 4.14 suggests that women were more likely than men to have seen the logo. Of age groups, those aged 24 - 44 were most likely to have seen the logo and those 65 and over least likely. Those in Social Classes IV and V were least likely to have seen the logo and those in Social Classes IIIN and IIIM most likely.

Table 4.14: Recognition of Peak Health logo by respondents by sex, age and social class

Characteristic of respondent N = 287		Recognised Peak Health logo			
		Yes		No	
Sex:		n	%	n	%
male	(n = 139)	21	15	118	86
female	(n = 148)	50	34	98	66
		χ^2 = 12.44 with 1 d.f.; p = <0.001			
Age:					
18 - 24	(n = 37)	9	24	28	76
25 - 44	(n = 106)	38	36	68	64
45 - 64	(n = 102)	20	20	82	80
65 and over	(n = 42)	4	10	38	91
		χ^2 = 13.7 with 3 d.f.; p = <0.001			
Social class:					
I and II	(n = 32)	8	24	26	77
IIIN and IIIM	(n = 147)	45	31	102	69
IV and V	(n = 77)	11	14	66	86
		χ^2 = 7.26 with 2 d.f.; p = <0.05			

Respondents were then asked where they had seen the logo, as shown in Table 4.15.

Table 4.15: Respondents by where Peak Health logo had been seen

N = 71	Respondents	
	n	%
Poster/display	41	58
Leaflet	32	45
Questionnaire	20	28
Newspaper	2	3
TV	1	1

Table 4.15 shows that the most likely place a logo was seen was on a poster or display (58%), followed by leaflets (45%). The mass media promotion of the logo had been seen by the smallest number of people (4%). Details of where the logo had been seen were then analysed by age, sex and social class and where statistically significant differences were observed the data are given in Table 4.16.

Table 4.16: Source of logo by sex and social class of respondents

Characteristic of respondents		Where logo seen			
		Questionnaire			
		Yes		No	
		n	%	n	%
Sex:					
male	(n = 139)	4	3	135	97
female	(n = 148)	16	11	132	89
		$\chi^2 = 5.79$ with 1 d.f.; $p < 0.05$			
		Poster/display			
Age:					
18 - 24	(n = 37)	3	8	34	92
25 - 44	(n = 106)	26	25	80	76
45 - 64	(n = 102)	10	10	92	90
65 and over	(n = 42)	2	5	40	95
		$\chi^2 = 15.02$ with 3 d.f.; $p < 0.00$			

Table 4.16 cont.

		Questionnaire			
Age:					
18 - 24	(n = 37)	2	5	35	95
25 - 44	(n = 106)	13	12	93	88
45 - 64	(n = 102)	5	5	97	95
65 and over	(n = 42)	0	0	42	100

χ^2= 8.54 with 3 d.f.; p <0.05

	Leaflets			
Social class:				
I and II	4	12	30	88
IIIN and IIIM	22	15	125	85
IV and V	2	3	75	97

χ^2 = 8.02; with 2 d.f.; p < 0.05

Care must be taken in the interpretation of data in Table 4.16 because of the small numbers in some categories. However, Table 4.16 shows that females were more likely to have seen the logo than males. Those aged 25 - 44 were most likely to have seen the logo on posters or displays and on questionnaires. Social Classes IIIN and IIIM were most likely to have seen the logo on leaflets. Otherwise there were no major differences by age, sex and social class in where the logo had been seen.

Finally, a comparison between sources of information about the CHPS and the Peak Health Project was carried out, as shown in Appendix 4.3. Data in Appendix 4.3 show that there was a statistically significant difference in those who had heard about Peak Health and the CHPS, 26% compared to 41%. There were also statistically significant differences in the numbers of those having heard about each activity from different sources, with posters being more important in spreading information about Peak Health and friends in spreading information about the CHPS. Generally impersonal, formal sources of information were more important in disseminating information about Peak Health and personal, informal sources in disseminating information about the CHPS.

4.3 Repeatability of the CHPS and its effectiveness in measuring changes in health-related behaviour: Follow-up of respondents to the CHPS

4.3.1 Objectives

The Follow-up Survey was carried out to:

- measure changes in self-reported health-related behaviour amongst respondents to the CHPS
- identify what health-related behaviour had been changed
- compare two methods of collecting data about changes in health-related behaviour: change reported by respondents' recall and that measured by reliable questions at two points in time.

It was decided to carry out a Follow-up Survey amongst a 50% random sample of the 1,069 respondents to the CHPS, who could be stratified by both age and sex. The Follow-up Survey took place approximately one year after data collection in the CHPS. Subsequently a Telephone Survey of a sub-sample of respondents took place.

4.3.2 Method

To examine whether self-reported health-related behaviour could be measured at intervals and differences identified, it was decided to ask exactly the same key questions about health-related behaviour in the Follow-up Survey as had been asked in the CHPS. Direct comparisons between the two sets of matched data could be made and so changes in health-related behaviour could be measured. Six questions about current diet, two on exercise, four on smoking and one on attitude towards smoking, two on alcohol consumption and one on beliefs about factors that make health worse were included in the Follow-up Survey.

To give some measure of the reliability of measurements of changes in behaviour and compare methods of collecting data about change it was decided to ask respondents whether they thought their health-related behaviour had changed, and if so how. These data on self-reported change could then be compared to change measured by comparing data about actual behaviour collected in the CHPS and the Follow-up Survey. Thus the congruity between the two sets of information could be examined. Respondents were

asked to report on changes in health-related behaviour twice in the Follow-up Survey, but in different ways, to check the internal consistency of self-reported change measured by the questionnaire. Finally, respondents were invited to take part in a Telephone Interview Survey to give information verbally about what changes, if any, they had made to key health-related behaviour. These data could be used as a further check on the reliability of data on reported change obtained in the Follow-up Survey.

The postal Follow-up Survey took place a year after the CHPS, and the Telephone Survey was carried out some fifteen months after the CHPS.

4.3.2.1 The Follow-up Postal Survey

4.3.2.1.1 The sample

A 50% random sample of 533 individuals was drawn from the 1,069 respondents to the CHPS, stratified by age and sex. Table 4.17 shows the characteristics of the sample by age and sex.

The Follow-up Survey eligible sample was then compared to respondents to the CHPS by age and sex, using the chi-square test to assess comparability, as shown in Appendix 4.4. The analyses showed that there were no important differences by age, sex or social class between the CHPS respondents and the Follow-up Survey respondents.

Table 4.17: Characteristics of the Follow-up survey eligible sample

N = 533	Sex			
Knowledge about CHPS	Male		Female	
Age:	n	%	n	%
16 - 24	43	8	44	8
25 - 44	81	15	122	23
45 - 64	67	13	94	18
65 and over	31	6	51	10
Totals	222	42	311	58

4.3.2.1.2 Instrument for data collection

A self-completion questionnaire was developed incorporating key questions used in the CHPS about current diet, exercise, smoking, alcohol consumption, attitude towards public smoking and beliefs about what makes health worse. Two sets of questions were asked about what health behaviour, if any, respondents believed they had changed in the last year or so, and why those changes had been made. A copy of the Follow-up Survey questionnaire appears as Appendix 4.5. In addition, respondents were asked to return details of their telephone numbers if they were willing to take part in a subsequent telephone interview. The form used also appears in Appendix 4.5.

4.3.2.1.3 Distribution and return of questionnaires

Questionnaires were posted to the eligible sample together with a freepost envelope for return. A second questionnaire, freepost envelope and reminder letter were sent to non-respondents three weeks after the original posting and a final similar reminder was sent to non-respondents six weeks after the original mailing. Letters appear in Appendix 4.5. Questionnaires were returned by freepost.

4.3.2.1.4 Piloting the questionnaire

The questionnaire was piloted on a random sample, stratified by age and sex, of 60 of the 536 respondents to the CHPS not included in the Follow-up Survey sample. Questionnaires were posted to those involved in the piloting phase, together with a freepost envelope for returning the questionnaire. No reminders were sent. Questions about current health-related behaviour had been checked for reliability prior to the CHPS. Emphasis in piloting was therefore placed on assessing questions relating to change in health-related behaviour. As a result of piloting some minor changes were made to the layout of the questionnaire, and the wording of newly introduced questions. A copy of the questionnaire appears in Appendix 4.5.

During piloting some assessment of the influence of the sponsor of the questionnaire was made in that a randomly selected 30 (50%) of the questionnaires were sent from the University of Nottingham's Department of Community Medicine and Epidemiology, (now Department of Public Health Medicine and Epidemiology) and 30 (50%) from "Peak Health" the local Health Authority's Health Promotion Unit, under whose auspices the CHPS had been carried out. 17 (57%) questionnaires were returned completed to "Peak Health", and 13 (43%) to the University ($\chi^2 = 0.1$ with 1 d.f., NS). It was subsequently decided to send out questionnaires from the Health Authority as a clear follow-up to the CHPS, rather than a separate survey from the University of Nottingham. This decision may have caused some bias in response in that respondents may have recalled and repeated previous responses or remembered reporting intentions to change in the CHPS and have been reluctant to report a failure of intention in a follow-up to the same sponsoring agent. However, given the similarity of the questions, the possibility of a higher response rate and the time lapse of over a year between the two surveys, it was decided to use the Health Authority sponsorship, thus acknowledging the link between the two surveys.

4.3.2.2 Response to the postal Follow-up Survey

Of the 533 questionnaires posted to the eligible sample 339 (64%) were returned. Of the 339 returned:

40 (8%)	were returned by the Post Office as unknown at that address, moved, or died
26 (5%)	were returned by recipients uncompleted.

Of the 26 returned uncompleted:

19 (73%)	were returned without comment
7 (27%)	were returned with notes to the effect that recipients no longer wished to participate in the study.

A total of 467 of the original eligible sample therefore made up the study sample of whom 273 (58%) returned usable, adequately completed questionnaires. Because of the need to ensure that the original data collected in the CHPS and data collected in the Follow-up Survey were from the same individuals, data relating not only to reference number but also to age and sex were matched. Where data had not been supplied on either or both questionnaires, or where a mis-match occurred, both sets of data were removed from the analysis. Of the 273 completed questionnaires a total of 18 (7%) cases did not meet the specified criteria, and were removed from the analysis. Thus a total of 255 study respondents were used in the analysis being 48% of the eligible sample and 55% of the study sample.

4.3.2.3 Characteristics of study respondents

All 255 respondents reported their sex, with 117 (46%) being male and 138 (54%) being female. All respondents reported their age and Table 4.18 gives details of the study respondents by age and sex. To explore how representative of the eligible sample the study respondents were, the age, sex, age and sex and social class of the eligible sample and study respondents were compared. The results of the analyses are shown in Appendix 4.6 and show that there were no differences between the eligible sample and study respondents by those variables.

Table 4.18: Characteristics of the Follow-up Survey study respondents by age and sex

Characteristic	Study Respondents	
Male: Age	n	%
16 - 24	16	6
25 - 44	41	16
45 - 64	42	16
65 and over	18	7
Subtotals	117	46
Female: Age		
16 - 24	17	7
25 - 44	57	22
45 - 64	46	18
65 and over	18	7
Subtotals	138	54
Totals	225	100

4.3.2.4 Reliability of questions about self-reported changes in health-related behaviour: Internal consistency of the Postal Follow-up Survey questions relating to behaviour change

To explore the consistency of self-reported changes, respondents were asked twice in the Postal Follow-up Survey about whether changes to diet, exercise, alcohol consumption and smoking had been made. The first question asked about whether changes had been made and why, and the second question asked for details of what people had tried and succeeded in changing. It was then possible to compare these responses, as shown in Table 4.19 together with the results of the kappa test used to assess congruity. Briefly, categories suggested by Landis and Koch (1977) were used to show agreement as: almost perfect (0.81 - 1.00); substantial (0.61 - 0.80); moderate (0.41 - 0.60); fair (0.21 - 0.40); slight (0.00 - 0.20) and poor (<0.00). For details of statistical test, see 3.2.8.4.

Table 4.19: Change in health-related behaviour self-reported on Follow-up questionnaire:
Question 1 (question about why changes made)
by Question 2 (question about what changes made)

N = 255	Responses to Question 1			
	Change		No Change	
	n	%	n	%
Responses to Question 2				
Diet n = 253				
Change	115	45	12	5
No change	26	10	100	40
	Kappa = 0.699 : substantial agreement			
Exercise n = 238				
Change	24	10	11	5
No Change	10	4	193	81
	Kappa = 0.644 : substantial agreement			
Alcohol consumption n = 129				
Change	14	11	10	8
No Change	3	2	102	79
	Kappa = 0.625 : substantial agreement			
Own Smoking n = 252				
Change	2	1	0	0
No Change	0	0	250	99
	Kappa = 1.00 : perfect agreement			
Exposure to Passive Smoking n = 221				
Change	14	6	18	8
No Change	2	1	187	85
	Kappa = 0.539 : moderate agreement			

Table 4.19 shows that substantial congruity on three items was obtained, with total agreement reached on smoking changes in terms of having stopped smoking. Moderate agreement was obtained on the item relating to passive smoking. The results suggest acceptable levels of internal consistency on the Postal Follow-up Survey questionnaire, and so suggest reliability of response to questions about self-reported change.

4.3.3 Telephone Interview Survey

4.3.3.1 The sample

68 individuals volunteered to take part in the telephone interview survey when they returned their Follow-up Survey questionnaires. Of these 2 (3%) were excluded from the Telephone Interview Survey as matched sets of data had not been obtained, see 4.3.2.2. The 66 telephone interviewee volunteers were therefore 12% of the Follow-up Survey eligible sample of 533, and 26% of the 255 study respondents.

4.3.3.2 Data collection

4.3.3.2.1 Instrument for data collection

A semi-structured interview schedule was based on the Follow-up Survey questionnaire, adapted for verbal use on the telephone, but incorporating the same questions about change. A copy of the interview schedule appears as Appendix 4.7.

4.3.3.2.2 Method of data collection

Data were collected by telephone interviews. In all cases seven or more attempts to contact interviewees were made at various times of the day between 9 am and 9 pm.

4.3.3.3 Response to Telephone Survey

A total of 60 interviews were carried out, being 91% of those possible. The reasons for failure to interview 6 volunteers were:

2 (33%)	were too deaf for telephone conversations to be carried out
1 (17%)	spoke very poor English and could not be understood
1 (17%)	had left his parents' home with no forwarding telephone number
2 (33%)	could not be contacted after 7 or more attempts.

Characteristics of the 60 Telephone Interview Survey study respondents are shown in Appendix 4.8 compared to the Follow-up study respondents and the eligible Follow-up Survey Sample. The analyses in Appendix 4.8 show that the telephone interviewees were representative of both the Follow-up Survey study respondents and the eligible sample used in the Follow-up Survey by age and sex. Telephone interviewees were not, however, representative by social class of either the eligible Follow-up sample or Follow-up study

respondents. In both cases the main difference lay in the statistically significant higher number of telephone interviewees in Social Classes I and II, although the proportions of those in Social Classes IV and V were similar in both analyses, with only a 4% difference in each instance.

4.3.4 Results from the Postal Follow-up Survey

4.3.4.2 Comparison of self-reported health-related behaviour, attitudes and beliefs: Follow-up Survey by CHPS

To assess what, if any, changes in self-reported health-related behaviour had occurred, data from the CHPS were compared to those collected in the Follow-up Survey. Two sets of analyses were carried out. First, the kappa test was used to examine the levels of agreement between the two matched sets of data, using categories described by Landis and Koch (1977). Secondly, the McNemar test was used to examine differences between responses. Both tests are described in 3.9.2.

4.3.4.2.1 Kappa test

The results of tests carried out on data from the CHPS and Follow-up studies are shown in Table 4.20. Data are given in Appendix 4.9.

Table 4.20: Results of the kappa test assessing congruity between CHPS and Follow-up Survey data

Health-related behaviour and belief	kappa	level of agreement
Frequency of consumption of:		
sugar in drinks	0.69	substantial
salt in cooking	0.35	fair
fresh fruit	0.39	fair
eggs	0.34	fair
milk: skimmed semi-skimmed	0.54	moderate
high fibre bread	0.42	moderate
lives with smoker	0.73	substantial
spends time daily with smoker	0.45	moderate
used non-smoking areas	0.49	moderate
wants smoking in public banned	0.55	moderate
no exercise	0.45	moderate
no. times weekly exercise	0.28	fair
smokes	0.81	almost perfect
units drunk: previous week	0.52	moderate
never drinks	0.47	moderate
Makes health worse:		
housing	0.39	fair
neighbourhood	0.36	fair
pollution	0.43	moderate
weight	0.40	fair
exercise	0.40	fair
foods	0.37	fair
alcohol	0.41	moderate
own smoking	0.62	substantial
others smoking	0.41	moderate
money	0.32	fair
stress	0.44	moderate
work/unemployment	0.37	fair

Table 4.20 shows levels of agreement beyond chance between the two sets of responses. In one instance agreement was almost perfect (0.81 - 1.00) and in three it reached a substantial level (0.61 - 0.80). In no instance was agreement slight or poor (< 0.21), the lowest levels of congruity, and in 11 (41%) instances agreement was fair (0.21 - 0.40). Findings therefore indicate that there was congruity of response beyond chance on all variables.

4.3.4.2.2 McNemar tests

Data used in the kappa tests described above and shown in Appendix 4.9 were analysed using McNemar's test to examine differences between the sets of responses from the CHPS and the Follow-up study. Table 4.21 shows the results of the tests and indicates that in 3 (11%) instances responses showed statistically significant differences between the CHPS and Follow-up Survey data: the frequency of consumption of eggs and skimmed or semi-skimmed milk and use of non-smoking areas had changed. Table 4.21 also gives the odds ratio for the two sets of responses showing the movement in which change had taken place. Where OR >1 then freqency of consumption has increased or more people in the Follow-up survey reported the given characteristic. For example, Table 4.21 shows: movement towards more frequent consumption of skimmed or semi-skimmed milk (OR = 2.88) but less frequent consumption of eggs (OR = 0.50) and movement towards the use of no-smoking areas (OR = 1.95).

Test results were based on the evidence that in the Follow-up study compared to the CHPS study:

- 58 people reported eating eggs less frequently and 29 ate them more frequently
- 16 people reported drinking skimmed milk less frequently and 46 drank it more frequently
- 43 more people stated that they used no-smoking areas when they could but 22 moved from using such areas when they could to not using them when they could.

Thus the Follow-up Survey showed that there was an overall move towards three health promotion objectives: less frequent eating of eggs; more frequent consumption of skimmed or semi-skimmed milk and greater use of no-smoking areas. The questions asked in the survey therefore appear, at least on these categories, to have the potential to measure change over time when matched data are used. Because multiple comparisons were used in the 28 statistical tests carried out, which assumed statistical significance was reached when p=< 0.05, care must be taken in the interpretation of results as they may be chance findings.

Table 4.21: Results of the McNemar tests assessing the differences in responses: CHPS and Follow-up Survey

Health-related behaviour and belief	McNemar	Odds ratio <1	Odds ratio >1	p value
Frequency of consumption of:				
			more frequent consumption	
Sugar in drinks	0.22		1.22	NS
Salt in cooking	0.09	0.92		NS
Fresh fruit	0.40		1.71	NS
Eggs	9.01	0.50		<0.01
Milk: skimmed semi-skimmed	13.56		2.88	<0.001
High fibre bread	3.64		1.54	NS
			more frequent reports	
Lives with smoker	1.75	0.56		NS
Spends time daily with smoker	0.13		1.13	NS
Used non-smoking areas	6.15		1.95	<0.01
Wants smoking in public banned	2.91		1.64	NS
			less frequent reports	
No exercise	0.79		1.30	NS
			more sessions taken	
No. times weekly exercise	1.21		1.41	NS
			more frequent reports	
Smokes	2.56	0.47		NS
			more units drunk	
Units drunk in previous week	2.89	0.47		NS
			more frequent reports	
Never drinks	0.63	0.74		NS
Makes health worse:				
housing	0.19	0.75		NS
neighbourhood	0.32	0.75		NS
pollution	0.37		1.19	NS
weight	1.54		1.41	NS
exercise	0.00	0.97		NS
foods	0.00		1.03	NS
alcohol	2.33	0.59		NS
own smoking	1.53	0.60		NS
others smoking	0.00		1.03	NS
money	2.02	0.67		NS
stress	0.06	0.91		NS
work/unemployment	0.00	1.04		NS

4.3.4.3 Self-reported changes in health-related behaviour

The Follow-Up Survey questionnaire asked respondents to indicate changes they believed they had made in the last year - since the CHPS - to their diet,

exercise, smoking, exposure to passive smoking and alcohol consumption. Table 4.22 shows the responses to these questions.

Table 4.22: Study respondents by self-reported changes in health-related behaviour
N = 255

Behaviour		Change reported					
		More		Less		No change	
		n	%	n	%	n	%
Diet							
Sugar in drinks	n = 250	6	2	34	14	210	84
Salt in cooking	n = 252	5	2	29	12	218	87
Fresh fruit	n = 250	52	21	10	4	188	75
Eggs	n = 252	6	2	66	26	180	71
Skimmed or semi-skimmed milk	n = 246	42	17	6	2	198	80
High fibre bread	n = 252	48	19	7	3	197	78
Alcohol drunk	n = 212	13	6	49	23	150	71
Exercise	n = 239	34	14	51	21	154	64
Passive smoking	n = 220	14	6	60	27	148	67
Smoking	n = 220	51	23	5	2	164	75

A total of 141 (55%) respondents indicated that they had altered one or more item(s) in the last year. Table 4.22 shows that the most frequently mentioned changed item was eggs, with 66 (26%) reporting consumption less often and 6 (2%) reporting more frequent consumption. The next most changed item was fresh fruit with 52 (21%) reporting consuming this more often and 10 (4%) consuming fresh fruit less often. The items least likely to have changed were salt in cooking, 218 (87%), and sugar in drinks, 210 (84%).

The overall patterns of consumption indicated a perceived move within the population studied towards an adoption of healthier dietary patterns. For example, whilst 7 (3%) respondents reported eating high-fibre bread less frequently, 48 (19%) respondents reported eating it more often, thus resulting in a net gain of 16% in the proportion of people who reported eating high fibre bread more often. Calculated in a similar way the figures show that there was a reported net gain of 28 (11%) and 24 (10%)

respondents who had reduced sugar in drinks and salt in cooking respectively, with a gain of 42 (17%), 60 (24%), 36 (15%) and 41 (16%) amongst those who reported that they had increased intake of fresh fruit, eggs, skimmed or semi-skimmed milk, and high fibre bread.

The data relating to self-reported change in health-related behaviour were further analysed by sex, age and social class, where numbers in each category were adequate for such analysis to take place. No differences in patterns of change by sex and social class were identified although it is worth noting that all five respondents who had reported giving up smoking were under 65 years of age: 3 (60%) were male and 2 (40%) were female and all were in social classes IIIN or IIIM. Table 4.23 gives details of statistically significant changes in health-related behaviour by age group.

Table 4.23: Changes in health-related behaviour by age

	Age			
N = 255	16 - 44 n = 129		45 and over n = 117	
Behaviour				
Skimmed or semi-skimmed milk n = 246	n	%	n	%
drinks: more	27	21	5	13
less	6	5	0	0
same	96	74	102	87
subtotals	129	100	117	100

χ^2= 13.5 with 6 d.f.; p <0.05

Exercise n = 239	n = 129		n = 110	
exercises : more	22	17	12	11
less	36	28	15	14
same	71	55	83	75
subtotals	129	100	110	100

χ^2 = 12.7 with 6 d.f.; p < 0.05

Passive smoking n = 222	n = 123		n = 99	
exposed to: more	13	11	1	1
less	29	24	31	31
same	81	66	67	68
subtotals	123	100	99	100

χ^2 = 14.9 with 6 d.f.; p < 0.05

Table 4.23 shows that there were age differences in self-reported changes in the consumption of skimmed or semi-skimmed milk, exercise and exposure to passive smoking. Frequency of consumption of skimmed or semi-skimmed milk was less likely to have been reported as having changed amongst older rather than younger respondents with 102 (87%) and 96 (74%) respectively reporting no change, with the trend being towards more frequent consumption of skimmed-milk by both age groups rather than less frequent consumption.

Younger people, those aged 16 - 44, appear to have a less consistent pattern of exercise in that 71 (55%) had not changed their usual exercise pattern in the last year, compared to 83 (75%) older people, those aged 45 and over. More younger people thought that they had reduced exercise than thought they had increased exercise, 36 (28%) compared to 22 (17%) with a smaller, but similar, trend observed amongst older people, 29 (14%) compared to 12 (11%).

The change in frequency of exposure to passive smoking showed that younger people, 13 (11%), reported more frequent exposure than older people, 1 (1%). In both age groups there was an increase in those reporting a belief in less frequent exposure to passive smoking, 29 (24%) amongst younger respondents and 31 (31%) amongst older people so that, overall, 16 (13%) of younger people said they were less frequently exposed to passive smoking and, of older people, 30 (30%) said they were less exposed to passive smoking.

4.3.5 Results of Telephone Interview Survey

4.3.5.1 Self-reported changes in health-related behaviour

The objective of carrying out telephone interviews was to collect data by which to further assess the reliability of responses relating to self-reported changes in health-related behaviour collected on the Follow-Up Survey self-administered questionnaire. Interviewees were therefore asked to assess changes in diet, exercise, alcohol and smoking in the last year or so in terms of frequency of specific actions. Respondents' verbally reported changes are shown in Table 4.24.

Table 4.24: Self-reported changes in health-related behaviour by telephone interviewees

Health-related behaviour		Self-reported changes					
		More		Less		Same	
Diet		n	%	n	%	n	%
Sugar in drinks	n = 60	0	0	8	13	52	87
salt in cooking	n = 60	0	0	15	25	45	75
fresh fruit	n = 60	19	32	7	12	34	57
eggs	n = 60	1	2	22	37	37	61
skimmed/semi-skimmed milk	n = 60	11	18	2	3	47	78
high fibre bread	n = 60	18	30	2	3	40	67
Exercise	n = 60	11	18	16	27	33	55
Smokes	n = 18	0	0	2	11	16	89
Passive smoking	n = 60	0	0	27	45	33	55
Alcohol consumption	n = 60	1	2	18	30	41	68

Table 4.24 shows that self-reported change by telephone was reported on all factors, with least change reported in smoking status (11%), frequency of adding sugar to foods (13%) and consumption of skimmed or semi-skimmed milk (22%). Most change was reported in exposure to passive smoking (45%), exercise levels (45%) and frequency of consumption of fresh fruit (47%).

4.3.5.2 Comparison of changes in health-related behaviour: Telephone Survey by Follow-up Postal Survey

To assess whether the responses to the telephone enquiries about change were in

accord with written self-reported change, the sets of data for each of the 60 individuals were compared, as shown in Table 4.25. Again, the kappa test was used and the result categorised into levels of agreement as suggested by Landis and Koch (1977): almost perfect (0.81 - 1.00); substantial (0.61 - 0.80); moderate (0.41 - 0.60); fair (0.21 - 0.40); slight (0.00 - 0.20) and poor (<0.00).

Table 4.25: Changes in health-related behaviour by telephone interviewees by Follow-up Survey respondents

Health-related behaviour	More		Less		Same	
	n	%	n	%	n	%
Eats sugar in drinks n = 60						
telephone	0	0	8	13	52	87
follow-up	0	0	9	15	51	85
	Kappa = 0.932 : almost perfect agreement					
Salt in cooking n = 60						
telephone	0	0	15	25	45	75
follow-up	0	0	12	20	48	80
	Kappa = 0.571 : moderate agreement					
fresh fruit n = 59						
telephone	19	32	17	28	33	55
follow-up	15	25	4	7	40	67
	Kappa = 0.617 : substantial agreement					
eggs n = 60						
telephone	1	1	22	37	37	62
follow-up	0	0	14	23	46	77
	Kappa = 0.509 : moderate agreement					
skimmed/semi-skimmed milk n = 58						
telephone	11	19	2	3	45	76
follow-up	9	16	2	3	47	81
	Kappa = 0.798 : substantial agreement					
high fibre bread n = 60						
telephone	18	30	2	3	40	67
follow-up	16	27	2	3	42	70
	Kappa = 0.705 : substantial agreement					
Exercise n = 59						
telephone	11	19	16	27	32	54
follow-up	8	14	17	29	34	58
	Kappa = 0.855 : almost perfect agreement					
Smoking n = 60						
telephone	0	0	2	3	58	97
follow-up	0	0	2	3	58	97
	Kappa = 1.0 : perfect agreement					
Passive Smoking n = 53						
telephone	0	0	23	43	30	57
follow-up	0	0	22	42	31	58
	Kappa = 0.807 : substantial agreement					
Alcohol consumption n = 55						
telephone	1	1	18	33	36	65
follow-up	2	4	19	35	34	62
	Kappa = 0.774 : substantial agreement					

Table 4.25 shows that there was almost perfect agreement on three items, substantial agreement on 4 items and the remaining 3 items achieved moderate agreement. These findings provide further evidence to that presented in 4.3.2.4 that the responses to the Follow-up Survey relating to self-reported change were reliable in that, overall, the same answers to the same questions asked in a different way were obtained.

4.3.5.3 Self-reported changes compared to changes measured at two points in time

Table 4.26 compares self-reported health-related behaviour changes and changes in health-related behaviour measured at two points in time. Table 4.26 shows that there was only fair (0.21 - 0.40) or slight (0.0 - 20) congruity (Landis and Koch, 1977) between self-reported health-related behaviour change and changes measured by comparing data about current health-related behaviour collected at two points in time. The % agreement is shown at the top of each item on the Table. Both methods of data collection used reliable questions. At best, congruity of responses was around 20% above that expected by chance, reducing to 1%. The most likely explanation of the observed lack of congruity is that of recall bias.

Recollection over a period of time is known to be faulty, especially when linked to a specific time period. For example, it seems reasonable to assume that it is easier to recall having given up sugar in drinks at some time, rather than when it was given up. A second possible explanation is that those who consumed less of a specific food, but ate it as frequently, interpreted the question as being about quantity of consumption, rather than frequency and so reported eating it less, rather than less often.

Finally, because categories were very general, true changes may have occurred which the health-related behaviour questions were not sensitive enough to identify. For example, an individual reducing intake of alcohol from 20 to 15 units per week would still be categorised as not having changed because one category of alcohol consumption included all those reporting consumption of 15 - 21 units.

Table 4.26: Self-reported changes in health-related behaviour by changes measured between two sets of data taken at two points in time.

Health-related behaviour change: measured on two sets of data taken at two points in time	Self-reported change					
	More frequently		Same		Less frequently	
	n	%	n	%	n	%
Eats sugar in drinks n = 229						
% agreement : 176/229 = 77%						
more frequently	1	0	13	6	4	2
same	4	2	166	72	20	9
less frequently	0	0	12	5	9	4
	Kappa = 0.21 : fair agreement					
Salt in cooking n = 231						
% agreement : 158/231 = 69%						
more frequently	1	0	41	18	5	2
same	5	2	117	51	14	6
less frequently	17	13	42	18	41	18
	Kappa = 0.247 : fair agreement					
fresh fruit n = 242						
% agreement : 141/242 = 58%						
more frequently	14	6	31	13	1	0
same	1	0	121	50	3	1
less frequently	31	13	28	12	6	3
	Kappa = 0.123 : slight agreement					
eggs n = 248						
% agreement : 47/248 = 19%						
more frequently	1	0	2	1	5	2
same	3	1	23	9	38	15
less frequently	2	1	33	13	23	9
	Kappa = 0.116 : slight agreement					
skimmed/semi-skimmed milk n = 232						
% agreement : 163/232 = 70%						
more frequently	16	7	30	13	0	0
same	19	8	146	63	5	2
less frequently	6	3	9	4	1	0
	Kappa = 0.215 : fair agreement					
high fibre bread n = 241						
% agreement : 140/241 = 58%						
more frequently	14	6	37	15	1	0
same	30	12	122	51	2	1
less frequently	3	1	28	12	4	2
	Kappa = 0.085 : slight agreement					

Table 4.26 cont.

Exercise n = 112						
% agreement : 61/112 = 55%						
more times per week	10	9	18	16	3	3
same	7	6	41	37	12	11
fewer times per week	1	1	10	9	10	9

Kappa = 0.22 : fair agreement

Smoking n = 238						
% agreement : 126/238 = 53%						
more	0	0	16	7	15	6
same	25	11	124	52	34	14
less	9	4	13	5	2	1

Kappa = 0.011 : slight agreement

Passive Smoking n = 221						
% agreement : 111/221 = 50%						
more	6	3	33	15	6	3
same	6	3	103	47	6	3
less	2	1	12	5	2	1

Kappa = 0.068 : slight agreement

Alcohol consumption n = 129						
% agreement : 82/129 = 64%						
more units	3	2	5	4	1	1
same units	5	4	73	57	24	19
fewer units	0	0	12	9	6	5

Kappa = 0.112 : slight agreement

For whatever reasons the lack of congruity shown in Table 4.26 occurs, it seems that different methods of measuring health-related behaviour change produce different results. However, it seems reasonable to argue that self-reported change recorded by comparing data about current self-reported behaviour taken at two points in time is a more reliable method of measuring change as it avoids recall bias.

4.4 Impact of feedback from the CHPS upon health promotion practice

4.4.1 Objectives

The CHPS was evaluated by documenting the receipt and use of data by health professionals and individuals in the community to assess impact of feedback on health promotion practice. The information collected pertained to those who had received data, whether or not information obtained had been used and whether it had contributed

towards policy/planning decisions or stimulated activity by health promotion staff, allied professionals, local GPs, teachers, community groups or lay individuals within groups.

Data collection commenced nine months after findings about the CHPS had been posted to community groups and distributed to Health Promotion staff. Information about healthy living requested by individuals who responded to the CHPS had already been distributed.

4.4.2 Method

4.4.2.1 The samples

Three groups of professionals from which data were to be collected were identified, but it was anticipated that, in addition to these individuals, others identified by these groups as receiving or using data might result in extension of data collection. In addition, one lay group was identified. All members in the groups were included in the samples.

Sample A

Health promotion professionals who stated that they had received data directly from the researcher (Director of Health Promotion: Deputy Director of Health Promotion: Programme Manager for the Unemployed and the District HIV/AIDS Prevention Co-ordinator).

Sample B

Staff in the 3 participating schools being the three teachers responsible for Personal and Social Education (PSE). Doctors from each of the 2 GP Practices which provided the representative sampling frames in the CHPS.

Sample C

40 community groups used in the CHPS where response had been obtained and the group was known to be still in existence. As GPs' practices and Post Offices were used primarily as publicity outlets, rather than cohesive community group foci, they were excluded from the sample.

4.4.2.2 Data collection

4.4.2.2.1 Instruments for data collection

Samples A and B

Semi-structured questionnaires were constructed. These contained questions about the impact of data on policy and practice and the presentation, content and appropriateness of data. The questionnaire appears as Appendix 4.10.

Sample C

A brief open-ended questionnaire was prepared inviting respondents to either comment in writing on the CHPS and any effect it was felt to have had on the group or its members, or to opt for a telephone interview, see Appendix 4.11.

4.4.2.2.2 Data collection

Data were collected by taped, personal semi-structured interviews with Sample A, personal semi-structured interviews with Sample B and from Sample C by post, with freepost returns, or telephone using a semi-structured interview based on the open-ended questionnaire.

4.4.2.3 Response

Sample A

All four interviews were achieved. As a result of these interviews 5 telephone interviews were attempted and carried out with:

3 head teachers of primary schools

1 advisory teacher

1 brief personal unstructured interview was carried out with an Advisory Teacher for Health Education

1 youth club leader

1 attempted interview failed to produce response after seven attempts:
ex-member of the Health Authority Staff responsible for Health Promotion.

Sample B

Two interviews were carried out, one in each GP Practice. In one instance the interviewee was one GP and, in the other, both GPs running the practice and the Practice Nurse were present. Three interviews were carried out, one in each of the three schools, with a member of staff responsible for PSE. In each case the interviewee said that further interviews with other members of staff were inappropriate or unnecessary and so no further interviews were attempted.

Sample C

13/40 (33%) responses were received with one returned opened but uncompleted.

4.4.3 Results for Sample A

4.4.3.1 Receipt and views about data

All 4 health promotion staff reported that they had received data from the CHPS.

3 (75%) had seen computer printouts of whom:

1 had seen all data provided

1 had seen all schools' data

1 had seen data relating to AIDS

3 (75%) had seen the 2 page population summary prepared for distribution to individual respondents and posters

2 (50%) had seen summaries prepared for each practice

2 (50%) had seen summaries prepared for each school

2 (50%) had seen summaries prepared for each community group.

Data had been obtained either from the researcher in person or from the Director of Health Promotion in person.

Two individuals commented that the computer printouts had been initially difficult to understand and that colleagues had assisted in interpretation. Nevertheless data were found to be useful, relevant and presented in an appropriate format. One individual noted that the barcharts in the school and GP summaries could easily be mis-interpreted and that, on reflection, too much data had been introduced into the 2 page population summary which may have made it difficult to understand. It was noted that the 2 page population summaries had been discussed at a staff meeting so that all staff had had the opportunity to comment and obtain information.

One individual commented that data for schools was "simple" and "basic", giving an "overall view" of pupils and was plenty for schools to work on: the inclusion of data about social class to schools may have been interesting but of questionable value in practice.

The data about AIDS was felt to be useful as a starting point, but too superficial. More in-depth information was required.

4.4.3.2 Use of data

The comment that the data had "cropped-up in so many things" suggests that the following account of how data had been used may not be exhaustive, as staff had not kept detailed records of how data had been used. Consequently the following records the use of data as recalled by respondents, and without reference to records.

4.4.3.2.1 Publicity

Press releases about the findings of the survey attracted "great interest" from the media and are shown in Appendix 4.12. However, it was felt that radio coverage where a positive viewpoint could be presented was more helpful than less controllable newspaper reports that tended to present more negative aspects of the survey. It was also felt that less interest would be shown in future surveys, once the novelty value had worn off.

4.4.3.2.2 Feedback to professionals other than those participating in the CHPS

Reports

Information about, for example, alcohol, drugs and AIDS from the CHPS was integrated into the Health Authority Annual Report, see Appendix 4.13. This report is used to guide the Health Authority in allocating resources and setting priorities and to raise the profile of health issues through publicity. In future, survey data will be contributed towards the Director of Public Health's Annual Report.

Feedback via Committees

Selected data had been provided for information via committee structures to:

- the Unemployment and Health Working Party, see Appendix 4.14
- nurse managers through their meetings
- Environmental Health Officers via the Environmental Health Officers Health Promotion Group Meeting
- Chesterfield Borough Council through the locality working party developing a health promotion strategy for Chesterfield
- the Drugs Liaison Group developing a district-wide strategy to prevent substance abuse
- the Alcohol Abuse Group, a multi-agency group developing a strategy to reduce alcohol abuse
- the Dental Health Promotion Group about diet and smoking
- Derbyshire Action on Smoking multi-agency working party set up to consider the implications of an integrated anti-smoking policy by the use of a base-line report
- local political groups. Three or four parish council meetings outside Staveley

had been attended and given data from Staveley to mobilise local opinion on health issues. In addition the Local Authority's Coalfields Community Council had met to discuss issues and look at data from Staveley. Deliberations are to be used in future submissions for funding to the EEC.

- to the Health Education Liaison Group which is the multi-agency spearhead for health education across Derbyshire.

Other use of data with professionals

Data were given or sent:

- to colleagues preparing the Health Authority's Annual Report
- to school LEA Advisors opportunistically and topic-based
- to three heads of feeder schools for the three secondary schools involved in the CHPS about the relevant school and findings for the adult community.

4.3.2.3 Feedback to professionals, lay participants and the community

a) Data about each practice contained in practice summaries had been fed-back in person by the Director of Health Promotion at primary health care team meetings in both practices. Discussion of implications had suggested that, although much of the information was in line with national evidence, the fact that it was local made a difference to how it had been perceived. For example, more concern over high levels of young women smoking appeared to have been created because of the direct relevance of data to the practice.

b) Feedback to all three schools had been carried out in person by the Programme Manager for Schools using school summaries. Computer printouts were made available of data relating to all respondents to back up the findings. Comparisons were not provided.

c) Letters had been sent to some community group contacts to ask if any would like meetings about the survey results, or to comment on them which resulted in 2 meetings, see 4.4.3.3.

d) Participation in the production and distribution of the Health Authority Annual Report which is made widely available to individuals or groups.

4.4.3.3 Health promotion activity generated by the CHPS

It was felt that far more activity could have been generated by the CHPS amongst community groups and General Practices had staffing levels been up to strength, see 4.4.1. The potential in other groups was "not exploited to any degree", for example by taking findings for specific groups back to the group.

Nevertheless some important activities were generated. These are described below:

a) two talks were given to church women's groups about diet and improving health as a direct result of feeding back Staveley information to the groups and inviting comment

b) feedback to schools resulted in question and answer sessions about AIDS with fifth-form groups in one school

c) as a result of activity outlined in (b) youth club leaders heard about the sessions from youth club members and sessions about AIDS were held in a youth club outside school hours, including individual counselling for "those at high risk" about family planning. It was felt that better relationships with youth leaders resulted from these contacts, and this was confirmed by a youth club leader. The experience gained also reinforced proposed policy introduced in the Unit's report on the distribution of condoms

d) one meeting of staff from all three schools was convened by a health promotion officer. All schools were represented and suggestions for joint action over local pollution from litter and dogs were put forward. To date no further joint action has taken place, due in part to the failure of another meeting, cancelled because of illness. A further meeting was planned.

e) an In-Service Training Day for secondary school staff interested in carrying out a health-related behaviour survey, and the potential of data for use as teaching material was being planned, confirmed by a health promotion officer and Local Education Authority Advisor

f) the part-time worker for the unemployed used the survey with community groups to establish contacts in a small area of Staveley she had targeted. The discussions with contacts she made, particularly in pubs and clubs, were helpful in building up an impression of local need. Contacts were reinforced when post boxes were cleared. Describing the process as "piggy-backing" she then sowed the

seeds of the idea for a multi-agency "drop-in" centre as she carried out the CHPS. The idea took root and developed over a period of time as her relationship with contacts lead to greater confidence in her. A talk about diet and the results of the CHPS was also carried out in an existing group. The result of these, and subsequent activities, led to the establishment of a "Drop-In Centre" dealing with health and other issues of concern or interest (Roberts, 1991). The health worker felt that the CHPS method had helped in the initial stages by opening up repeated opportunities for meeting and talking with local people and heightening awareness and knowledge of health issues within the community. Capitalising on opportunities like this could, she felt, only be usefully carried out intensively, and therefore with a limited number of selected groups. It was the opportunity for regular contacts provided by the CHPS method that led to acceptance of her presence, the building up of trust and credibility as her response to overtures could be seen to be relevant. More back-up from other health promotion staff and greater understanding of health promotion by related professionals would, she felt, have been helpful.

g) summaries for the first years in appropriate schools had been sent to three feeder schools, see 4.3.2.2. The head of one feeder school reported having circulated the summary to staff for information, another could not remember having received one whilst the third reported having filed the summary as so few pupils now went to that secondary school

h) School Pupil Questionnaires given to the Local Authority Advisory Teacher for Health Education had been shown, with other questionnaires, to a local school that had approached her about the possibility of carrying out a health-related behaviour survey in school. She reported that no definite decisions had been made about using the CHPS although staff were "interested". The Advisory Teacher thought that the School Pupil Survey could be useful in top junior classes as part of the "Springboard" activity used to introduce pupils to secondary school, provided follow-up was available.

4.4.3.4 Effect on health promotion policies

Much of the feedback to professionals and others was seen as raising the health promotion service's profile and providing information that, together with other information, would assist in planning strategies by giving a better understanding of issues. As these processes are protracted only three examples of the data directly changing policy

had emerged. These related, first, to concern that 14% of male parents of under-sixteen year olds drank heavily, but amongst male parents of under-five year olds 32% were drinking more than the recommended units of alcohol, see Appendix 4.15. The data resulted in this group of parents being identified as a priority group for action by the Alcohol Abuse Group. Overall, The second example of the effect of the survey on policy was that it confirmed the need for more data about AIDS, partly because of the lack of in-depth information from the CHPS. A population study was subsequently initiated to provide base-line data. The third example was the adoption of a model for a "Drop-In" Centre, see 4.4.3.3, in its existing or extended format by Social Services. This occurred as a result of funding applications being made to a Local Authority joint committee. The main effect on policy appeared to be that it confirmed the direction in which policies were, in any case, moving. Social class differences revealed by the survey were not perceived to be as great as anticipated and it was felt that "very little couldn't have been guessed". The power of the data was stated as lying in its local relevance so that it could be used to assist in the ongoing process of reassessment of services so that they would become more relevant to people's needs and more "user friendly". The fact that data were "personalised" was believed to make it "meaningful".

In the future it was anticipated that policy was more likely to be influenced as implications of data were absorbed and acted upon through the various committee structures already noted in 4.4.3.2.2. In addition, it was stated that planned repetition of the survey would enable the effectiveness of existing policy to be evaluated by comparison of base-line and subsequent findings. The limitations of such an assessment were recognised in that the response was likely to be biased because of low response and there was no control for external influence. Nevertheless, attempts to measure and monitor lifestyle factors were seen as key elements in "transforming the complexion of health promotion" by giving the discipline greater external credibility.

4.4.4 Results for Sample B

4.4.4.1 General Practitioners

4.4.4.1.1 Receipt of and views about data by the 2 GP Practices

Both practices reported that they had obtained data in person at meeting with the Director of Health Promotion . Feedback took the form of practice booklets with summaries and summary sheets for the whole of Staveley. One practice had accepted computer printouts for the whole of Staveley although both had been offered these data. Both had received the 4 posters by post. Posters were prominently displayed. In both cases

members of staff other than doctors had had access to the data either through practice meetings or by the personal invitation of a doctor. Both practices readily produced the practice booklets, although one practice's computer printout was not located. Both practices thought the information they had received was easy to follow and that there was enough, if not too much, information. One practice would have appreciated a written, brief summary of overall percentages from key questions, rather than bar-charts which were thought to be repetitive. Both practices stated that none of the findings had surprised them as data were in line with national figures. One stated that staff would have anticipated higher smoking figures and one that the data on health checks were probably unreliable given their knowledge of the practice and error due to respondents' poor recall of specific dates.

4.4.4.1.2 Use of data

Neither practice felt that they had used the data for anything other than information. One felt that the data had not been used creatively within the practice to support or mount extra initiatives that would be of benefit to patients outside the practice and in the community. Some resentment was expressed in one practice that the "onus on doctors is wrong" and that more needed to be done by patients and the community so that the "ball was not always in our court".

4.4.4.1.3 Policy

Both practices felt that the data had reinforced existing policies of opportunistic screening that were started before the CHPS took place. One practice was also introducing a weight reduction clinic through the Practice Nurse, not as a direct response to the survey findings, but because of an otherwise identified need. However, it tied in with CHPS findings. Both practices had thought about using the base-line information and subsequent CHPS data for evaluation purposes, but one added that they had felt that this activity would be "interesting but disheartening", given the likelihood of small changes.

4.4.4.1.4 Future action

Both practices expressed concern over the existing heavy caseloads of support staff that inhibited new initiatives. One practice in particular felt that allocated Health Visiting time was inadequate. Both practices expressed the view that more time and

money would assist them to develop preventive health care within their practices using data such as that from the CHPS, both to meet imposed Government targets under the new GP Contract, and fulfil their own practices' particular needs.

Both practices agreed readily to participate in a future CHPS, and one doctor commented that, "if things had settled down" the practice "might get more out of it" next time.

4.4.4.2 School teachers

4.4.4.2.1 Receipt of and views about data

All three teachers interviewed reported that they had received summaries for their first and fourth year pupils and had them available. Two reported that information had been received in person and discussed with a member of the health promotion staff. One teacher who had only recently taken over PSE organisation thought data had been posted to the school and subsequently discussed in person. Two schools reported seeing computer printouts comparing the three schools. None of the teachers reported having seen the summary for the adult community and one had not looked at the comparative printout.

The booklets were generally thought to be presented in an appropriate manner, with "easy to cope with" data that was "easy to access". One teacher commented that it was "fantastic" compared with the printout he had received through participation in a nationally available survey.

Although two teachers thought information was adequate, one would have liked more emphasis on opinions introduced about AIDS and ecological issues, and another about self-esteem.

The two teachers who had been involved in initial administration commented that the survey had been easy to administer, had taken only 15 - 20 minutes to complete, and that most children had not required help to fill in the questionnaires. Concern was expressed by one teacher that younger children had not fully appreciated the anonymity of the survey.

4.4.4.2.2 Use of data

In all cases teachers reported that data had been discussed in depth and for each year group with other members of staff either individually, as a PSE team or at a form-tutors' meeting or when data were presented to the school by the Health Promotion Officer. For example, in one school where the Deputy Head was responsible for PSE and

had received the data, subsequent meetings were held with heads of year to discuss the data. They in turn had passed it to form tutors. The data therefore appeared to have been used to inform professionals concerned with the day to day PSE teaching and form tutorials.

In addition, in one school home economics staff, and in another physical education teachers, had been given appropriate data, but were not believed to have used it for anything other than information. One school reported that form tutors had told pupils the results of the survey by topic but had not used data as teaching material. Another had not used data for teaching purposes despite "good intentions". None had disseminated data to parents, the school nurse or school doctor.

Because of imminent school holidays, and the fact that those teachers interviewed felt that it would not be appropriate or helpful to discuss the matter further with other staff members, confirmation of how data had been used by other members of staff and with children was not obtained.

4.4.4.2.3 Policy

CHPS evidence had prompted one school to decide to reduce the age at which dietary advice, especially over sugar intake, dental care, drugs and alcohol abuse, was introduced into the curriculum. These topics were now covered in the first rather than the second year. Interest in co-operation with feeder Junior Schools over drug and alcohol education was expressed given the numbers of children in the first year who reported drinking. Otherwise it was felt that data confirmed policy, especially that related to "body image" education carried out in the third year by the school nurse, a local doctor and the PSE staff. In another school it was felt that the evidence from this and a previous survey on smoking and alcohol had influenced policy so that these topics were now covered in the second year, as children were reporting smoking and drinking by that time. A more active, task-orientated and decision-making approach had recently been introduced into the teaching of these subjects.

The third school reported that the decision to cover HIV/AIDS in more depth with Upper School pupils had been made because CHPS data showed the need for good information, and the link between drug abuse and HIV/AIDS identified by children. In addition to the usual visit by a drugs counsellor to discuss wide-ranging issues about drugs, the HIV/AIDS Prevention Officer had been invited to school to talk to pupils. This in turn, it was confirmed, had lead to work in the local youth club, see 4.4.3.3. In addition, it was felt that the data from the CHPS had confirmed the school policy of developing links with families, and not just working with pupils. Monthly, speaker-led but informal meetings about health-related topics, such as healthy eating, drug abuse and HIV/AIDS

were being held in school. The need for a healthy eating policy for the school itself had also been reinforced and it was felt that catering staff were "responsive but unimaginative". This school, in particular, would have appreciated more data from the adult CHPS.

4.4.4.2.4 Future action

All three schools felt that they would welcome participation in future surveys. One school hoped that this could take place every eighteen months or so, and another wanted "shortly" to re-survey and extend the survey to include third year pupils as well as first and fourth year groups. One school though that a simpler survey covering similar topics should be carried out in Junior Schools and planned to discuss this with feeder schools. No plans for resurveying were being made in one case as the school was about to move to central funding and so it was thought that free participation in Health Authority activity was likely to be withdrawn, although the situation was unclear.

4.4.5 Results for Sample C

4.4.5.1 Community Groups: Activity

13 responses were obtained from:

- a local supermarket
- a Social Services Nursery
- a Mother and Toddler group
- a Womens' Institute
- 3 Community Associations
- an Unemployed Group for young people
- National Union of Mineworkers - 3 branches
- Leisure Centre
- the Job Centre
- a Job Club
- the local library

2 (15%) responses were obtained by initial telephone interviews and 11 (85%) by written comments. Four further telephone interviews were carried out as a result of these responses. Of the respondents 3 (23%) reported no knowledge about the survey having made any impact on members. These groups were 2 Unions and the local Leisure Centre. 2 (22%) groups, the Social Services Nursery and the Job Club, reported that, respectively,

members had been:

> "keen to stop smoking and eat a well-balanced diet; they did not have the motivation to do so",

and that:

> "all members who were present at the time of the health survey have now left".

It was therefore impossible to gauge long-term influences on these group members. However, at the time it was reported by the group contact that:

> "most of them were surprised at the extent of bad habits of Staveley people and had read the booklets ... but didn't seem to think it was necessary for them to do anything in their case. Two said they intended stopping smoking but put it off".

The personnel officer at the local supermarket felt that, although behaviour had not changed, her impression was that the survey had made people think about their health-related behaviour, and that attitudes were slowly changing as a result of the survey and media information. Support for hastening these changes would be welcomed. The Job Centre reported that their office had become a "non-smoking" office, implying that this was due in part to participation in the CHPS.One of the two Community Associations reported that awareness of health issues had been raised in part by the survey and requested support in transforming "concern.....for the children of this area re. their health in the local environment" into action. The other Community Association where the Drop-In Centre was based, see 4.4.3.3, reported that people were more aware of health issues and that regular slimming classes had been initiated. In addition "keep fit" was a regular activity, a healthy cooking session had been held and members had participated in a 'no smoking' day. The unemployed group for young people based at the local Youth Club reported that great interest had been expressed in the CHPS which had contributed towards the development of the Drop In Centre, see 4.4.3.3.

Information from the local chief librarian was provided. She reported that, having monitored the use of books since the CHPS took place, there had been a "definite" increase in the issue of books on diet, especially cookery books on healthy eating, books about exercise and tapes on relaxation, stress and stopping smoking. She also reported that, as a result of the survey, two members of staff had stopped smoking and 'several' were attempting to take more exercise. An existing interest in healthy eating was continuing.

Finally, the following quotes came from a respondent who had contacts with two groups, one a mother and toddler's group and one a Women's Institute.

> "During the survey, I put the leaflets up in good positions and the women in both my groups were very aware of them. The older ones had difficulty in cutting out the kind of food their mothers had taught them to prepare and they

particularly didn't like margarine of any kind. The ones who knew they should cut out many fats were warned by their doctors to get their weight down, because of high B.P. or because their husbands had symptoms of B.P. or heart or lung disease.

The young mothers knew all about the correct food to eat, both for themselves and their children, but I feel pretty certain the chip pan came out quite a lot, but they did use oil. Some of them went to work but they did seem to be quite responsible about taking their children to Lime Road Clinic and tried to follow the advice given them about injections and correct weight of the babies. Most were aware of the need for well-fitting shoes.

BUT, some of the girls could not stop smoking. Several of them smoked, partly, I am sure, because of the terrible craze to be thin. I know it is very important to be a sensible weight, but some of them did worry me, they were too thin and did not manage to give up smoking.

Staveley itself is not a really healthy place to live, one never knew what one was breathing, the fumes from the traffic and the factories. Staveley people always say what wonderful walks they went on when they were young and how they paddled in a lovely section of the stream there among irises and other wild flowers. Who knows - it may happen again!"

4.4.6 Summary

Data about health-related behaviour, beliefs and attitudes from the CHPS were distributed to professional and lay participants who requested it. In addition data were made available to the general public and interested groups and professionals.

Data were presented in a variety of ways from individual summaries to poster displays and most of these methods appear to have been appropriate for and acceptable to the intended recipients. Information about the survey findings was generally well-received at least in part because it related to local people. Information fed back to service providers was found to have been used to confirm and/or inform policy within the Health Promotion Unit, schools and general practice. The survey generated opportunities for health professionals in the community to discuss local health issues and prompted schools to consider their curriculum content. There was evidence that awareness of health issues had been raised in community groups and generated by participation in the CHPS. Overall, the potential of the CHPS to generate health promotion related activity appeared

to have been inhibited by contextual factors, such as legislative changes required in professional practice and financial restrictions causing underfunding. Nevertheless the extent to which CHPS data were discussed and used illustrates the general acceptability of the CHPS to Health Promotion staff, doctors, teachers, lay individuals and community groups.

Chapter 5

DISCUSSION

5.1 Limitations of the study method

Chapter 5 discusses the findings from the CHPS. It addresses the two concepts introduced in Chapters 1 and 2. After discussing the limitations of the study method the Chapter considers the method for its ability to promote community participation in health. The first section is divided into various aspects of survey methodology, for example, the sampling frames employed, samples used, response and representativeness of response. It also considers factors related to the quality of data, such as administration of the survey instrument and validity and reliability of data. Finally, the first section discusses limitations of the method in achieving lay participation in a health.

Sampling

The sampling frame used in the CHPS was the FPC list of patients which has been used in similar studies, although they have been used less often than electoral rolls (Killoran, 1990). For example, FPC lists were used in only 9% of surveys reviewed by Killoran (1990). In Oxfordshire Jamieson and Griffiths (1987) used lists from both GPs and the FPC whilst in Somerset (Somerset HA, 1988) FPC records alone were used. It is known that FPC records are likely to be around 3% less accurate than GP records primarily because of time delays in transferring information (Fraser and Clayton, 1981). However, in this study it was decided that the advantages of using computerised and centralised records overcame the disadvantage of the slightly greater degree of inaccuracy in FPC records. The decision to use FPC records here was influenced by the fact that GP records were not computerised. In practice, the selection of a systematic, stratified random sample by hand from GP records would probably have been less accurate than selecting the sample by computer, and would certainly have required more resources. In the Oxfordshire and Somerset studies the use of computerised GP lists was particularly appropriate as they may be stratified readily by age. These studies, unlike the CHPS, excluded those aged 65 and over.

Patient lists give good coverage of the population as 95% - 98% of the population register with a GP. Those that they tend to miss are young males and the homeless (DOH, 1989b; Page, 1991). In this study it should be noted that one doctor chose not to participate. The sampling frame therefore covered only 75% of local doctors' patients. However, these patients were shown to reflect the composition of Staveley as a whole and could be expected to reflect the local community, as has been demonstrated elsewhere (Hutchinson et al., 1987).

The main disadvantage of using lists of patients as sampling frames is that, despite being updated on a day to day basis, there is evidence that some 13 - 17% of

entries are inaccurate because of mis-entry of details, omission of new patients and non-deletion of those who have left (Fraser, 1981; Sheldon et al., 1984; Pritchard et al., 1984). In this study, errors on the sampling frame were estimated by the FPC to occur in 10% of their records (Personal Communication: Worrell J, 1987). In the CHPS the percentage of measurable non-delivery due to inaccuracy of addresses on the sampling frame was 8%. Known non-delivery in the Somerset survey was also 8% (Somerset HA, 1988) suggesting that non-delivery due to inaccuracies on FPC lists is not inconsequential. Because of inaccuracies on sampling frames not all those believed eligible, and so appearing in samples, fulfil criteria for inclusion. For example, people may have changed doctor. In addition people may have died (Cartwright, 1983). Where evidence of non-eligibility is obtained exclusion of individuals is necessary, although this is usually, as here, a small percentage of respondents.

This study followed the pattern of most similar studies in that the sampling frame was dictated by the geographical location of schools as it was in, for example, a Trent Region study (Gillies et al., 1987). In this study, which was confined to a much smaller area, only three schools were used compared to 353 in the Trent Region study. As all schools approached agreed to participate in the CHPS the school sampling frame was complete and the sample was made up of whole secondary school year groups, here being first and fourth years. Samples used in school pupil studies elsewhere have been: whole secondary schools or year groups (Balding, 1989); year groupings in junior schools (Shelley, 1990); randomly selected pupils from year groups (Dobbs and Marsh, 1983); all school pupils aged 15 - 16 (Gillies et al., 1987) and randomly selected pupils in first, third and fifth year groups attending randomly selected secondary schools (HPAW, 1989). In addition, 12 year olds and over were included in a study based on households in Wales (HPAW, 1985a). A cross-national study of older pupils has also been designed to produce comparable data from European countries (WHO, 1985b). The two representative sampling frames used here, FPC lists of patients and school rolls of year groups, were therefore as complete as those used in other health-related behaviour studies and so equally representative.

In this study, unlike all other population lifestyle studies, a non-representative sample of a wide range of community groups was included. One of the objectives of including the Opportunity Sample in the CHPS was to reach "hard to reach" groups, in common with other purposive studies (Pill and Stott, 1980; Graham, 1984; Sudman et al., 1988; Darrow, 1990a), see Chapter 1. In this instance those least likely to respond to health-related behaviour surveys using postal methods were targeted, for example, the unemployed (Quigley and Williams, 1986), those in lower social classes (Cartwright, 1983; Quigley and Williams, 1986; Butler, 1987) and the elderly (Victor, 1988). These groups are

also known to be likely to contain those at higher risk of preventable morbidity and mortality through health-related behaviour, for example, smoking amongst the unemployed and those in the lower social classes (Whitehead, 1987). Single parents were included because they have particular health needs (Graham, 1984). Here again, in common with most purposive studies, no complete sampling frame existed from which groups containing targeted individuals could be selected. Consequently eligible groups were identified through networking in the community and using recorded information in, for example, the library.

As this appears to be the first health-related behaviour study to include a purposive sample of this nature it was important to both assess the feasibility of surveying various types of groups and examine findings about ranges of response. This necessitated the selection of a broadly based sample. Bearing in mind limitations on resources, 50 eligible groups were selected as the purposive sample. A limitation of the purposive sample used in the CHPS was, therefore, the method by which the groups were identified for inclusion in the survey. The method was subjective rather than objective being based on information about local groups reasonably readily available to the researcher, and assumptions about characteristics of group members. Although almost quadrupling the number of potential individual adult respondents to the CHPS it was not anticipated that a high individual response from the Opportunity Sample would be achieved. This would have been unrealistic as their inclusion was primarily dictated on the grounds that they are known to be poor responders to health surveys, as discussed above. Surveying a non-representative purposive sample made up of community groups was not a marginal activity. It was central and unique to the methodology adopted in this survey. The sample provided an essential vehicle by which to systematically engage local interest in health and activate local networks, thus priming the community for participation in health, as discussed in 5.2.

Where whole populations are to be studied it is usually unnecessary to survey all those identified on the sampling frame (Day, 1991), provided samples represent the population. To achieve a representative sample in this study FPC patients' lists were stratified by age and sex before every fifth name was systematically selected for inclusion in the sample. Consequently the sampling method was similar to that used in population studies elsewhere. For example, sampling frames have been stratified by age and/or sex (Jamieson and Griffiths, 1987; Somerset HA, 1988). Samples have been systematic, for example, every fiftieth name was selected in the Somerset study (Somerset HA, 1988) and every seventy-fifth in Birmingham (Luck et al., 1988). Elsewhere samples appear to have been drawn using random number selection (Jamieson and Griffiths, 1987).

The 2,003 individuals in the CHPS's representative sample were 20% of the

sampling frame. This was an unusually high proportion of the sampling frame compared to other studies, but did not necessarily involve surveying an higher absolute number. For example, comparable figures are: 8107 being 10% in Oxford (Jamieson and Griffiths, 1987) and 5,000 being 2% in Somerset, (Somerset HA, 1988). Most frequently a 1% sample has been drawn (Killoran, 1990), for example in Canterbury and Thanet where a 1% sample yielded 3,027 names (Butler, 1987). In Birmingham the population studied was 190,000 so that a 1.7% sample yielded a sample of 2,500. The high proportion of the sampling frame (20%) was required in this study because the adult population to be studied was small (10,000) relative to other studies. A sample of around 2000 is adequate to provide data about smoking, assuming prevalence of 30% + or - 2%, with a confidence limit of 95% (Day, 1991), a calculation that guided the choice of samples here and in a Welsh study (HPAW, 1985a).

The CHPS sample of school pupils is difficult to compare with other studies because so few schools, only 3 or 100% of those eligible, were involved in this study. Consequently comparisons may be misleading. For example, 204 secondary schools have participated in the School Health Education Units' Health-related Behaviour Survey (Balding, 1989). In a Trent Region study of 269 schools 76% of those eligible participated (Gillies et al., 1987) whilst in Wales 94% of schools approached for inclusion in a study participated (HPAW, 1989). In absolute numbers this study is also smaller, with almost 550 pupils registered on school rolls compared to 7,000 and 45,000 in the Welsh and Trent initiatives respectively. The Health-Related Behaviour Survey, covering the largest number of pupils, had, by 1989, a total sample of 33,459 individuals (Balding, 1989).

The study sample in school pupil studies is dictated by the number of eligible pupils attending school on the day on which the survey is administered. Children are excluded from the study if absent. It is therefore unlikely that any school-based study includes all pupils, although figures for non-attendance are difficult to obtain (Stott, 1987). In the Trent study (Gillies et al., 1987) attendance at school was 84% of 15 - 16 year olds. In the CHPS only 67% of 14 - 15 year olds attended, with a higher proportion of 11 - 12 year olds attending, 85%, making overall attendance 76%. Attendance of older pupils is known to be lower than that of younger pupils (Pritchard et al., 1987).

8% of CHPS school pupils were known to have a reasonable explanation for missing school, such as illness, annual holidays or school trips. The outstanding 15% of eligible pupils absent from school gave no known reason for absence. It is likely that at least some of these pupils were truanting, especially older pupils amongst whom truanting is "rife" (Stott, 1987). For example, 20% of children at 16 years claim to have truanted at some time, compared to less than 1% at 11 years (Hibbert and Fogelman, 1990b). This pattern varies across the country (Fogelman and Richardson, 1974), and so it is not

possible to give figures of anticipated truancy in Staveley and no local figures were available. However, it may be that truanting increases at the end of the school year. It is probable that more children could have been included in the CHPS if it had not taken place towards the end of the summer term, a factor that was dictated by time constraints.

Some characteristics of absentees from school may be extrapolated from other studies, although it was beyond the scope of this study to confirm them. First, it is known that children who smoke and children from homes with parents who smoke are more likely than others to be off school. Charlton and Blair (1989) found that 47% of those who self-reported regular smoking were absent for readministration of a survey and 46% of children whose parents both smoked were absent. This was regardless of sex or social class. Secondly, Stott (1987), from experience, stated that those absent without reason are more likely to be at risk from a range of health damaging activities, including smoking. The National Child Development Study supports this view and found that those who claim to have truanted at school go on to become: heavy smokers; depressed; less stable both in relationships, as assessed by marital breakdown, and in their careers partly because of lower qualifications and lower status occupations (Fogelman, 1978; Hibbert and Fogelman, 1990a; 1990b). It therefore seems likely that the CHPS had the same limitation as other school studies in that at least some of those known to be at risk of health damaging behaviour did not attend school on the day of the survey, and so were excluded from the study.

There were temporal and financial limitations on the resources available to this project. Consequently it was not practicable to collect data from samples about some issues of interest to the study. For example, it was not possible to examine factors most influential in prompting change in health-related behaviour or re- and post testing lay knowledge about health before and after the CHPS. Some samples used in evaluations of the CHPS were small, and so findings must be treated with caution. For example, change in health-related behaviour attributed to the CHPS was assessed from a sample of only 54 respondents. In some instances, follow-up samples of respondents were unlikely to be representative of the original sample, for example, those invited to comment on the readability of the questionnaire. Again, data must be interpreted with caution.

Applicability of data

In all population studies data may only be used to describe that population. No extrapolations may be made so that, for example, data describing a Welsh sample (HPAW, 1985a) may not be applied to England or Scotland. In this study of a relatively small population no claim may be made that data describes populations elsewhere. This is the case even if they are similar in structure or size as there may be more differences between

small areas than between large geographical regions (Blaxter, 1990).

Response

In the CHPS, the response from the representative adult sample was 59%. Thus it was at the higher end of the range of responses found so far in similar postal surveys (50% - 60%) (Killoran, 1990). This was encouraging as Cartwright (1986a) has noted that the difference in response between Social Classes I and V may be 16% and, between skilled and unskilled populations, 13%. Staveley, having an exceptionally high proportion of unskilled workers in its population (77%) could have been expected to produce a lower level of response when compared to studies in communities with a higher proportion of skilled workers. The impact of social class on overall response is difficult to assess between studies because of methodological differences. However, an indiction of its impact comes from comparison of CHPS response and that from a very similar study in Somerset (Somerset HA, 1988). In the later study 45% of the population was unskilled compared to 77% in Staveley. In Somerset, with one reminder, response of 58% was achieved compared to the 54% obtained after one reminder in the CHPS. It therefore seems likely that social class accounted for around 4-5% of the higher response in Somerset, but that this was offset by the second reminder in the CHPS.

The impact of unemployment on response has been measured in an area with only half the unemployment of Staveley, 9% compared to 18%. In that study 7% of respondents were unemployed and were classed as poor responders (Butler, 1987). In a study with two reminders Quigley and Williams (1986) noted that three wards in Stockport had high deprivation in terms of unemployment and low social class. They produced lower responses of 59% - 60% compared to the overall response of 72%. All three wards referred to by Quigley and Williams had unskilled populations of 24% - 44% lower than those in Staveley. Male unemployment in the Stockport study was also lower at 6% - 11% compared to 18% for Staveley as a whole.

It could be argued that response in the CHPS is good compared with that from a Welsh study (HPAW, 1985a). There a response of 69% was achieved, 10% higher than that obtained in the CHPS. The Welsh study did not, however, include the elderly, known to be poorer responders (Victor, 1988). It also employed a far more complicated and expensive methodology than this study as initial interviews and telephone reminders were carried out (Cartwright, 1983). It therefore seems reasonable to conclude that the CHPS, using a relatively inexpensive method of data collection, produced a response that was comparable to that obtained in most similar studies.

Some strategies were introduced into the CHPS method that may have influenced response, although it was beyond the scope of the study to assess their impact. First,

freepost envelopes were included, as they have been in other studies (Butler, 1987; Luck et al., 1988; Somerset HA, 1988). This is a strategy that has been shown to be effective in increasing response (Cartwright, 1983; Dillman 1987). Secondly, two reminders were sent, although administrative delays created a longer than planned gap of six and then five weeks between postings, rather than the more usual two to three week gaps. In Oxfordshire and a Welsh study two reminders were also sent (HPAW, 1985a; Coulter, 1990) and in Somerset one reminder was sent (Somerset HA, 1988). Most reminders included a further copy of the questionnaire and another freepost envelope, as was the case in the CHPS. In the Welsh study two postcard reminders were sent and/or a telephone reminder made. Postcards may have been sent because of the cost of printing and posting the large questionnaire used in the Welsh study. Thirdly, the questionnaire was easy to read, answer and complete, see Appendix 3.10. The questionnaire excluded sensitive questions that may inhibit response (Goyder, 1986; Campbell and Waters, 1990). Finally, the postal survey did not coincide with holiday periods (Scott, 1961).

Because of the cost implications of reminders it is important to consider their impact on response. The cost per response to the CHPS after the second reminder was £4.75, with printing costs of £3.84. Comparable cost per response to the first and second mailings were £0.65 and £1.26 for postage and £0.39 and £0.86 for printing. The escalating costs per response are clear, although comparable figures for other studies do not appear to be available.

It has been suggested that reminders will increase outstanding response by a similar proportion to that obtained by the previous contact (Scott, 1961; Cartwright, 1983). For example, if 40% respond to a first contact then 40% of the outstanding 60% can be expected to respond to the second contact. In a lifestyle study in South Birmingham (Luck et al., 1988) initial response was 45% and in the CHPS it was 33%. Had similar proportions per reminder been obtained from outstanding respondents then, on this basis, the final response rates would have been 83% and 70% respectively. The apparent impact of reminders on response have been calculated in South Birmingham and in the CHPS. In both studies the benefit of first and second reminders were calculated as a proportion of outstanding response. First, in the Birmingham study, outstanding response was increased by 33% and then by 21%. Secondly, in the CHPS, outstanding response was increased by 18% and then 10%. In neither study did reminders achieve a similar response from outstanding study respondents as had been achieved by the first contact. Consequently the cost benefits of sending out a second reminder must be in question, especially in times of financial constraints. Where response is relatively low after one reminder, as in the CHPS, then clearly a second reminder is required. In studies with higher response after one reminder, say 60% to be in line with similar studies, then

careful consideration is needed to balance probable benefit with escalating costs and practical considerations, such as the time scale of the project. However, all studies should strive, as far as is realistic, to move towards a 100% response.

Some techniques known to increase response were not used in this study in the interests of establishing simple and readily repeatable administration. For example, letters were not personalised and envelopes were labelled rather than handwritten (Cartwright, 1983) Personalisation of letters was shown to be not feasible in the South Birmingham study, (Luck et al., 1988). Covering letters came from the Health Authority, as was the case in the Somerset study (Somerset HA, 1988) although in Oxfordshire letters were sent from GPs (Jamieson and Griffiths, 1987), a technique known to increase response by up to 10% (Smith et al., 1985).

The invitation to respondents to receive leaflets may be viewed as an incentive to respond, although evidence that incentives increase response is conflicting, (Moser and Kalton, 1971; Mortagy et al., 1985) and no measure of the role of leaflets in increasing response was made. No evidence from similar health studies is available to indicate the impact of an offer of leaflets on response. In this study 60% of study respondents asked for leaflets indicating a degree of interest in the literature offered. However the offer of leaflets seems unlikely to have had much, if any, impact on their decision to respond as the invitation was made at the end of the questionnaire. Impact was unlikely to be as effective as follow-ups (Powers and Alderman, 1982).

Response rates from school pupils is not often detailed in reports of school pupil surveys. It seems that very high proportions of those who attend school participate in surveys (HPAW, 1989; Wragg 1990). For example, in the CHPS, the Trent study of smoking (Gillies et al., 1987) and an early study in 1966 (Lemin, 1966) response for children in schools was 100%. One of the reasons for high response in the Trent study may have been the very short and easy questionnaire that was used. In the CHPS the questionnaire was much longer but easy to read and complete so that pupils did not appear to find it difficult to participate. In the absence of evidence to the contrary, it seems that high levels of response can be expected in school studies.

It is not possible to compare response from non-representative groups participating in the CHPS with that generated by other lifestyle studies as no others report the inclusion of such a sample. However, some indications of response are available from other health-related studies. For example, in a study of inter-agency co-operation in a multi-cultural community Dun (1990) reported a response of 14% from voluntary groups, although it is not clear how these groups were surveyed. This compares with the far higher response of 96% from the 50 groups in this study. Another purposive study, this time of individuals volunteering postally to participate in a study on a council estate

(Liddiard, 1988), obtained a response of 75%, again lower than that obtained in the CHPS. The pleasingly high response from groups in this study may be partly a reflection of personal contacts with group organisers prior to groups agreeing to participate (Rosenfield et al., 1979). Telephone contacts were established in all cases, 20% of which were followed-up by face to face meetings. Ongoing contact through the distribution of publicity and in person to empty the 20 special postboxes may also have helped to prompt response.

In terms of individual respondents, response from non-representative group members as a whole was very low, 16%, when compared to the number of questionnaires believed to have been distributed. However, one of the reasons for including so many broadly based groups was to examine ranges of response by type and size of groups. Analysis by group did show very wide differences in response, from under 10% to 88%. First, by nature of group it was shown that women's groups generally generated high response. This was not surprising as previous evidence, see Chapter 1, shows that women are more likely than men to respond to health surveys, a trend confirmed in this study. The fact that unemployed groups in the CHPS generated good response was encouraging as this group has been shown to respond poorly to lifestyle studies, as discussed earlier in this section. It may be that the method of delivery of questionnaires used here was more acceptable to unemployed people than methods used in other surveys and so prompted response. Another interesting characteristic of groups producing good response was that they were social in nature. It may be that gregarious people known to join social groups (Erbe, 1962) are more likely to respond. On the other hand, high response may be a reflection of the dynamics of such groups. For example, lay leaders who have already agreed to participate may be instrumental in encouraging response from group members (Rogers, 1979). In addition, response may be prompted when participation is discussed formally or informally in social settings rather than workplace or other environments. Secondly, the size of group was shown to influence response. For example, groups of under 100 tended to produce better response, although this was not a consistent pattern. It may be that the distribution of questionnaires to groups under 100 is relatively easy. It may also be that delivery is more personal in smaller groups. This may indicate the possible, but untested, influences of both lay leaders and social networking on response.

One of the reasons for including the purposive sample was to try to reach those less likely to respond to health surveys: those at higher risk of preventable morbidity and mortality. Although direct comparisons between representative and non-representative data must be treated with extreme caution it is interesting to note the differences between the characteristics of respondents in the two samples. For example, more smokers, unemployed people, people from homes where the head of household was unemployed

and single people responded to the purposive sample than to the GP Practice Survey. This evidence tentatively suggests that the method, by including a purposive sample, did reach and engage the interest of some of the group members to whom it was directed. However, there is evidence that not all "at risk" groups were responsive, for example, the elderly. Alternative approaches to such groups may generate better response, for example, asking group members to fill in a questionnaire during group meetings attended by the researcher.

Non-response

Non-response to representative studies is of concern as it may bias findings towards those who respond (Cartwright, 1983). Where bias is likely then caution must be taken both in the interpretation of data and when they are used to describe or compare findings within the study population. It is known from a number of studies of adults that men are generally less likely to respond to health surveys (Cartwright, 1983). This has been confirmed in lifestyle postal surveys (eg. Butler, 1987; Somerset HA, 1988) and was also found in the CHPS. Alternative methods of collecting data from males may need to be considered. For example, telephone interviews at appropriate times of the day could be used although these introduce the possible problem of lack of comparability of data and are more expensive than postal surveys. Telephone ownership (87%) is not as extensive as registration with a doctor (97%) giving poorer coverage of some groups in the population (Catlin and Shields, 1988). In this study and that in Canterbury and Thanet (Butler, 1987) different levels of response were obtained amongst elderly women. In both studies women over 64 were less likely than those in the middle years to respond. Non-response from the elderly, particularly the very elderly, has been noted elsewhere (Cartwright, 1983; Victor, 1988). Upon investigation of Staveley's population it was found that 11.9% of women were 65 and over, with 3.7% being over 74 (Research and Intelligence Unit, 1988). However, amongst males the proportions of the very elderly was half that of women. This evidence gives some explanation for low response from females over 64 year olds as response was likely to reduce as age increased. This may be an important observation as it has implications for health promotion research amongst women and/or elderly groups. Again, alternative methods of data collection may need to be considered, such as accessing groups through home health care staff.

An important and recent finding about non-response to population health studies is that smokers tended to be disproportionately prevalent amongst non-responders in a UK study where overall response was 70% (Smith and Nutbeam, 1990) and amongst late responders in a Scandinavian study with a response of 90% (Bakke et al., 1990). This evidence is important as smoking is a major risk factor of preventable illness and

premature death. The numbers in the British study mentioned were small, being 250 drawn from around 10,000 non-responders. However, congruity of findings suggests that more research using larger or more complete samples of non-responders would be useful, although such studies require considerable resources. The implications of the studies on smoking and non-response are that smokers were under-represented in response to the CHPS GP Practice Survey. This probability is supported by GP's comments. Both practices felt that, from their experience, smokers appeared to be under-represented. In studies with responses of 70% and below caution must therefore be exercised in interpretation of data about health-related behaviour, especially smoking.

Amongst school children non-response from school-based studies has been shown to be negligible, as here and in Trent Region's smoking study (Gillies et al., 1987). Pupils are a "captive audience" with participation expected. Choosing to "opt out" is far more difficult for children than it is for adults and the ethics of engaging young people in "voluntary surveys" within the "compulsory" school setting has been questioned (Denscombe and Aubrook, 1992). High response was also probably prompted by administration procedures which were controlled by staff known to pupils (McKennell, 1980). The anonymity and ease of completion of the longer questionnaire may also have been contributing factors to high response to the CHPS by school pupils.

Finally, it should be noted that particularly poor response from community groups was obtained in the evaluation of the impact of the CHPS on groups (33%). This disappointing response suggests that the information sought was of little relevance to groups, as discussed in 5.2. Further follow-up by telephone or in person would have been necessary to establish whether this was the case, and was beyond the scope of the study.

Non-delivery of questionnaires

In all postal surveys delivery of questionnaires to the sample depends on the accuracy of the sampling frame (Cartwright, 1983). Where names and addresses are inaccurate because they are out of date or have been wrongly recorded then non-delivery of questionnaires must be allowed for when assessing study response (Elwood, 1988). This study showed that it was possible to overcome a small element of initial non-delivery by checking FPC records against GP lists, which are more up-to-date by about 3% (Fraser and Clayton, 1981). This may be impractical in larger studies as it was a time-consuming exercise and only 1% of the eligible sample that was still eligible (i.e. still registered with the participating practices) was tracked in this way. In studies based on an FPC list non-delivery assessed by return of undelivered questionnaires has been found to be 8% (Somerset HA, 1988) and, on a GP list, 9% (Smith et al., 1985). It therefore seems that the final non-delivery rate of 8% in the CHPS is comparable to that found elsewhere.

Detailed examination of inaccuracies to identify to whom and why questionnaires were not delivered was not possible because of lack of data, although in this study men were less likely than women to be contacted by postal delivery.

Returned questionnaires may not be the only ones that fail to reach the addressee. A study has shown that about a third of unaccounted for questionnaires do not reach the addressee (Bickler and Sutton, 1993). Some may not be delivered or returned by the Post Office. Others may not be returned by, for example, new occupants or bereaved relatives. It was beyond the scope of this study to explore the level of such non-delivery. Consequently, unless questionnaires were returned, addressees remained in the CHPS study sample, as in other studies.

Non-delivery of questionnaires was not an issue in the Opportunity Survey as they were delivered in person to each group. However, it is not known if all questionnaires were delivered to individuals within groups. Schools were all provided with adequate numbers of questionnaires by which to survey pupils, as in other studies (Balding, 1989; HPAW, 1989).

Representativeness of response

A whole population sample, like that used in the CHPS and most lifestyle studies, produces representative data only if response is high enough and can be shown to adequately represent the population group. Unless population groups are adequately represented data may be biased and great caution must be exercised if they are to be used to describe the study population.

In several postal lifestyle studies comparisons of study respondents and study populations have been made to assess the representativeness of response using characteristics known about the whole sample, usually age and sex and sometimes social class (Smith and Nutbeam, 1990). In this study it was not possible to examine respondents against the study population by anything other than age and sex as data were not available. In terms of sex, bias towards over-representation of women in response to health surveys appears to be most frequently noted (Cartwright, 1983; Quigley and Williams, 1986; Butler, 1987), and was also found in this study. In other studies analysed by social class, response by those in the lower social classes has been noted as low (Cartwright, 1983; Quigley and Williams, 1986; Somerset HA, 1988), resulting in bias in data towards higher social classes. Patterns of non-response, discussed in the previous section, suggest that smokers are also likely to be under-represented in response, and so data biased towards non-smokers. In this study, therefore, caution must be exercised in the use of data as they are known to be biased towards women, and may be biased in other ways, such as towards non-smokers.

In this study, and most other postal lifestyle studies (eg. Butler, 1987; Somerset HA, 1988; Luck et al., 1988), weighting to allow for under-represented groups was not carried out. However, in a Welsh postal study with a response of almost 70% weighting was used to try and improve aspects of the representativeness of data across the Region by correcting for bias by age, sex and social class. The overwhelming argument against using weighting techniques, that are relatively easy when data are computerised, is that they can allow only for recorded characteristics. As is now known, behaviour amongst non-responders to the Welsh study was different from that of responders (Smith and Nutbeam, 1990). Data will therefore continue to under or over-represent behaviour. There is a real danger that weighting may create false confidence in the representativeness of data. It seems to be an insoluble irony that to weight data accurately in lifestyle studies high response about the behaviour the study itself seeks to measure must first be obtained.

In school pupil studies data may generally be assumed to be representative of study samples because of the high responses obtained (Gillies et al., 1987). In the CHPS response was representative of those included in the study given the 100% response. However, the lack of data about non-attenders must be of concern. Given the characteristics of non-attenders, discussed earlier in this section, it seems that smokers and those with other health-related risks were more likely than others to be excluded from the CHPS school survey. Consequently, including as many pupils as possible is an important consideration in carrying out a survey within schools. In the CHPS no attempt was made to follow-up non-attenders to identify their characteristics and compare them to attenders. Follow-up of non-attenders is not usual in school based studies although it would help to identify further differences between attenders and non-attenders in terms of, for example, alcohol consumption.

Administration of survey

Data obtained in lifestyle studies are usually collected, as in this study, by post using self-completion questionnaires (Killoran, 1990). Obviously, less literate adults find all self-completion questionnaires difficult, if not impossible, to complete. This point is amplified in the next section. It should also be recognised that postal surveys may present particular problems for some elderly people. Poor eyesight may inhibit response, although in the CHPS a large typeface was deliberately chosen to ameliorate this problem. In addition the elderly may have limited mobility so that posting back a questionnaire may present practical problems.

In schools surveys are usually administered by teachers (Balding, 1989; HPAW, 1989), often specifically those known to pupils and in usual groupings (Gillies et al.,

1987). This method was also recommended in the CHPS and in all but one instance appears to have been used. In this case administration by a teacher to one whole year group together took place. Questionnaires from these pupils were returned in sealed envelopes. There appears to be no evidence to suggest that confidentiality of responses had been breached.

Concern has been expressed that those who respond to postal studies may not be the addressees (Cartwright, 1983). In the Somerset study a similar procedure to that used in the CHPS was used to check that respondents returning questionnaires were likely to be those to whom they were addressed (Somerset HA, 1988). In both cases the age and sex of the respondent was checked against FPC records as the only practical method by which to assess ineligible response. Where mismatch occurred questionnaires were withdrawn from data analysis. No report of the number excluded in the Somerset study was made, although 1% of "mismatching" respondents were excluded in the CHPS. Some of the mismatch may have occurred because of inaccuracies of age and/or sex in FPC records. Because of the small number of apparently ineligible respondents and the administrative effort required it is questionable whether this procedure would be practicable in larger studies unless computerised checks of data against records could be readily introduced.

In the CHPS Opportunity Sample Survey questionnaires were delivered to community group contacts who had previously agreed to distribute questionnaires and freepost envelopes. As response was obtained from all but 4% of groups it seems that some, if not all, questionnaires were distributed in this way. Questionnaires were returned mostly by post although 23% were returned by special post boxes placed with community group contacts. No individual reminders could be sent because individuals in groups were not identified.

Readability of the questionnaire

It was particularly important to consider the readability of the questionnaire used in the CHPS because of the high proportions of unskilled people, 77%, in that community. Evidence suggests that 10% of the adult population of Great Britain may be illiterate or semi-literate, although accurate figures are unavailable (Levine, 1986). In unskilled populations the level of literacy is likely to be lower, as reflected in lower educational attainment in such groups (Levine, 1986; Roberts, 1986). As lower responses to health surveys may be expected the lower the social class (Cartwright, 1983) all strategies to facilitate response from unskilled populations should be employed.

In this study the measurement of the vocabulary and syntax used in questionnaires (Flesch, 1951) indicated that strategies to increase readability had been

successful. For example, both questionnaires were "easy" with reading ease scores of over 80. This assessment of readability compares with 69, "standard", for tabloid newspapers and 63 and 40, "standard" or "difficult", for Health Education Council and DHSS leaflets respectively (Nicoll, 1985). Recognising the limitations of the Flesch Reading Ease Score that only allows for difficulty of vocabulary and syntax (Harrison, 1980) it was decided, first, to ask teachers to comment on literacy difficulties pupils experienced whilst participating in the survey. Secondly, adult respondents were asked to assess the ease of reading, answering and completing the questionnaire. Data from teachers and respondents confirmed that the questionnaire was easy. No more than 3% of adult respondents found the questionnaire difficult to read, answer and complete. This finding must be treated with caution as postal methods used to collect data from the sample that had already completed a previous questionnaire would inevitably bias findings towards the literate. However, because evidence about the ease of the questionnaire was so uniform it was deemed unnecessary to carry out further testing and development during the pilot phase of the study.

Despite evidence about illiteracy, and methods that may be used to improve readability, most lifestyle survey reports appear to make no specific mention of the readability and comprehension levels of questionnaires (Butler, 1987; Somerset HA, 1988). One exception is the Welsh Heart Health Survey report (HPAW, 1985a). In that study respondents were interviewed about the format, wording and respondents' comprehension of the questionnaire during its development. Detailed findings from interviews do not appear to have been published.

An assumption underlying readability assessments is that the population to be studied had a functional knowledge of spoken and/or written English. In Staveley this was the case as only 1% of the population originated from non-English speaking countries (Research and Intelligence Unit, 1988). The issue of English as a Second Language was therefore not addressed in this study. There appear to be no reports to suggest that it has been addressed in most other studies. Evidence suggests that only a Welsh study has used translated questionnaires so that a Welsh version was available to respondents on request (HPAW, 1985a). This was probably for political expediency rather than to cater for non-English readers.

The lack of convincing evidence about reading standards amongst the adult population and school children (Levine, 1986) made it impossible to estimate the proportion of the population that could be expected to read the CHPS questionnaires. However all school pupils, including those aged 11, adequately completed the CHPS questionnaire with little help from staff. It is therefore arguable that, in terms of response, there was likely to have been some benefit from the simplification exercise.

Data preparation

Data collected in lifestyle surveys tend to be entered into precoded categories and so lend themselves to relatively simple preparation for use with standard packages for computer analyses. In the CHPS it was possible to prepare data for analysis using SPSS which has been used extensively elsewhere in school surveys (Gillies et al., 1987) and adult population surveys (Butler, 1987; Luck et al., 1988; Somerset HA, 1988). Transcription sheets were not used as answers were, in all but one instance, precoded. Data were entered twice to identify and correct errors. Out of range codes were identified, again to ensure quality of data entry.

Validity and reliability of data

In this study objective measures of validity were not included. Two factors contributed to this decision. First, there were resource limitations. Secondly, the weight of evidence suggests that, in general population surveys, data are valid (Cartwright, 1983). CHPS data were, however, assessed for their reliability in five ways. First, standardised questions known to produce reliable responses were used where possible, for example, those about social class and smoking amongst schoolchildren (Gillies, 1986). Alcohol questions were derived from those used in the OPCS study (Wilson, 1980). Secondly, the readability of questions was assessed, as discussed earlier, see page 287.

Thirdly, the administration of the questionnaires was considered. In the adult survey it was not possible to control the circumstances under which questionnaires were completed. In schools, most pupils were surveyed in their usual class groupings, supervised by their usual teachers. This method has been used elsewhere (HPAW, 1989; Gillies et al., 1987) and has been shown to produce more reliable response (McKennell, 1980). In addition, pupils' questionnaires were anonymous and unmarked envelopes were provided so that teachers could not see individuals' responses, again a strategy to prompt honest response. Fourthly, data were entered twice to check accuracy and ensure the quality of data.

Finally, care was taken to ensure the reliability of response to key questions. The more consistent responses are to a question, the more valid data are likely to be (McDowell and Newell, 1987) although congruity may be caused by consistent deception. On the other hand, real change may cause lack of congruity of response, apparent unreliability and so invalidity of data, despite data being valid (Hunt et al., 1986). Consistency of response was first assessed by re-administering the CHPS questionnaire some four months after the first set of data was collected. High congruity between the two sets of data was reported on factors it was unlikely would have changed. For example, almost perfect or substantial agreement was observed for smoking status and non-

consumption of alcohol. There was lower congruity on factors that may change because of seasonality and/or passing interests, being moderate on diet and exercise responses. These findings are similar to those found by Hunt et al. (1986). In their study, where data from a retest were collected after a month, consistency was significant and satisfactorily high on 13 items unlikely to have changed over time because of physical condition. Lower, but good, congruity was observed on all other items with none having less than 44% agreement beyond chance. The lowest congruity was observed in reporting leisure activity which may have changed because of seasonality or 'fad' interests. In a different study Coates et al. (1986) found very high consistency of response in an examination of sexual histories, with 80% or more agreement of response about numbers of sexual partners, tobacco and drug usage and sexually transmitted disease. As interviews in this latter study were 72 hours apart reliability may be partly explained by respondents' recall of previous response.

Evidence from the adult reliability studies was reviewed, together with similar findings from the less sensitive, unmatched test - retest data obtained from school pupils. It was concluded that the CHPS questions were likely to be replied to consistently or that reasonable expectation of real change in behaviour explained relative lack of congruity. Consequently, it seems fair to claim that the CHPS produced reliable data, and that this reliability was an indication of validity. Reliability checks do not, in themselves, prove validity of response. It was recognised that the approach taken in the CHPS was, of necessity, pragmatic. Had resources been available then more rigorous measures of validity would have been taken, as, ideally, they should be in all studies.

Lay participation in a health survey

The CHPS method did not attempt to engage lay people in all aspects of the survey although it has been suggested that potential respondents should be involved in selecting the topic to be surveyed and in the development of the survey instrument (Carr-Hill, 1984b; Harris, 1986). In practice such lay participation has been achieved mainly in relatively small, interview studies focused on one particular topic of immediate concern to a local community, such as housing, (Curtis and Hyndman, 1989; Ginnerty et al., 1989; Platt et al., 1989). For example, in Dallam, a deprived area of Warrington, residents were involved in developing a survey about neighbourhood needs (Snee, 1991). Advocates of lay participation in surveys also suggest that potential respondents should be involved in, for example not only the collection of data but also data analysis and feedback (Carr-Hill, 1984a; Feuerstein, 1986; Snee, 1991). Theoretically, to involve the community in this way is seen as part of the empowerment process.

The involvement of lay people in the survey was inhibited because North

Derbyshire Health Authority required that the project should focus on health-related behaviour and so the topic was pre-set. Lay involvement in developing the survey instrument was not feasible because of pressure of time. The process is known to be protracted (Snee, 1991) and may be dependent on an existing pressure group and the immediacy of the problem (Brown, 1991). For example, in a study in Dallam there was a lay pressure group concerned with housing and yet it still took eighteen months to carry out the survey (Snee, 1991). A pressure group was not available for consultation in Staveley and so a survey involving local people in a topic with a long term objective may well have taken longer than the study noted above.

The CHPS studied the whole population and so it was important that the questionnaire should attempt to cover the concerns of the whole population. The questionnaire used in the CHPS needed to be readily transferable to other areas so that comparable data could be collected. Carr-Hill has shown that the introduction of highly localised content and language to a questionnaire are not transferable (1984b). Finally, it is known that questionnaires produced by local people are unlikely to reflect the views of the whole study population (Rifkin, 1985). Consequently, only limited lay involvement in data collection was tested here.

5.2 Promoting participation in health: awareness raising, generating demand for feedback and impact of the method on the lay community

The second chapter of the thesis introduced the concept of community participation in health. The concept refers to the process of enabling individuals and groups within a community to take more control over their own health. Communities that suffer particular disadvantages are usually thought to be particularly appropriate for this approach, which was the rationale for placing the CHPS in Staveley. The gradual empowerment of the community enables the community itself to take control over its wellbeing. Various theoretical stages that members of a community must pass through on the way to controlling decisions have been put forward. These have been described as the degree or level of intensity of participation (Arnstein, 1969; Bamberger, 1987). It is assumed that more intense degrees, or higher levels, of participation are analogous to greater empowerment (Oakley, 1989). The notion of community participation in health is embedded in strategies for health promotion that are mounted to gain the support of communities (WHO, 1985a). Strategies may be developed to engage the interest of the community, as in the CHPS. Interest may result in co-operation between professionals and

lay people and in receiving feedback from a survey. In the CHPS co-operation was achieved from individuals who filled in questionnaires and community groups which distributed and collected questionnaires. Interest in feedback was generated. Other community participation projects attempt to gradually devolve control over resources to the community. This level was not attempted in the CHPS.

The CHPS was a small scale project based in a community of 25,000. As such it takes its place alongside other small and very varied projects that are offering useful examples of community participation in this country (Broady and Hedley, 1989; Community Health Publication Group, 1992), for example, to promote women's health (Billingham, 1989) and improve housing (Ginnerty et al., 1989). Thus a range of activities are thought to facilitate community participation in health. No ideal model for practice has been adopted (Tones et al., 1989). The study sought to examine how one activity, a survey that is primarily designed to measure health, may be used creatively to facilitate more than co-operation through responding to a survey. In doing so the study highlighted a link between the theory and practice of promoting community participation and the theory and practice of what Carr-Hill has called "radical" survey methodology (Carr-Hill 1984a). Radical survey methodology may be described as a surveying process, elements of which may serve to empower to some degree potential respondents and recipients of data. Survey activity is seen as a co-operative process between lay and professional people. It is a dynamic process designed to prompt change within the study population. The argument linking radical survey methodology and community participation centres on two key factors: first the role of lay and professional people in the process of data collection and, secondly, the process by which dissemination of data involves giving local information to lay communities. These two factors are believed to have the potential to prime lay individuals and/or the community by setting an appropriate local agenda for professional and/or lay action.

To date there is little scientific evidence to support or contradict claims that a participatory survey method integrating lay and professional activity and, crucially, offering both groups access to findings, does promote community participation within the context of health promotion. The aim of this study was to provide such data within two closely defined parameters that provided the framework for the thesis. These were, first, that the survey should provide baseline measurements of a population's health-related behaviour, beliefs and attitudes and, secondly, that the method should be cheap, reliable and readily repeatable so that changes in health-related behaviour, beliefs and attitudes may be measured. The two criteria were imposed to meet over-riding health service and health promotion requirements: that the health of the population could be routinely monitored by the survey method. The limitations of the method in fulfilling the key

criteria were discussed in 5.1. The discussion now moves on to consider the more innovative activity tested here: how successfully the method promoted community participation in health. First, the method is evaluated for its ability to raise public awareness. Secondly, the discussion considers the level and nature of demand for feedback generated by the CHPS. Thirdly, the method is tested for its ability to stimulate lay activity in health by individuals and groups. Finally, the discussion shifts its focus from the lay community to consider the extent of professional response to the method itself and the data generated by the method.

The discussion draws on the model of participation put forward by Arnstein (1969). She identified two stages of participation: token participation which includes consulting and informing the community. This stage is analogous to the surveying and feedback elements of the CHPS. To reach the second stage of Arnstein's model, a degree of power, follow-through from the first stage is needed so that the community works in partnership with professionals, is delegated power and, ultimately, controls its own health. In this study follow-through is identified with professional response to the CHPS.

Awareness raising

The first test of the CHPS as a method by which to promote community participation in health was to assess how successfully it raised community awareness. Awareness of a health-related activity is a foundation for informed participation. The awareness raising function of the CHPS may therefore be seen as one of "agenda setting" within the community. In the context of Arnstein's model of participation, outlined above, it is an early and token stage of engaging the interest of the community. The success of the method in raising awareness was measured by comparing the people of Staveley's knowledge of the CHPS and the Peak Health project by which it was sponsored. Peak Health, as the District-wide Health Promotion Department, had received extensive media publicity. For example, the launch of the Project had been widely reported. A regular newspaper feature on the Project was carried by the local newspaper. In Staveley a Roadshow had been held. It should be noted that the CHPS served to publicise "Peak Health" as its name and logo appeared on CHPS questionnaires and literature. Consequently there was some overlap in the source of information about "Peak Health" and the CHPS. Despite this, data showed that more people in Staveley had heard of the CHPS (46%) than had heard of Peak Health (26%). It therefore seems that method was relatively successful in raising public awareness of the CHPS.

National studies have measured public awareness of other health promotion initiatives. For example, mass media campaigns in England and Wales about heroin abuse have reached 90% of the population. The campaigns cost over £2 million annually over

three years and involved cinema, television, radio, press and poster advertising. In Wales, after a three year campaign, over 70% of the population had heard of the Welsh Heart initiative, again after extensive media promotion (Whitehead, 1989). It therefore seems that higher levels of awareness of the CHPS could have been achieved. However, the CHPS had far more limited resources and a shorter time span that the studies noted. The level of awareness of the CHPS of almost half the community who responded therefore seems reasonable.

It also seems reasonable to claim that the survey was a cost-effective way of raising awareness about health in that, at the same time as raising awareness, data of potential use for health promotion policy, planning and practice were collected. First, surveys collecting data only are reported to cost up to £12.75 per head of the sample (Killoran, 1990). In the CHPS the cost per head of the representative sample alone was lower at £7.37. Calculated another way, the cost was £5.66 per head of all respondents in the three samples used in the CHPS. Secondly, the survey, by raising awareness, provided a foundation upon which to build health promotion activities. It could therefore be argued that subsequent health promotion activities would be more acceptable to the community. Speculatively, the CHPS may make subsequent initiatives more cost effective than would otherwise have been the case.

The level of awareness of the CHPS within the community is, in part if not primarily, attributable to the inclusion of the Opportunity Sample of community groups in the survey. Support for this claim lies in two linked arguments. First, community groups were engaged in a systematic process of assisting in publicising the survey, data collection and spreading the results from the survey. Nearly all (50) the 52 groups contacted to participate in the survey did so, and were recruited with surprising ease in that a third agreed to participate by phone and before seeing the questionnaire and a further two fifths agreed after receiving more information by post. In addition, nearly all the 50 groups that agreed to participate responded to the survey (94%), although to varying degrees (1% - 86%) with 40% generating a response from over 30% of group members. It therefore seems that the CHPS engaged the awareness of many group members in appropriate ways and generally enthusiastic comments about participation were made. For example:

> "Thank you for inviting us to take part. I think members will find it really interesting."

> "About time someone did something like this. People knock Staveley, but look where we live."

The groups that were most difficult to recruit were the two Trades Union groups, possibly because of their more formal structures. Permission for the study needed to be obtained from a number of committees. However, there was obvious suspicion about the motives for the study in that the General Secretary of one Union requested that the Director of the Health Promotion Unit call in person to discuss the project and one branch secretary rang wanting to know the political affiliation of the researcher. This information was not given but resulted in a lively discussion about political perspectives on research. Political sensitivities amongst other members may have influenced response, which was low at only 4%.

There is evidence that there were important differences in routes by which information about the CHPS and Peak Health were spread throughout the community. The CHPS method activated social networks already embedded in the community in a way that Peak Health publicity was unable to achieve to such an extent. For example, informal channels of communications such as friends, group members and the family were found to be as important in the spread of information about the CHPS as the media.

The probable explanation for the success of the CHPS in activating social networks was probably its inclusion of the unusual Opportunity Sample of community groups. Community groups were deliberately involved to engage the interest of lay leaders in the community and of individuals known to each other through their common membership of groups. Although the study did not systematically measure whether informal networks by which information is spread to members within groups existed in Staveley, they could be expected to be present. It is known that such informal networks, often based on oral communication, are important in spreading information (Rogers, 1979). By engaging the interest of groups it was reasonable to anticipate that existing social networks would be activated naturally by lay leaders and members. In addition, group members may well have acted as "bridges" to spread information to non-group members in the wider community (Rogers and Shoemaker, 1983). A further possible explanation for the CHPS method's ability to activate social networks is that whole families were likely to have been included in the survey through the various samples. Families may have discussed the CHPS within extended families and outside the family thus raising more awareness about the survey. Although no comparable data are available it seems unlikely that social networks would be activated in the same way using more usual population sampling and postal survey methods.

The probability that social networks were important channels of communication in the CHPS is not surprising. However, an appreciation of the extent to which awareness may be raised by including a range of community groups in a survey is important information for health promotion. Social networks are integral to social support systems

(Berkman, 1985). They are related to psychological factors in health (Fox, 1988) and to physical wellbeing (House, Landis, and Umberson, 1988; Hanson, Isacsson, Janzon and Lindell, 1989). For example, Ruberman, Weinblatt, Goldberg and Chaudhary (1981) have suggested that social support, such as membership of clubs and societies or regular contact with family and friends, enhances the chances of survival after myocardial infarction. Cohen and Syme (1985) drew together interdisciplinary views, emphasising the role of social support in positive health, for example, amongst the elderly, those in the middle years and those suffering from stress. More recently Syme (1991) has argued that social support, and so inclusion in social networks, clearly acts as a "buffering" agent against the onset of illness. It seems that strong community and familial ties have a life enhancing influence (Blaxter, 1990) and so strategies such as the CHPS that inform and activate social networks are potentially useful in promoting health.

The technique of raising awareness through surveying activities may be refined based on the CHPS experience. For example, socially-based groups of under 100 and over 10 appear to be better responders. Surveys may be used to engage target groups or to spread awareness of particular topics. Women's groups appear to be particularly receptive to the method, probably because they are more interested in and responsible for health than men (Pill, 1988; Mayall and Foster, 1989). They may be surveyed to, say, gather views about local children's health and, at the same time, spread information about child immunisation programmes. Unemployed groups also appear to be responsive to the method. Surveying groups likely to contain unemployed men may be used to raise awareness of, say, the impact of alcohol on health. Data about knowledge and attitudes towards alcohol may be collected to inform programmes of health promotion activity. Feedback could include information about facilities for unemployed people.

A higher awareness of the CHPS amongst women may have been caused by a number of factors although it should be noted that the absolute number of women contacted in the various groups, whether for women only or for both men and women, is not known because it was impractical to collect data about the characteristics of all members of groups. First, Orr (1987) has observed that social networks are particularly important to women. She also notes that women are known to be more interested in health than men. It therefore seems reasonable to suggest that women talk more about health among themselves than do men. Women may also have more extensive or stronger social networks. Secondly, participating community groups may have contained more women than men, and so more women had a direct opportunity to find out about the CHPS. Thirdly, because of their size, nature or structure women's groups may be particularly conducive to informal verbal communication. For example, women meeting at a toddler group or working together in a machine room may have found it easier to

talk to each other about health issues than men in a Miner's Welfare Club or in a chemical processing factory. Smaller, informal friendship-based groups, such as a luncheon club or group for parents, may also create circumstances where discussion is easier. Informal communication may be more difficult in larger, more fragmented groups such as a union's membership. Finally, women are more likely to respond to surveys than are men (Johnson et al., 1989; Galt, 1991) and were arguably therefore more likely to be aware of the CHPS.

In summary, the CHPS seems to have been reasonably successful as a priming activity for community participation in health by setting an agenda for community health. The method was probably successful because it engaged social networks in the spread of information, as well as more formal media routes. Based on the experience of the CHPS more precise criteria about the size and the nature of groups to be included in future surveys may be set that may enable social networks to be activated more efficiently.

Demand for feedback

The second test of the CHPS as a method of promoting participation in health was to examine the demand for feedback it generated. Feedback was seen as a method of informing the community about its own health and related issues. If the method did not create demand then community interest in the health-related issues surveyed was low and the method failed to stimulate it, or interest was there but the method failed to capitalise on it appropriately. In either case, attempts to follow-through from the survey were unlikely to be successful.

Demand for feedback was assessed using two measures from data generated by the GP Practice 20% sample: response from the study sample and requests for feedback from study respondents. Response from the study sample was almost 60%. Requests for feedback came from nearly two thirds of study respondents. Thus demand for feedback came from over a third of the total study sample. Information from other types of surveys had already tentatively suggested that individual respondents were likely to be interested in two types of feedback: findings from the survey and information about healthy living, both of which were offered in the CHPS. Carr-Hill (1984a) found an unspecified but "high" level of interest in survey results amongst respondents in an education survey. Liddiard (1988) found that all but one of her 83 interviewees wanted a copy of findings and four-fifths wanted information about health. Results of the study have therefore been shown to be popular when there is a personal and immediate concern over the topic and information is easy to obtain. A further possible reason for the high level of interest in feedback is that many people do not know where to obtain credible information about health (Philipp et al., 1988). In the CHPS it may be that the Health Authority was seen

as a credible and authoritative source of information by respondents, as doctors have been shown to be (Worsley, 1989), thus attracting demand that may not have been generated by, for example, a commercially sponsored survey.

Evidence from the CHPS that over 60% of study respondents wanted each sort of feedback fills an information gap about the role of postal surveys in generating demand for feedback. Data also appear to support the notion that local health-related surveys produce information of interest to local people (Feuerstein, 1986) although, if offered, any relevant feedback may be requested by a proportion of participants. In this study the results of the survey generated more requests than any other item, and made up a fifth of all feedback. CHPS evidence therefore confirms that an appreciable percentage of survey respondents can be expected to want to know the survey's findings (Carr-Hill, 1984a) but in this instance with reference to health rather than education.

Studies indicate that different survey methods generate different levels of demand for feedback. Demand in the postal survey may be from more committed and less passive respondents: action is required before feedback can be obtained. For example, respondents had to select the type of feedback and give their names and addresses on an otherwise anonymous questionnaire. In an interview survey a more passive role may be adopted by recipients when information is offered on the spot. Interviewees may also feel under more pressure to accept leaflets than respondents to a postal survey. This seems a reasonable assumption as, unlike respondents to the CHPS, all Liddiard's interviewees who were smokers accepted leaflets about smoking (1988). An alternative argument is that interviewees, to please the interviewer or through interest stimulated by the interview, readily accept or ask for feedback. It seems probable that the skill of the interviewer in engaging the co-operation and interest of study participants is an important factor in determining interviewees' demand for feedback. Differences in demand for feedback may also be attributable to different study populations, although both this and Liddiard's study took place in primarily working class communities. Blaxter (1990) has highlighted the differences that may exist between populations that appear to be comparable using socio-economic criteria. Variations in levels of demand for feedback from a survey may be one difference between seemingly similar communities.

In the follow-up study 80% of respondents reported that feedback they received was of interest and so, presumably, appropriate, despite concerns over its emphasis on individual responsibility for health (Farrant and Russell, 1986a). Feedback may have been well received because it complemented expectations, values and attitudes already held (Alcalay, 1983) or reinforced existing patterns of behaviour.

The CHPS generally demonstrated the feasibility of sending postal feedback to respondents. Four-fifths of those who reported asking for leaflets reported having

received them. This suggests that a more rigorous system by which to disseminate feedback is required, although some reported non-receipt may have been caused by recall bias.

The quicker feedback is achieved the more likely it is to be seen as relevant to respondents. Leaflets about healthy living were posted out within one or two days of receipt of requests so that a swift response to interest was achieved. Obviously survey findings could not be sent out as quickly and took some five months to disseminate. The time gap required to complete data collection, analyses, selection and preparation of results and dissemination of leaflets could perhaps be shortened. This would have been difficult in this study as feedback was given high priority, although with more resources than were available here it may be possible to cut the time gap between a survey and feedback. Even so, an unavoidable time lag may reduce the impact of feedback on recipients. In these circumstances a policy of maintaining community interest in health may need to be established. For example, to keep health on the local agenda practitioners may visit groups offering sessions known to be of interest because of the high demand for information about, for example, diet. Literature that was not offered in the CHPS could be made available to groups through, for example, regular postings or personal deliveries of copies of additional leaflets to groups themselves. Alternatively, group members could be sent lists of a wider range of leaflets from which to select those of interest, together with freepost envelopes by which to return their requests. It could also be made known to groups that copies of these leaflets were available through the local library or community centres. Media coverage of health-related issues could be stimulated, for example, local services or national events such as the HEA's No Smoking Day.

That so many people were interested in receiving feedback is encouraging, but it also leads to speculation about why two thirds of respondents did not ask for feedback. Demographic data showed that there were no differences between requesters and non-requesters of information by sex, social class and employment status. However, there were age differences with those aged 25 - 44 most likely to ask for leaflets. The following reasons, or a combination of them, may help to explain why some people did not ask for feedback. A proportion of respondents may have already obtained adequate information about health. Others may have wanted specific information, but this was not offered, for example, young people may have been interested in sexual health and older people in information associated with ageing such as arthritis. This seems likely for people with specific health problems since the available feedback about health was very general. Some respondents may have felt so anxious about their health that they were inhibited from asking for leaflets. Some of the 10-13% of the population with literacy difficulties may have responded to the survey, but were unlikely to request written material as a source of

information. Some people may not have wished to give their names and addresses on an otherwise confidential questionnaire. Finally, some respondents may have been interested enough to complete the questionnaire, but not interested enough in health to ask for information.

It was encouraging that a third of the community studied wanted information about health because Staveley was selected because of high levels of disadvantage. Unemployment was up to 17% higher than the national average of 10% whilst low socio-economic status was up to 35% greater than the national average. The evidence therefore shows that unskilled populations such as Staveley are interested in health and that the CHPS appears to be an appropriate method by which to capitalise on at least some of that interest.

Three notes of caution must temper claims about the method's apparent success in stimulating interest in health-related information. The pilot study demonstrated that it was not feasible to respond to open-ended requests for information or other comments about health. The range of health problems individuals wanted information about was so great and specific that it was beyond the resources of the researcher to provide adequate response. Information was requested in the pilot study about both common and relatively uncommon complaints, for example, back ache, arthritis and spondylitis. Research into the literature available was both time consuming and, at times, fruitless. Feedback was therefore pre-determined. It may be that information about other health-related topics were of equal, or greater, interest to the community but was not measured in this study. For example, information about the effect of pollution may have been popular as individuals were generally forthright in their views about what they wanted done about it and how it effected their health. For example:

> "Ask Staveley Chemicals not to discharge obnoxious gases into the air, as we still get the objectionable smells at night, as we must, of necessity, have windows open. Both my husband and I suffer from sneezing spasms brought on by the disgusting smells from 'the works'."

> "You could help clean up our rivers, stop chemical pollution into our foods, monitor industrial pollution into the air around us, stop artificial preservatives in food and drink. Support lead free petrol. Educate people about health and pollution which they eat."

> "I live in an area where dog excrement is terrible on the paths. Perhaps when the roads are cleaned they could clean these areas too."

"I can't afford to move but the fertilizers the farmer uses on the field at the bottom of my garden smells disgusting....."

"Traffic gets worse through Staveley which doesn't help to keep us from our breathing problems."

In addition, respondents mentioned the problems and stresses associated with lack of money which meant, for the people quoted below, the first two of whom are single parents:

> "living on a shoestring trying to make money go further than it does. Working in a full-time job and getting no benefit out of doing. Only just being able to live day to day."
>
> "buying shoes for the kids means I have to cut down on food"
>
> "we can't have a holiday or even a day out"
>
> "I'm just so fed up and tired. I seem to go on and on getting no-where up to my neck in debt".

In such cases information about welfare benefits and debt counselling may have been welcome.

The pilot study also demonstrated that feedback to individual school children about health-related behaviour was not feasible because of the quantity of material requested and the school's organisational problems in returning material to pupils. However, it was hoped that teachers would feedback CHPS data to children in groups. Such activity was discussed with staff but there is no evidence that any pupils were given access to data generated by their school. This was disappointing as imaginative ideas had been generated at the meeting of participating schools about how to capitalise on the high level of children's concern about local pollution. This point is further discussed in 5.3. On the other hand, teachers may have deliberately refrained from disseminating results to pupils if it was felt that results reflected badly on the school.

There is a commercial interest in responding to lay interest in health, for example, through selling information (Law and Lyall, 1988) and promoting health-related products (Roberts, 1986). Such interest may appropriately meet the needs of the lay public and promote societal and individual wellbeing. A publicly funded health promotion

activity, such as the CHPS, that identifies individuals' interests and a system by which they may be contacted, therefore has the potential to be exploited for financial gain. For example, mailing lists of respondents who are smokers or engage in particular sports may be attractive to those selling stop-smoking products or sports equipment. Postcoded data may identify areas for door-to-door sales campaigns. Maintenance of the integrity and confidentiality of data supplied by individual respondents is an ethical standard that must inhibit researchers from allowing inappropriate commercial use of data. Similarly, networks set up and used by health promotion need to be protected.

Patterns of demand for feedback and characteristics of respondents requesting feedback

Data generated in the GP Practice survey showed some clear patterns of demand for feedback and characteristics of requesters. The CHPS had already introduced two strategies that enabled levels of interest in particular items of feedback to be identified. First, as noted earlier, respondents had to make a specific decision to ask for feedback. It was not automatically available. Secondly, rather than providing a set package of information respondents were required to select from a range of information offered. Feedback was thus tailored to respond to individuals' particular interests.

Stratified data gave rise to a number of interesting and important observations about feedback. Demand for both types of feedback, the summary of findings and information about healthy living, was similar. There were no differences in the proportions of those in skilled and unskilled groups requesting information. If expressing interest in receiving information may be taken to imply an intention to change a health-related behaviour then the data seems to support the contention that working class and middle class people appear to differ very little in their intention to change (Hunt and MacLeod, 1987).

Interest in both types of feedback, regardless of sex, was significantly greatest amongst 25-44 year olds followed by those aged 45-64 years. It may be that those aged 25 - 44 years are simply more interested in health generally, or possibly more interested in body image: diet was of more interest to women whilst exercise was of equal interest to men and women. Higher interest amongst these two age groups is generally in accord with evidence that older people value health more highly than young people (Worsley, 1990), despite having lower expectations of health and a more fatalistic attitude towards it (Wright, 1986; Heckheimer, 1989).

People were selective about the feedback about healthy living they wished to receive. The average number of items about healthy living requested was three of the nine offered. This was particularly interesting because it was the same level as had been observed in Liddiard's survey (1988), despite methodological differences between the

studies and the fact that only five items were available in Liddiard's study.

Respondents made links between themselves and their situations, their behaviour and health risks and this indicates that there was an existing knowledge base about health within the community. For example, women were found to ask for more leaflets than men. They also asked for more leaflets about women's health, such as cervical cytology, and family health, such as minor illnesses. The pattern of interest amongst women is in accord with evidence that women are known to have a greater responsibility for family health (Graham, 1990), to be more interested in health (Orr, 1987) and to value health more than men (Worsley, 1990). Nevertheless, men also revealed an awareness of health issues relevant to them through the leaflets they requested. For example, men were shown to be heavier drinkers than women, and asked for more leaflets about alcohol. Men in the "at risk" age group for coronary heart disease, 45-64 years of age, asked for more leaflets about heart disease. Other population groups expressed interest in information relevant to their health needs. For example, the unemployed and those in Social Classes IV and V were more likely to be smokers and to request leaflets about smoking.

Not all those engaging in behaviour associated with health risks asked for information. For example, only 37% of smokers asked for leaflets about smoking, suggesting that some two thirds of smokers did not perceive themselves to be at risk, already knew about the risks and / or did not intend to change their behaviour. In Liddiard's study (1988) all smokers "took" leaflets reinforcing the view already expressed that methodological differences probably accounted for differing levels of uptake of feedback observed between the two studies. It may also be that the role of the interviewer was explicitly to offer opportunistic advice during door-step interviews, although this is not clear from Liddiard's report. Liddiard does not report the number of non-smokers who requested smoking leaflets but in the CHPS such demand made up 25% of all feedback about smoking. No reasons were sought for such demand amongst non-smokers although it may be that recipients hoped to use leaflets to influence smokers.

Finally, diet and exercise were shown to be of most interest in feedback about healthy living. This was also observed by Liddiard (1988), although exact levels of interest were not measured, and others have confirmed the higher level of interest in these two topics. They have also shown that the low level of interest in smoking and alcohol is not unique to this study (Philipp et al., 1988; Aizpuru and Jones, 1989).

From the level of demand for leaflets it seems that access to health information is not adequate to meet local interest, although it may be that it was the survey itself that stimulated interest. Alternative channels need to complement existing sources to meet some population groups' particular interests. On the other hand it may be that people in

the study population had access to information, possibly through the media (Whitehead, 1989), but wished to use a range of sources, of which the CHPS was but one. Characteristics of those requesting feedback reflect patterns observed elsewhere and confirm that people are selective about the information they want. People's interest in health-related information appears to be relevant to their situations. The CHPS seems to have successfully identified and fulfilled some population groups' interest in health-related information.

The surveying and feedback activity of the CHPS discussed in this and the previous section may be seen as two levels of Arnstein's model of community participation (1969). The survey may be seen as a "consultative" activity and feedback as an "informing" level of participation. Arnstein has two views about the appropriateness of these activities to community participation. First, surveying and feedback may be seen as examples of token participation designed to placate the community, especially as the literature people received was focused on individual responsibility for health. Secondly, again drawing from Arnstein's work, a more optimistic view of feedback would be that community participation develops at varying rates. The CHPS provided an information base about health as an essential precursor to follow-through. It paved the way for small participatory projects, such as the Drop In Centre discussed in the following section, and assisted their acceptability to the community. Over time individuals within the community would see an evolving response to local interests and so seek to better their own situation, possibly collectively. Thus the consultative and information giving activities prompted by the CHPS may be seen as a foundation on which to build, over time, more intensive levels of participation.

Impact of the survey on lay individuals and community groups

The third test of the CHPS was to examine its impact on lay individuals and groups participating in the survey. Impact on individuals was only assessed by measuring changes in health-related behaviour using self-reported data, some of which was taken at two points in time. Data focused on a limited range of personal health-related behaviour, such as smoking. They did not explore individual's participation in, for example, campaigning activities. Nor did they examine individual's knowledge of health related issues. It is therefore a limited assessment of the range of influences that the survey could have exerted.

Other studies which have integrated feedback to the population into their surveys offer few details about its impact (Bloomsbury HA, 1987; Liddiard, 1988). For example, in a study of housing and health it was stated that the findings "generated interest and discussion". A more ambitious, but unsubstantiated, claim was also made that local people

were "empowered" because the data gave them credibility in dealing with their local authority and national agencies (Ginnerty et al., 1989). In Clapham the views of local and professional people about local health needs were disseminated in a report which was said to "add to the groundswell of opinion that collective and personal involvement is a requirement for health for all" (Dun, 1989). Studies, including this one, consistently fail to demonstrate how local individuals have instigated substantial change individually or within the community as a result of a survey. There is therefore, as yet, no convincing evidence to support Carr-Hill's contention that study populations themselves may effect changes in their circumstances by using survey data (Carr-Hill, 1984a) and so move his theory from the realms of rhetoric to reality in practice. Carr-Hill himself accepted that he had no evidence of how far the process he used "addressed one of the crucial difficulties ....how to get people to reject ideological domination.... and involve the respondents in an active campaign". Indeed, there seems to be some contradiction in Carr-Hill's objectives. He hoped to prompt change but the data collection method he used was deliberately "non-invasive and non-challenging", thus actually mitigating against change.

In planning the CHPS there was no anticipation that individuals would change just because of feedback: information alone has been shown to be ineffective in prompting change (Whitehead, 1989). It was speculated that any change would occur because of follow-through. At the same time, it was appreciated that the barriers to change are complex and that living circumstances in disadvantaged communities makes it hard for people to effect change (De Vos and Suarez-Orozco, 1990; Helman, 1990). It was therefore surprising, but pleasing, that there was some self-reported claims, albeit from small numbers, that the CHPS was seen as an agent of change in some personal and collective behaviour. These claims are discussed in the next two sections.

Change in individuals' health-related behaviour

Tones et al. (1989) have argued that the more non-alienating and non-threatening cues to change, the more likely change is to occur. Arguably the CHPS systematically offered a number of such cues which explain why some change was reported, for example, stages of feedback. In the follow-up study of 54 respondents who took part in the CHPS it was found that 10 (19%) attributed change in health-related behaviour solely to participation in the CHPS and all had received feedback. This was an unexpected and interesting finding although, as numbers are very small, findings must be treated with caution. These data cannot be compared directly with results from other studies but some research into smoking offers relevant evidence. For example, findings from a validated case-control study of over 2,000 patients show that advice prompts 2 - 4% of GP patients to stop smoking, over and above those who would stop anyway (Jamrozik, Vessey, Fowler,

Wald, Parker and Van Vunrakis, 1984). Unvalidated claims of success rates for stopping smoking initiatives may be over-optimistic, at least in certain circumstances where there is a reason for deception such as amongst members of stop smoking groups who may feel guilty about failure to change behaviour (Sillett et al., 1978). In the CHPS claims of change in health-related behaviour attributed to the survey were, first, based not only on self-reported smoking, but also other behaviour. Secondly, behaviour reported as changed was not addictive and so was arguably not as difficult to change as smoking. Finally, respondents were not necessarily reporting in circumstances where change had been advised by health staff. It seems likely that self-reported claims about change are unreliable, especially when open to recall bias. However, and tentatively, a small number of people - less than the 19% measured - may change their behaviour because of the CHPS method, and that feedback is crucial in that process. Alternatively, it may be that people who ask for feedback are already motivated to change and feedback simply reinforces this.

It is clear from the self-reported evidence that the CHPS was only one factor that stimulated or supported individuals in changing their health-related behaviour. Other factors appear to have been important to 209 (81%) respondents who reported changing some aspect of health-related behaviour, but who also reported that they were not influenced by participation in the CHPS. The interrelated influences of, for example, a local health road-show, advice from local health care staff, national media and centralised campaigns and the views of family and friends were all brought to bear on local people but were beyond the scope of the study to examine. It was, however, possible to identify what health-related behaviour people believed they had changed, although care must be taken in the interpretation of data because of small numbers in the samples. For example, half the changes unconnected with the CHPS was said to be to diet. A component of diet is, arguably, easy to change but its impact on positive health likely to be less substantial than, say, stopping smoking. This adds another dimension to the notion that health promotion that is popular amongst health professionals is easy and inconsequential (Worden, 1979): this may also be true of the public. On the other hand, differences in behaviours changed may simply be explained by different levels of their relevance: all respondents eat but smokers are in a minority.

Health benefits from altering behaviour may not be the only reason for change. Data showed that women and those in Social Classes I and II were most likely to claim to have changed weight. Closely linked with weight is diet which, again, women were more likely to report having changed. Young people aged 18 - 24 years were more likely than those in older age groups to have changed their exercise patterns. The reasons for these changes may be linked to women and young people being particularly concerned about

body image (Blaxter, 1990). This has also been shown to be true of those aged 14 - 15 years (Orme, 1991). Young men, better able to maintain and improve youthful fitness, may also have been responding to the message that increased exercise reduces the risk of heart disease in later life. Older men with more financial, work and family responsibilities may have found responding to this message more difficult.

In summarising this part of the discussion it seems fair to conclude that there is some slight evidence to demonstrate that the survey was one factor amongst many that stimulated or reinforced change in a small minority of the population. The discussion now moves on to consider the final test of the CHPS as a method by which to further promote community participation in health and examines its impact on community groups.

Impact of the CHPS on community groups

Two factors are important in the interpretation of evidence about the disappointingly low impact of the CHPS on community groups. First, only 33% of the groups invited to report on activities resulting from participation in the CHPS responded. Poor response will probably have biased findings towards groups with some activity to report as four-fifths recorded initiatives. No data were available from health promotion staff about the activities of non-responding groups as they had had no contact with them. The extent of response bias cannot be assessed and so it is inappropriate to extrapolate findings from responding groups to non-responding groups. Secondly, health promotion staff failed to systematically feedback their own data to most community groups. Thus any potential there may have been for stimulating groups' participation in health was lost.

There are two items of evidence to suggest that health-promotion activities in groups would have been greater if health promotion staff had been proactive in using prepared feedback of groups' data. First, two unsolicited requests from community groups were received. One social group asked for support over an environmental issue and the other, supermarket staff, asked for "ideas we can use" in the workplace. Secondly, two groups identified as priority groups for action by the part-time Programme Manager for the Unemployed reported that, after the CHPS, they had initiated regular health-related activities, such as inviting speakers to their groups. Activity in these groups may have been the result of the interest of key lay group leaders or the nature of the groups rather than the direct result of professional input. In the two groups that instigated health-related activity professional support enabled the group to go beyond "token" stages of participation to the level of partnership. Particularly in the Drop In Centre, which is discussed in more detail in 5.3, there were characteristics of partnership as described by Arnstein (1969).

Three assessments of survey feedback as a method by which to promote the early

stages of community participation in health have been examined in this section of the discussion. These stages, consulting and informing, have been described by Arnstein (1969) as token and placatory. Arnstein argues that follow-through is needed to translate token participation into higher levels of participation such as partnership. The next section therefore considers the role of the CHPS in offering opportunities for follow-through, together with examples of how such opportunities were, or may be, used in practice.

5.3 Follow-through to the lay community by policy makers, planners and practitioners

In "the real world of people and programs" community participation does not progress in clear stages, but "has less sharp and pure distinctions" (Arnstein, 1969). Kroutil and Eng (1989) emphasised that groups within the community are not homogeneous. These views imply that, had there been more professional follow-through to the CHPS, some lay groups may have been more responsive than others. The following section discusses achieved and theoretical follow-through opportunities that the CHPS had the potential to create for policy makers, planners and practitioners: theoretical because, in practice, few such activities were attempted by health promotion staff. Possible reasons for this are discussed in 5.6.

Follow-through: lay interest health information

Considerable lay interest in information about health that is not being met has been found by others in different settings and using methods other than postal surveys (Law and Lyall, 1988; Aizpuru and Jones, 1989). Such interest appears to exist in Staveley, too, although the CHPS may itself have stimulated some of that interest. This implies that, in Staveley, the community would welcome better access to information about healthy living. Consequently, fulfilling this community-wide interest should have been made a priority for practice creating a better knowledge base and firmer foundation on which to build participatory activity. In practice this was not attempted.

A simple response by which to achieve wider dissemination of healthy living leaflets would be to organise alternative distribution channels. Distribution points could be set up based on, or serving, groups such as those in the Opportunity Sample, for example, Job Centres and local shops. This suggestion is realistic given the high level of participation of groups in the CHPS. Literature received by requesters of information about healthy living was generally of interest. It is therefore probable that existing nationally produced literature would be acceptable. On the other hand, the provision of health information alone is ineffective in prompting change (Whitehead, 1989) and

Farrant (1991) points to a contradiction between the emphasis in much literature on individual responsibility for personal health and community participation where, paradoxically, collective action is stressed. Two strategies are outlined briefly that use CHPS information about interest in health that, theoretically, would create opportunities for higher levels of community participation than simply "informing" through the dissemination of literature.

First, health promotion practitioners could initiate activities to produce literature more relevant to the local community (Kenner, 1985). For example, those already contacted through the Opportunity Sample may be willing to engage in critical analysis of nationally produced and/or commercial literature. This activity may lead on to professionals supporting lay people in the production of leaflets. For example, diet appears to be of general concern. Work with the elderly could result in leaflets giving details of local shops that sell single portions of healthy food at reasonable prices. Groups of unemployed people may be more interested in practical ideas about healthy eating for families on a low income. Young people may be particularly interested in the healthiness of various snack foods.

As local people find locally produced materials particularly interesting (Kenner, 1985; Farrant and Russell, 1986a) it is important to disseminate this type of material to others within the community. A group writing a leaflet could be involved in a planned process of its dissemination, seeking small scale local sponsorship to pay for its production, printing and dissemination. The group could distribute leaflets through their own social networks and more formal distribution systems could be accessed, for example, using inserts in free trade newspapers or parish newletters.

Secondly, health promotion staff could follow-up groups' interests as assessed by the type of literature sent to group members. Examination of levels of interest in particular topics would enable approaches to be more sensitive. For example, one group of unemployed men was particularly interested in smoking and alcohol literature. Further information, and practical support for those wishing to act on advice, could be offered. Individual counselling and / or whole group sessions focused on these topics could be introduced. The views of non-smokers and the risks of passive smoking may be debated. Recommended levels of alcohol intake could be explained. The experiences of members could be shared with discussion focusing on both barriers to change and practical strategies by which to support, say, smokers who wish to give up or drinkers who wish to cut down their alcohol intake. Further follow-through could arise that would have implications for the wider community, for example, pressurising local clubs to serve low alcohol drinks or to provide no-smoking areas. The activities described above had the potential to take Arnstein's token stage of informing by the dissemination of literature to

that of partnership, if not control. Unfortunately, these chances for action were lost.

Follow-through: feedback to community groups

Community participation with high levels of intensity is likely to take a long time to develop in groups, especially where no tradition of participation exists (Luker and Orr, 1985; Rifkin, 1985; Adams, 1989) and where group members have high levels of disadvantage. In Staveley groups had high proportions of single parents and the unemployed and so could be expected to find participation particularly difficult (Brown, 1991) and require more time and resources than other population groups. Feeding back their own data to participating community groups was therefore seen as a crucial first follow-through activity to the CHPS. In practice no such systematic feedback was achieved, despite the supply of analyses of key variables by responsive community groups to the Health Promotion Unit. This was very disappointing and leads to speculation about what opportunities were lost because feedback sessions were not set up.

First, health promotion practitioners were given ownership of the data. They had the opportunity not only to familiarise themselves with data but also to consider the data's implications for practice with specific groups. Secondly, through feedback sessions groups, themselves would have become more aware of their individual and collective health-related behaviour. In themselves, the data may have stimulated debate and discussion within the group, if not action. However, with the support of the health promotion professionals, action would be more likely. In working with groups health promotion practitioners could have acted as facilitators, helping the group to identify its own health needs: these may or may not have been related to the content of the survey. Groups' interests could then have been addressed through an equal partnership between professionals and lay people. Thirdly, the feedback sessions could have maintained lay/professional relationships whether groups were ready for participatory activity or not.

The CHPS had, again theoretically, carried out three time saving functions for staff intending to promote participation in health in Staveley. It had generated contacts and interest in the groups, provided an information base about health and identified groups where a third of members had participated in the study. Feedback therefore directed practitioners towards groups which were likely to be receptive to participatory activities. Nevertheless, follow-through would need to be sustained over a period of time and so drain limited resources.

The reason given for lack of follow-through to community groups was that of pressure of work and under-staffing. However, it seems reasonable to claim that had follow-through been treated as a priority by policy makers, planners and practitioners then it could have been achieved, albeit at the expense of other activities. This point is

developed further in 5.6, the final section of the discussion.

Follow-through: integration of CHPS activity and a community development project

In the evaluation of the impact of the CHPS method there is just one example of how a practitioner used the CHPS method imaginatively to promote community participation in health: the establishment of the Drop In Centre at Mastin Moor. The way in which the CHPS was used here was not anticipated but demonstrates the potential of the method to be used opportunistically to meet the needs of a local community.

The Health Promotion Officer for the Unemployed distributed and collected CHPS questionnaires in one part of Staveley, Mastin Moor, where unemployment was particularly high. The CHPS gave the Officer a reason for informal contact and discussion with local people. This activity is analogous to the "listening" stage identified by Luker and Orr (1987) and McDiarmid (1990). During these contacts the need for information about a range of subjects was identified, for example, family and unemployment benefits. The lack of a meeting place for local people, especially parents, was also identified. As a result, health staff set up a community development project in Mastin Moor to meet the needs of local unemployed people and parents. The project was an example of induced participation (Oakley, 1989).

After two years the Centre became independent of the Health Authority both financially and administratively, being run entirely by local residents. There was negotiation between lay leaders and professional people which involved shared planning and decision making. A formal planning committee and accountability structures had also been established. Initial emphasis on meeting specific information needs changed. Activity focused more on personal development and skills learning, whilst maintaining a strong social element for parents. An evaluation seeking the views of members of the Drop In Centre has been completed (Roberts, 1991). The report concluded that the project was a worthwhile community development project serving the needs of some local people through local effort. However, the centre has failed to secure the financial security so necessary to groups being able to control activity (McDiarmid, 1990). For example, funding for a playgroup had been sporadic and uncertain and members were not sure whether rental for the building could be found for the following year. These types of uncertainty, together with personality conflicts and dissent about the changing objectives of the group were threatening its durability and development.

Using Arnstein's model of participation this section has discussed how the CHPS provided health professionals with opportunities for follow-through to the lay community. Whilst such opportunities were created most were not used. There were no systematic follow-through activities amongst either school children or adults, individuals were not

encouraged to actively and collectively work for change in, for example, the environment. No attempt to work towards the redistribution of resources to, or within, the community was recorded. The community itself certainly had no power to ensure that its views were heeded. Because of the disappointing lack of follow-through, in practice the CHPS achieved only token community participation.

The next section considers how data from the CHPS were used by professionals in policy making, setting priorities for health promotion and in monitoring progress.

Follow-through: feedback to professionals

The CHPS showed that it was feasible to feed back data to professional community leaders: doctors and teachers. The method of feedback was shown to be generally acceptable. Teachers and GPs appeared to feel that data provided were generally comprehensive and understandable. All were prepared, with varying degrees of urgency, to participate in a future survey.

GP's activities were not, on the whole, influenced by the survey findings. Doctors reported that they were already offering opportunistic well men and well women screening. Advice and information to meet individual's concerns was readily available. Thus it was felt by GPs that their practices were already meeting some of the interests of respondents. Concerns over, for example, pollution and housing were felt to be beyond the sphere of GP's influence.

There was evidence that policy in schools was confirmed by findings from the CHPS. For example, one school was trying to integrate home/school health education. CHPS data reinforced its view that children cannot be taught in isolation from the wider community and that, for example, stop smoking initiatives must be addressed to both pupils and parents. Some activity in schools was influenced by findings. Consideration of data from pupils aged 11-12 resulted in smoking and drug education being introduced to this age group. HIV/AIDS programmes were developed further in one school because of evidence that most HIV/AIDS information came from friends and the media. In this instance it was possible to link information in school with that provided in the local youth club, thus bridging school and leisure activities. However, it was disappointing that staff in schools did not use data to stimulate teaching activities, despite recognising their potential to do so. For example, staff in one school knew that pupils were particularly concerned about the unpleasant effect of dogs fouling the school playing field. They suggested that pupils could be given data about local pollution and then go on to look at ways of addressing the issue in practice. It was felt that pupils could: design posters to be displayed in local shops and leaflets to be distributed through the local newsagent's asking people not to walk dogs on the school field; organise a petition within school and

amongst parents and staff; invite the local dog warden to come and talk in school; write to dog food manufacturers suggesting that they should give away "pooper scoopers". A maths project assessing the weight of the problem was vetoed! The reasons for lack of feedback of data and follow-through activity were not explored. However, a lack of continuing support from health promotion staff seems to be one likely factor. Creative teaching ideas could have been developed into teaching materials so that staff could readily use data in, for example, English or art and design lessons. Supportive teaching materials, such as the HEA "Smoking and Me" pack for secondary school teachers (HEA, 1992), may need to be made available to facilitate feedback of survey findings to pupils.

Data had been used to inform a wide range of other professional policy makers and planners. Professionals were not only within the Health Authority but also in allied activities, such as environmental health. Information was disseminated mainly through committee procedures and personal networks. Data were being used to assist in evolving policy by highlighting particular concerns, such as the high levels of drinking amongst young male parents shown in Appendix 5.1. The use of data in informing policy is further discussed in 5.4.

The interest in local data by professionals, policy makers and planners was anticipated. In both the Third World (Feuerstein, 1986; Mandara, 1987) and in the UK (Butler, 1987; Somerset HA, 1988) the view that local data have the potential power to engage local interest in local health issues has been expressed.

5.4 Use of data in policy making, monitoring progress and prioritising practice

The use of survey data to inform policy, prioritise practice and monitor health-related behaviour has been identified elsewhere and is frequently cited as the rationale for lifestyle surveys (HPAW, 1985a; Somerset HA, 1988; Leyden et al., 1990). This section therefore comments briefly on the use of data in these ways.

The Health Promotion Unit does not appear to have systematically recorded or assessed how data have been disseminated and used by professional colleagues, although the data were made available to various relevant policy-making bodies. Not all these bodies were directly accountable to the DHA, reflecting the multi-agency approach taken by the Health Promotion Unit. It was hoped by the Director of the Health Promotion Unit that data disseminated to various agencies would have an impact on policy makers over time. For example, data could make environmental health officers aware of the high proportion of people in Staveley who were concerned about pollution from the local chemical works. This awareness could lead to policies whereby emissions are monitored

more often and better information about emissions made available to the public. There is no firm evidence to date to suggest that data has had any impact on other professional policy makers.

A second use of data in policy making was the setting of targets for health promotion activity. In North Derbyshire a series of detailed targets were set for health promotion staff to achieve by the year 2000, using data from the CHPS (Beales, 1990). For example, policy states that the number of parents drinking alcohol beyond recommended limits is to be reduced by one third. Adult smoking is to be reduced to a fifth of the population and the prevalence of smoking amongst those aged 12 to 17 is to be reduced by one third. Further details of smoking targets are given in Appendix 5.1. Brief guidelines for activities by which these targets are to be met are offered, stressing local interagency co-operation between for example, the Health Promotion Unit, the Local Education Authority and the Department of Environmental Health. Linked to the setting of targets is the monitoring of health-related behaviour by re-administering the survey to the population so that changes may be identified. The study showed that measurement of change using the CHPS is possible.

There is a pattern of base-line data collected in lifestyle surveys being used to set policy objectives for both long term and intermediate changes in populations' health-related behaviour and associated premature morbidity and mortality (Tones et al., 1989). Targets have been set for both adults and children (HPAW, 1985a; Jamieson and Griffiths, 1987; HPAW, 1989). The WHO and the HEA have both been influential in the setting of national (Secretary of State for Health, 1991) and local targets, especially in suggesting that a 25% - 30% reduction in premature morbidity and mortality from coronary heart disease is achievable. This figure has been based on the application of current knowledge about the impact of smoking, diet, exercise and hypertension on heart disease (WHO, 1985c; Jamieson and Griffiths, 1987). Other targets appear to be more arbitrary and it is difficult to know how they have been identified. For example, in Oxfordshire it is hoped to increase the consumption of wholemeal bread from 30% to 40% amongst those in unskilled occupations but no explanation is offered to justify the figure set. The influential consultative document, "The Health of the Nation" (Secretary of State for Health, 1991), has lead to national debate about targets that could be set for the whole population and national targets have been stipulated in the subsequent Government White Paper, (Secretary of State for Health, 1992). Here the higher target of 40% has been set for a reduction in premature coronary heart disease.

The policy of setting, and assessing progress towards, targets for health promotion in a whole population based on the use of postal survey data is questionable. First, targets that are set relate to changes within the whole population whilst survey data

reflect only data from those people who choose to respond to the survey. Data generated by postal surveys are likely to be biased, for example, towards women (Somerset HA, 1988) and non-smokers, (Smith and Nutbeam, 1990). Consequently, assessing movement towards targets set for the whole population using repeat postal surveys may produce misleading evidence. For example, measurements of smoking status fail to measure the behaviour of those more likely to smoke. Consequently, a target in the reduction of smoking may be met, but a similar reduction may not occur in the group most likely to smoke. The benefit of any reduction in smoking is therefore unequally spread so that less, rather than more, equity may result.

The selection of an appropriate target in one area may be inappropriate for another area depending on how receptive the area is to health promotion. In one area the number of people highly resistant to change may be higher than the 16% suggested by Rogers and Shoemaker (1983). In another area the number highly resistant to change may be lower than 16%. In terms of achieving targets these areas can be expected to differ. In Staveley where the population is predominantly working class it seems probable that there is a high proportion of people resistant to change. Therefore a target that may be easily achievable for a much more middle class area of Derbyshire is likely to be unrealistic for Staveley. Surveys that purport to give evidence of "success" in reaching targets may lead to false complacency. Evidence of "failure" may lead to demoralisation, especially if inappropriate and invidious comparisons with more "successful" areas are made. Other factors outside the control of health promotion may cause targets to be "unfair and unwise" (Performance Indicators Working Group, 1987). For example, an extensive and successful smoking advertising campaign amongst women may not attract more smokers, but it may offset the impact of health promotion programmes amongst this particular population group. Thus the setting of targets for health promotion using the type of data obtained from most postal health-related behaviour surveys is fraught with problems that currently appear to have no solutions. The trend towards setting targets based on postal survey data is therefore worrying.

Thirdly, the data from the CHPS were to be used to prioritise practice using analysis of data stratified by, for example, age, sex, social class and parental status. In reports evidence that practice has been prioritised using data about health-related behaviour is scant. However, there is some evidence from other studies that survey data may be used inappropriately. For example, a cross-sectional Canadian survey showed elevated rates of smoking amongst young women. Data also revealed retrospectively that factors associated with smoking were the number of friends who smoked and the belief that smoking helped you to stay slim. As a result, programmes based on these findings are being developed, (Rootman, 1989). It is, however, predictive indicators from

prospective studies that should be used in planning health promotion programmes as McNeill, Jarvis, Stapleton et al. (1989) demonstrated through a follow-up study of smoking behaviour amongst adolescents which took place thirty months after a first survey. They showed that demographic factors and self-reported measurements of behaviour, for example, alcohol use and sexual activity, were better indicators of future smoking status than beliefs and attitudes.

Great care must be taken in using survey data to set priorities for practice when data are biased, as they are in most postal surveys, including the CHPS (Killoran, 1990; Smith and Nutbeam, 1990). Indeed, it could be justifiably argued that setting priorities on evidence from responders is detrimental to promoting equity. People who do not respond so readily to postal survey, for example, smokers and those in the lower social classes, are those for whom programmes are most needed. On the other hand, if respondents are more interested in health than non-responders, programmes directed towards them are more likely to be successful. It may be that programmes for responders will help to reinforce the health agenda for the whole community and so, in time, become more acceptable to non-responders. It therefore seems reasonable to conclude that data from a postal survey should give at least some indications for priorities for practice.

5.5 Costs of promoting community participation through the CHPS

For health promotion policy makers and planners the costs of initiatives are important, especially when there are economic restraints on activity. In the CHPS additional costs to a basic postal survey were primarily to facilitate feedback.

Comparing the cost of the CHPS with other studies is difficult because of lack of comparability in method and detail of costs allowed in calculations. In some cases an element of commercial profit may be included. The CHPS costs were £14,800, being £1.67 per head of the samples. These costs could be slightly reduced by using a smaller Opportunity Sample. Compared to the £0.51 (South Derbyshire, including only printing and postage), £1.33 (East Dorset, but excluding staff), £3.26 (Stockport), £7 (Maidstone) and over £12 (South Birmingham) reported by Killoran (1990) it seems that the CHPS was at least as inexpensive as other postal studies.

Some further comparisons about the costs of disseminating information, so crucial to the CHPS, may be made. In the CHPS the cost of lifestyle information leaflets only was probably similar to that in Liddiard's interview based study (1988). In both instances three leaflets per respondent requesting information were distributed. However, in the CHPS distribution of leaflets by post to required administration and postage. These

costs added a further £0.35 per respondent.

The cost of informing individual participants about CHPS findings and local health facilities was £0.09 per respondent, around a tenth of the cost of lifestyle information per respondent. Posters added a further £0.18 per respondent. Feedback to the community therefore cost just over a tenth of the total cost of the survey per respondent and seems reasonable in terms of fulfilling the information needs of respondents. It is not possible to compare the CHPS costs of distributing information with those of, for example, a health fair. However the costs incurred by activities that require professional staffing, transport, publicity and administration are likely to be rather more substantial than those involved in the CHPS.

The CHPS, including the extra costs of feedback, is nevertheless inexpensive compared to other postal surveys. On the other hand, follow-through by practitioners would require further direct or indirect resources, for example, to train practitioners, as discussed in 5.6. These costs have not been calculated but could be considerable.

The discussion about the costs of the CHPS concludes the review of the CHPS within the contexts of the measurement of health-related behaviour and community participation in health. The next section considers the implications of the study for health promotion practice.

5.6 Implications of the study for practice in health promotion

The study has focused on the CHPS as a creative method by which to measure health-related behaviour so that it primes the community for participation in health. It has tested unusual aspects of the method, notably the sampling of "hard to reach" groups and feedback to participants. It has also considered opportunities for follow-through generated by the method, many of which were missed. The study has shown that promoting community participation in the CHPS was not at the expense of measuring the population's health-related behaviour. Therefore, in conducting the research a pragmatic, practical and economic compromise was reached: the District Health Authority's need for information was met whilst, at the same time, exploration of a method to serve an entirely different purpose was achieved. This section goes on to comment on the implications of the CHPS as a multi-disciplinary activity, a research versus practice activity and, finally, as part of a commitment to community participation in health.

Interdisciplinary activity

The CHPS demonstrated that it is possible to weave together elements from a number of disciplines to inform an integrated strategy for health promotion. The CHPS

measured health-related behaviour using theory and methods from the medical and social sciences and adapting principles on which community participation in health may be induced. Thus the CHPS method may be seen as a rational and intellectually integrated multidisciplinary approach to survey methodology, rather than a "fragmented pastiche" of various disciples (Turner, 1990).

Recognition that the measurement of health-related behaviour and community participation are not mutually exclusive activities has implications for health-related surveys generally. Surveys no longer need to be perceived as rooted in one discipline. They can achieve more than mere token consultation of the population requiring co-operation by the community and should be seen as potentially dynamic and interactive activities.

Research and practice: bridging the gap

The experience of the CHPS illustrates the general comment that there are difficulties in translating the theory of community participation in health into practice (WHO, 1984). Using Arnstein's model (1969) it has been noted that, on the whole, practitioners were unable to set and act on priorities for practice or to follow-through opportunities that the CHPS offered for practice with the lay community, for example, no feedback of data to participating community groups was achieved. At these crucial points it seems that practitioners were unable or unwilling to integrate research findings into activity.

Several reasons have been put forward to explain the under-utilisation of research findings in health promotion by Rootman (1988). Similar explanations have been put forward by those engaged in curriculum research and the development of educational initiatives (Stenhouse, 1975). First, the researcher may be seen by practitioners as an "outsider" whose involvement with practice is marginal. Consequently, findings from research may also be seen as marginal. In the CHPS marginality may have been exacerbated by the fact that the researcher was based outside the Unit. When in North Derbyshire she worked mainly in the Staveley area. Examples of the marginality of the researcher to the main activity of the Unit are that it was agreed that the researcher should attend staff meetings. However, information about when meetings were to be held were not forwarded as a matter of course. Changes of dates were, on occasion, not notified. No working space within the health promotion unit was made available so that day to day casual contact between researcher and staff was restricted. Perhaps as a result of this, comments from staff indicated that they were unsure about whether to treat the researcher as a member of staff or not. Staff were very friendly but generally seemed to feel that spending time on the research was done as "a favour", for example, putting effort

into sharing information about the area and packaging up leaflets. To prevent this type of division it has been suggested that researchers should also be practitioners (Public Health Alliance, 1992).

Secondly, the CHPS was based on an action research model and introduced innovative activity and ideas to the staff of the Unit. For example, the terminology of research was not familiar to some staff. Others expressed anxiety about their ability to understand computer printouts. Research-based innovations may have been seen as threatening. Staff may have felt resistant to ideas and ways of working that appeared to them to imply that their professional practice was being questioned. For example, the nature of community participation may be unclear to staff used to delivering health education activities (Farrant, 1991). Practitioners may also have been understandably concerned that their power to control their own programmes of work was being undermined, especially as the Health Promotion Unit was understaffed at the time of the research.

Work in "the community" was seen by staff in the Health Promotion Unit as the responsibility of the programme manager for "the community", and not relevant to staff with a brief for, say, workplace health. Although a community programme manager was appointed during the research period she could not drive and found transport to outlying areas difficult. Although she was invited to do so she did not visit any groups in Staveley during the period of the research, either to collect questionnaires or feedback data. There was also no response to the researcher's suggestions that, opportunistically, she should follow-up interests expressed by group members. For example, the researcher passed on the information that parents attending a social services nursery would welcome information about "feeding children on a budget" and that there was the potential for a stop smoking initiative in a Job Club. Consequently, the community worker's links with Staveley were very limited, despite its designation as a priority action area. Continuous and closer practical involvement of such staff in the research may have helped staff to feel more involved with and less threatened by research. For example, staff could have initiated contacts with community groups and distributed and collected group questionnaires. If this had been achieved then the analysis of findings for community groups and subsequent feedback to the groups may have seemed a logical and practical progression of activity.

Thirdly, staff who were sympathetic to community participation may have lacked the knowledge, training and skills to support the research. Both Rifkin (1985) and Farrant (1991) found that the orientation and training of health personnel was to deliver care. Feuerstein and Lovell (1983) have made the point that lack of training amongst health personnel has caused health professionals to borrow and use community

participation notions without understanding their true nature. Thus, staff may theoretically support community participation but, in reality, not fully understand it let alone have the skill and experience to implement it (Jones, 1989). For example, it is intriguing that both doctors and teachers were fed back data in person but there was no comparable feedback to the lay community. It may be that staff were confident about talking to colleagues, but apprehensive about physically going to and meeting people in working class community groups. These feelings may have been exacerbated by the rather vague long-term objective of developing feedback sessions into participatory activity. On the other hand staff may have simply been too apathetic to support innovative activity. The point has been made by a pressure group that there is a wealth of untapped experience amongst community health workers that could be used to influence the education and training of those new to community health work (NCHR, 1988).

Staff training and learning and the testing of new skills takes time and resources. It does seem unreasonable to expect understaffed Units to maintain existing heavy workloads and to extend their activities, even when they have the inclination to do so. Formal training, contacting and visiting community groups in Staveley would have reduced the amount of time available for other activities. In these circumstances overt management guidance is needed to establish prioritics for practice. Managers have a key role to play in initiating activity based on research (Feuerstein, 1986). Their agreement over time allowed to develop new initiatives may need to be explicit. In North Derbyshire the need for training was recognised, but too late for its impact to be felt in the CHPS. For example, two members of staff attended a national conference, "Time for Health : Community Participation in Health for All by the Year 2000", in Newcastle on Tyne in September, 1989. Health promotion staff participated in a two day course mounted by the Director of the Health Promotion Unit and the researcher to meet the particular needs of the Unit. The course was designed to increase participants' confidence in initiating research, interpreting findings and applying them to practice. In addition, internal seminars led by staff and outside speakers have been held.

Fourthly, research findings may have been under-utilised because of limitations of the research protocol. No time was specifically set aside for the researcher to work with practitioners to interpret and utilise findings. The underlying - and wrong - assumption was that planners and practitioners would not only draw out relevant data and their implications for practice but also translate theory into practice. There is a danger that a research project may be perceived to terminate with the production of a report or data set but researchers also have important roles to play in initiating new phases of research-based activity (Feuerstein, 1986). In retrospect, an extension of the research period to enable the researcher and practitioners to jointly consider the implications of

survey data would have been useful.

Steps can be taken to overcome some of the problems experienced here and elsewhere in translating research into practice. Most of these steps are dependent on the availability of extra resources. Adequate resources for both researchers and practitioners therefore need to be made available and practitioners need to feel secure whilst having the freedom to explore innovative techniques. In reality, resources for research into health promotion tend to be scant and sporadic (Rootman, 1988), especially in the last decade which has seen severe economic constraints on health care providers. Until there is convincing proof of the effectiveness of a health promotion strategy, such as community participation, policy makers and planners need to temper financial prudence with a willingness to consider initiatives that may prove to be as, if not more, beneficial than other activities.

Commitment to community participation

The lack of follow-through to the CHPS was particularly disappointing because, within both the DHA and the Health Promotion Unit, there was leadership that explicitly stated a desire to work with communities (Beales, 1987). That funding for this research was forthcoming from North Derbyshire Health Authority also suggests that its commitment to community participation was more than part of health promotion rhetoric.

Where community participation is a policy priority then it must also be a cornerstone of activity. All professional and support staff need to recognise and work towards these priorities, whatever their rank. They also need to be directed and supported appropriately, being clearly briefed for their task. Failure to direct limited resources into a concerted, coherent and realistic programme may lead practitioners to pursue fragmented activity that lacks clear purpose (Turner, 1990; Levy, 1991) and a lack of clarify may help to explain the failure to provide systematic, practical support for this study.

Concepts and implications of community participation may be fully understood by policy makers and planners (Farrant, 1991). In this study they may simply not have seen the need for follow-through. If this were the case, the fact that the community was consulted and informed would be sufficient rationale for the CHPS. Similarly a lack of pressure on practitioners to follow-through opportunities for community participation would not be surprising.

Poor response to opportunities for follow-through may also have been the result of practical constraints. First, there may have been legitimate concerns over the time and resources it would take to induce other than token community participation in health. The policy decision to spend two years working intensively in a series of priority areas had

been taken. There was therefore little prospect of following through the CHPS, instigating and maintaining community participation within the existing time frame (Ginnerty et al., 1989). These reservations may have been complimented by feelings of uncertainty over the outcome of community participation (Feuerstein, 1986) and lack of a thorough and detailed working model for practice to recommend to staff (Tones et al., 1989). Secondly, the Unit was understaffed and there were competing priorities for the restricted resources available. Other demands on the Unit included the maintenance of existing health education services and the development of innovative practice in, for example, the workplace. These demands should not be underestimated. During this period of reappraisal and restructuring it would have been understandable if local health policy makers, planners and practitioners limited innovation to "safe" responses. It is therefore encouraging that a small, experimental community participation project was even considered viable. It may also be that planners felt that the CHPS came too early in the building of Health Promotion Unit team for opportunities it created to be fully utilised. For example, a planned team of staff with complementary skills had not been established. Some existing staff were inexperienced. There may therefore have been an understandable reluctance to direct staff into the difficult work of promoting community participation. There were significant changes within the National Health Service during the period of time that the survey took place. It would be understandable if managers dealing with the often stressful implementation of change conformed to the expectations of those in authority over them. In North Derbyshire DHA policy making bodies may have had expectations that their Health Promotion Unit would prioritise a "medical model" approach to health care. Addressing factors known to be directly related to morbidity and mortality, such as high blood pressure and smoking, may have been seen by those at a high level as more relevant and important than developing community participation. The medical model certainly and justifiably influenced thinking within the health promotion unit at that time. For example, CHPS data were used to set targets for reductions in premature morbidity whilst roadshows included blood pressure and heart-rate measurement. For political reasons this type of activity may have dominated planning and practice. The Unit needed to be seen to justify - and have grounds for arguing for more - funding in times of economic restraint. The Unit may have also have felt that it had to respond to expectations based on the medical model to build credibility. Issues the community were most interested in, for example, pollution, may have been seen as too far removed from that agenda. On the other hand, it may be that such issues were seen as relevant but were potentially too contentious, sensitive and potentially fraught with conflict to address. Conflict is not unusual in community participation activities (Watt and Rodmell, 1988; Adams 1989). The points made above indicate that commitment to

community participation may be inhibited by a number of factors, some of which are outside the control of health promotion staff.

From the discussion above it must be concluded that conditions in North Derbyshire were not conducive for a full response to the CHPS to be made, and yet health units needs to employ a wide range of health enhancing activities to overcome barriers to health. The emphasis in this thesis on community participation should not be taken as minimising the importance of complementary strategies. However, it is argued that other health promoting activities are better understood than community participation, for example, media campaigns. New methods of working with those who suffer the greatest inequalities in health are urgently needed if equity in health is to be anything other than yet another part of the rhetoric of health promotion. Methods, such as the CHPS, need to be developed and explored thoroughly, thoughtfully, systematically and with adequate and consistent funding. It is the responsibility of both health professionals and researchers to ensure that the experience gained in such projects is documented and shared, and that of policy makers, planners and practitioners to ensure that good health promotion practice is established.

Chapter 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 The measurement of health-related behaviour

The thesis considered how a postal survey designed to measure a population's health-related behaviour may, at the same time, serve another purpose in health promotion practice: stimulate community participation in health. Emphasis throughout the thesis has been given to reporting how successfully the method primed the community for participation and opened up opportunities for follow-through activities. Similarly, in this Chapter, after commenting on the ability of the method to measure health-related behaviour, the conclusions and recommendations focus on community participation in health, and the role of the study in informing health promotion practice.

The CHPS postal survey using two reminders was administered to a representative sample of GPs' patients drawn from an FPC register. Measurements of health-related behaviour, for example, smoking status, diet, exercise and alcohol consumption, were obtained using reliable questions. The survey was found to be readily repeatable and inexpensive. The survey instrument was sensitive enough to measure change in health-related behaviour over time. Health promotion staff intended to use the measurements of health-related behaviour obtained in the study as baseline measures, and planned to repeat the postal survey to measure change over time. Data were used to inform a range of professionals involved in policy making and planning and to set targets for health promotion. Little impact of the data on practice was observed as practitioners appeared to find it difficult to appreciate the implications of the data for activity.

These conclusions generally replicate findings from other postal surveys carried out to measure health-related behaviour. The sampling frame, sampling method and administration procedures adopted here have been used successfully elsewhere. The same type of checks on the reliability of data have been applied in other studies. Policy makers and planners have used data from similar surveys to set, arguable arbitrary, targets for health promotion as was the case in this study. As here, it is planned elsewhere to re-measure health-related behaviour and so monitor change over time. It has now been demonstrated that it is feasible to do so.

It is recommended that health-related behaviour should continue to be seen as an appropriate intermediate indicator for health promotion. Postal surveys which are repeatable and inexpensive should be carried out to measure and monitor health-related behaviour, always provided that the limitations of data are recognised. In time it may be possible to monitor behaviour using other data collection methods, for example, computerised and standardised GP records, thus obviating the need for

postal surveys.

The measurements obtained in the study were limited. They do not include other important measures of lifestyle that influence positive health, for example, beliefs and attitudes towards health, and social support. It is recommended that reliable questions about these influences should be developed so that future surveys obtain measurements of a broader range of lifestyle factors.

To maximise the usefulness of postal survey data three steps need to be taken. First, standardised administration of tested questions needs to be generally adopted so that data from different populations may be compared. Secondly, systematic methods by which data may be used to inform and prioritise practice need to be developed. Finally, dissemination of information from and about surveys should not only report good practice but also clearly indicate their resource implications and the limitations of survey methods. Thus those carrying out surveys will be able to select the most appropriate method for their needs.

It is recommended that surveys should take samples that focus on small, cohesive populations rather than samples of individuals scattered over a large area, being unconnected by interest or geography. The practicalities and outcomes of lay involvement in the development and administration of the survey instrument should be tested where the questionnaire is to be used in only one such community. In addition, lay involvement in deciding the content and presentation of feedback should be assessed for its impact on participants and recipients. Surveys used in this way will be more closely allied to lay, rather than professional, interests in health and survey processes will establish potentially useful links between professional and lay members of the community.

Response

The response to the adult representative postal survey was 59%. This was a similar response to that in other surveys where response rates of 50-60% are common. Response in the CHPS was biased. Men and elderly women were under-represented. Bias in response has been observed in other studies which have similar patterns of under-representation. These conclusions lead to three recommendations. First, even when impractical for the rest of a postal sample, questionnaires and reminders administered to those identified as poor responders should be delivered using methods known to stimulate response. For example, personalised letters, hand written envelopes and telephone reminders should be considered. A third reminder may be expensive but should boost response slightly. Secondly, alternative methods of data collection from groups known to produce consistently poor response should be

considered, despite possible non-comparability of data and cost implications. For example, hand delivery and collection of questionnaires, face-to-face or telephone interviews could be carried out. Thirdly, it is recommended that studies of non-responders be carried out. Studies should collect lifestyle data so that the characteristics of non-responders are better understood and bias in data from responders is revealed. Data about non-responders in Staveley could be obtained from interviews with non-responders. Elsewhere, GP records about the lifestyle of non-responders could be used if issues of confidentiality were overcome.

6.2 Community participation in health

The study demonstrated that, in an area of high disadvantage, different types of non-representative community groups were willing to actively participate in a health survey. Groups were likely to have a high membership of some "hard to reach" individuals, for example, those with low social class and single parents. Response was achieved from most groups but was greater from groups with a strong social element having 10 - 100 members. Thus the study provides new information about the feasibility of including "hard to reach" groups in a health survey of this nature, although they have been accessed in other surveys. It is recommended that future surveys should target groups with "hard to reach" membership. Groups should have a strong social element and have a membership of 10 - 100.

The postal survey offering feedback generated demand for information from around two thirds of respondents who asked for, on average, three leaflets of the ten offered. People aged 25 - 44 were more likely to ask for feedback than others, but there were no differences between requesters by gender, social class and employment status. Women requested more items of feedback than men. Most requests for feedback were for the findings of the survey and healthy eating. Few requests were made for information about HIV/AIDS. Population groups were shown to have particular and relevant interest in items of feedback, for example, the unemployed in smoking and males in alcohol. Feedback of information was generally shown to be feasible and of interest to recipients. The study therefore provides new evidence about the potential of a postal survey to generate and respond to demand for a limited range of health information, as has been achieved in interview based studies.

It is recommended that the impact of feedback from a survey on recipients in terms of increased knowledge and change in beliefs, attitudes and health-related behaviour should be systematically examined. It is also recommended that alternative ways of delivering credible information to the public should be established.

Information should be targeted towards groups shown by this study to have a particular interest in the topic. Further work should be carried out to examine lay interest in receiving other health-related information. For example, literature addressing the problems of aging, such as poorer mobility and incontinence, may be of interest to the elderly.

The survey was effective in raising community awareness of activity because it activated existing social networks. The extent to which the CHPS raised awareness and activated social networks offers an insight into how community dynamics may be used in the interests of health promotion. Social networks are important to positive health and so it is recommended that further opportunities to activate them through surveying and feeding back information about health should be explored. For example, a survey in women's groups about family planning services could be followed up by giving the groups information about the survey findings as well as details of existing, revised or new services. Leaflets for women to pass on to friends could be disseminated.

Surveying community groups in this study opened up opportunities for follow-through to build on the interest it generated and so facilitates higher degrees of participation. The apparent lack of motivation of professionals to take these opportunities appears to have been a major barrier to follow-through. The difficulties of bridging the gap between research and practice in this study have been observed elsewhere. Training in two areas may help to overcome the problem. First, practitioners should be trained in research methods and how to interpret data. Secondly, training in community participation is needed. Training may need to be introduced into existing, or developing, extended courses for health promotion staff, possible in the form of modules. For those already working in the field professional bodies may offer occasional "one off" short courses. The HEA and/or a pressure group, such as the National Community Health Action Group, may be able to provide a mobile team of trainers for Health Authorities. Distance learning activities may be introduced though, for example, local institutions of higher education or The Open University. Training should aim to link a rigorous, theoretical approach to specific opportunities for action with, not for, the community. This approach, together with the confidence to act as an innovator, needs to underpin purposeful activity.

In conclusion, surveying, informing and implementing follow-through activities in the community are stages in community participation (Arnstein, 1969). The study showed that facilitating two early stages of community participation is not incompatible with a postal survey of health-related behaviour, but that there are barriers when using it to achieve higher levels. It is therefore recommended that those

seeking to measure health in an identifiable community when the longer-term intention is to facilitate community participation in health should consider the CHPS method only when follow-through can be assured.

6.3 Building on the CHPS approach

It would be of interest to replicate the whole CHPS method in a different community to establish whether findings from this study are due to the characteristics of the community studied or may be applied more generally. The two unusual elements in the CHPS, the sample of community groups and feedback, need to be tested further, possibly where stimulating community participation is the single objective of the survey. Whether the method is more or less effective in promoting the early stages of community participation when a representative sample is omitted could then be assessed.

The choice of community groups invited to participate in any future study may be refined. Based on the experience reported here socially based groups of 10 - 100 seem to be responsive. This should not prohibit the use of smaller or larger groups of interest to researchers if the intention is to stimulate interest in particular target groups. The method's potential for creating opportunities for follow-through by practitioners to participating groups needs to be examined further. As a starting point for assessing follow-through, the interest of groups members in receiving findings for the group needs to be measured. Any subsequent activities need to be identified and evaluated.

The development of community participation is said to take a long time, although precisely how long is rarely stated and seems to depend on the population and the project. It is therefore recommended that research programmes that monitor the impact of community participation should be flexible, being staged or sustained over time and being realistic about what change can be achieved over time.

From the outset of any future research initiatives based on the CHPS a close working liaison between the researcher and practitioners should be established. This should be backed up by clear guidance from policy makers and planners and a full understanding of the rationale for, and implications for practice of, the surveying process. Involvement of practitioners in the surveying process and feedback should be expected. Thus continuity of contact between practitioners and the study community will be established so that trusting relationships have the opportunity to grow prior to follow-through activities. Time and resources should be made available to practitioners in which to carry out research and follow through activities.

6.4 Recommendations for practitioners

This final section draws together recommendations specifically directed towards researchers/practitioners and suggests conditions that should be established before attempting to replicate the CHPS method.

1 Community participation should be an integral part of an overall and long-term health promotion strategy. Within the strategy the CHPS should be seen as a starting point for action.

2 Policy makers and planners should be aware of the implications of initiating community participation in terms of, for example, funding, staff training and probable impact on the community and be prepared to support the strategy.

3 Health promotion practitioners should be trained and/or experienced in community participation techniques and the principles of research methodology.

4 The researcher responsible for implementing a CHPS should be an integral and equal member of the health promotion team.

5 A base for health promotion activity by both the researcher and other practitioners should be established in the study community.

6 Complementary relationships between researcher and practitioners should be explicit and actively supported by management. The researcher needs to:

explain the research process and involve health promotion practitioners in that process

prepare opportunities for discussion about implications for practice generated by the survey process and survey findings

facilitate practical follow-through activities for practitioners.

Practitioners need to support and complement the work of the researcher by:

assisting in contacting, following-up and maintaining contact with community groups, schools and GP practices during the CHPS

ensuring that appropriate follow-through activities within community groups, schools and GP practices are systematically planned and carried out in liaison with the researcher.

7 Instigating a range of follow-though activities will require the co-operation of many lay and professional people within the community. Prior to and during the research process opportunities should be taken whenever possible to promote their understanding of, and support for, community participation in health.

* * * *

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Promoting Participation in Health in the Community Using a Health Survey

Appendices

Appendix 1.1

The pilot study

1.1 The Pilot Study

The Pilot Study

The pilot study was carried out to test the feasibility of different methods of delivering and returning questionnaires, to assess potential for feedback generated by the methods of delivery and return of questionnaires, to check the reliability of the questionnaires and their readability. Reliability and readability data are presented in Sections 3iii and 3iv of the main text.

The following sections report on the method used in the pilot study under the following headings:

1) The Locations of the Study
2) The Samples
3) Data Collection
4) Administration
5) Feedback
6) Results of the Pilot Study
7) Conclusions

The Pilot Study Method

1) The Locations of the Pilot Study

Two areas were chosen to offer contrasting types of samples for the pilot study. One was a predominantly working class area, Shirebrook and Bolsover, the other middle class, Eyam and Two Dales. Census Small Area Statistics were used to identify the areas (OPCS, 1984). Occupations were classified using the Registrar General's Classification of Occupations (OPCS, 1980).

Shirebrook and Bolsover are geographically close mining towns with similar demography. Each town has approximately 11,000 inhabitants of whom 62% and 58% respectively are working class. Eyam and Two Dales are rural villages with populations of approximately 1,500. Each village has a middle class population of 46% and retired populations of over 20%.

2. The Samples

i) The Adult Sample

ii) The School Pupil Sample

i) The Adult Sample

From each of the two areas quota samples of 240 adults were compiled:

a) from GPs' lists

b) from attenders at doctors' surgeries

c) from community network sources.

Thus a total of 1,440 adults were included in the pilot study.

ii) The School Pupil Sample

Three secondary schools each provided samples of pupils aged 11-12 and 14-15 years. A total sample of 533 was achieved, 265 (50%) of whom were aged 11-12 years and 262 (49%) of whom were aged 14-15 years. 6 (1%) of pupils failed to indicate their age. Schools served the areas from which the adult samples were drawn.

Together the samples yielded data from populations aged eleven and over.

3) Data Collection

Questionnaires

Data from both the adults and school samples were collected by self-completed questionnaires.

Two questionnaires were developed:

i) Adult questionnaire

ii) School pupil questionnaire

i) Adult Questionnaires

Questions for adults included those related to key health behaviours identified in the Korner Report (NHS/DHSS, 1984). They included questions about smoking, derived from the General Household Survey, OPCS, (1986), alcohol, diet and exercise. In addition, questions about participation in health screening programmes, perceptions about the control people think they have over their own health and knowledge about AIDS were included. The pilot adult questionnaire is to be found at the back of this Appendix.

ii) School Questionnaire

Questions for pupils aged 11-16 years included those related to smoking and alcohol, both derived from, shown to be reliable and used in other studies of health behaviour in the young (Gillies P.A., 1988), diet, exercise, dental care, and drugs using tests originating from Plant M.A., Peck D.F. and Samuel E. (1985) derived from a list of perceptions about control over health, AIDS and sources of information about health. The pilot school pupil questionnaire is to be found at the back of this Appendix.

4. Administration

i) The Adult Survey

ii) The School Pupil Survey

i) The Adult Survey

Questionnaires were delivered by three different, non-overlapping methods, based on doctors' or health centres' catchment areas to see if the method of delivery affected the level of response from the public.

These methods were:

a) by post, to every 10th male and every 10th adult female on a General Practitioner's list

b) by General Practitioner's receptionist to patients attending surgery and their adult family members

c) by community networks.

All questionnaires were accompanied by a self-addressed, pre-paid envelope for return.

ii) School Pupil Survey

Questionnaires were administered to first and fourth year groups by class teachers in usual class groupings. This procedure is known to produce the highest levels of reporting about health related behaviours, such as smoking (McKennell A.C., 1980).

Questionnaires were returned by individual respondents in sealed envelopes to ensure confidentiality. The sealed envelopes were collected unopened from the school on completion of the survey.

Of the sample of 533 pupils, 527 (99%) answered all or most of the questions satisfactorily. The sample represents classes but not whole year groups of pupils since schools were asked only to provide samples of over 60 children with which to pilot the questionnaire. The concern was to check the reliability of the questionnaire not to provide representative data about whole year groups.

5. Feedback of Information

i) Feedback to Adults and School Pupils

ii) Feedback to Doctors and Teachers

i) Feedback to Adults and Schoolchildren

The questionnaire offered adults and pupils the opportunity to receive selected leaflets on health issues. In addition, adults were invited to ask for a local community summary of the health behaviour reported in the questionnaire, see the back of this Appendix.

ii) Feedback to Doctors and Teachers

Doctors and teachers involved in the pilot project all requested a computer printout giving an analysis of data showing details by age, sex and social class related to their individual practice or school.

7. Results of the Pilot Study

i) The adult pilot study results:

a) response rates

b) feedback

c) survey assessment by respondents

ii) The school pupil study results:

a) response rates

b) feedback

i) The Adult Pilot Study

a) Response rates

One of the main objectives of the adult pilot study was to measure responses obtained from each method of questionnaire delivery and return, and assess the feasibility of the different methods.

Responses to each method of delivery are shown in Table 1. As quota samples were used the absolute difference in response by method may be attributable to bias in the samples obtained. However, Table 1 shows that all methods received response without a reminder process. The response from the networking method in both middle class and working class areas was better than that from the postal questionnaire, but not as good as the response to the delivery by receptionist. The pilot study established that the community network method of distribution did operate and generate response.

Table 1 : Response to delivery of questionnaire methods by social class of area

	Social class of area			
	Middle Class		Working Class	
	No.	%	No.	%
Method: by post (n = 480)	57	24	68	28
by receptionist (n = 480)	102	43	95	39
by community networks (n = 480)	82	34	76	31

b) Feedback

Analysis of the demand for feedback about health in Table 2 shows that as great, if not a greater, proportion of working class adults compared to middle class adults wanted the information offered about health and a local summary of the study findings.

For example, 40% of respondents from the working class compared to 33% of respondents from the middle class requested information about healthy eating, whilst 22% of respondents from each social class wanted information about heart disease. 9% more respondents from the working class than the middle class wanted information about local health behaviours.

Table 2 : Feedback to adults by social class of respondent of 6 most requested leaflets about health and summary of local health

Leaflet:	Middle Class (n = 232) No.	%	Working Class (n = 236) No.	%
Healthy eating	77	33	94	40
Beating heart disease	54	22	51	21
Exercise	48	21	61	26
Minor illnesses	47	20	49	21
Self-examination for breast lumps	37	16	33	14
Accidents in the home	25	11	41	17
Summary of local health	114	49	137	58

The four doctors participating in the study each received a computer printout with details of responses from their patients by age and sex clearly labelled.

c) Survey Assessment by Respondents

To assess the efficiency of leaflet distribution and the perceived usefulness of leaflets distributed, a Survey Assessment Questionnaire was completed by respondents.

Of the 165 adults who responded to the Survey Assessment, 136 answered questions about leaflets they requested. Table 3 shows the distribution of leaflets achieved.

Table 3 : Leaflet distribution to adult respondents as reported on the Survey Assessment Questionnaire

n = 136	No.	%
Did not request leaflets	32	24
Requested but received no leaflets	10	7
Received most leaflets requested	3	2
Received all leaflets requested	91	67
Totals	136	100

99 (70%) of the respondents to the Survey Assessment Questionnaire answered the question about perceived use of leaflets received by them. Table 4 shows how respondents perceived the usefulness of leaflets distributed.

Table 4 : Respondents' perception of usefulness of leaflets

n = 99	No.	%
Very useful	26	26
Useful	52	52
Alright	16	16
Not very useful	5	5
Not at all useful	0	0
Totals	99	99

Tables 3 and 4 indicate that of the 104 adults who requested leaflets, 94 (90%) received all or most of the leaflets requested. The number of adults indicating that leaflets received were useful or very useful was high at 78%, suggesting that the cost of leaflet distribution may be justified in terms of their perceived usefulness.

ii) The School Pupil Pilot Study Results

a) Response rates

The participation of all schools serving the areas from which the adult samples were taken indicated the feasibility of carrying out a health related survey in schools at the same time as the adult survey so that whole families may be included in the survey.

b) Feedback

i) Feedback to School Pupils

Table 5 shows the achieved feedback of the five most requested leaflets offered to school pupils.

Table 5 : Feedback of five leaflets most requested by pupils

Leaflet	No.	%
Exercise	88	17
Healthy eating	83	16
Growing up	70	13
Relationships	51	10
Having a baby	51	10
Total N = 533		

Demand for feedback was shown to be created by the school pupil survey, although it was lower than that of the adult survey. However, because of the administration demands created in offering individual pupils feedback, it was decided that it would be more feasible, and cheaper, to instead offer school teachers supplies of leaflets to distribute in school as appropriate.

ii) Feedback to school teachers

School teachers in each of the three participating schools received details of their pupils' responses by age and sex clearly labelled.

7. Conclusions

The pilot study demonstrated that:

- a survey of health related behaviours is feasible in different types of area .

- different types of samples contacted through different methods of delivery and return of questionnaire all resulted in responses without follow-ups

- a health related survey can be used to generate a demand for feedback amongst both the respondents to the survey and health professionals involved with their care

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Appendix 3.1

Staveley: history and demography

Appendix

The location of the survey

The town of Staveley lies five miles from Chesterfield to the west, ten miles from Sheffield to the north and four miles east of the London to Leeds motorway. The main road which divides the town is the A619, linking Derbyshire to Nottinghamshire.

The town is flanked to the east by the Doe Lea River and to the north by the River Rother and the disused Chesterfield canal.

Staveley's population of almost 26,000 (OPCS, 1984) although "far from being the self-contained community of 50 years ago", (Court, 1948, pp.95) is still clearly associated with the industries that are based there which demand largely manual, skilled and unskilled labour. The working class population is 58.2% (Great Britain 42.5%, ibid) and the middle class population is 17.3% (Great Britain 32.4%, ibid).

The numbers of men and women holding higher educational qualifications are 7.4% and 7.3% respectively, just over half the national figures. The population otherwise closely mirrors the national age and sex patterns and has a working population of 61%, (ibid).

Whether today's "Derbyshire collier strong, honest, courageous, and never afraid to say what was on his mind" still exists and is as outspoken as the one who, displeased with his doctor declared, "Well, I treat thee with utter imbuggerance", is debatable, (Court A., 1948, pp.92), for unemployment has hit the morale of those in the coal industry here as elsewhere.

At the beginning of the first week of the survey, in June 1988, the number of unemployed adults was 15.1%, of whom 17.9% were male (Derbyshire Research Intelligence Unit, 1988). This compares with a figure of 8.6%

unemployment for Great Britain (ibid). These high levels of unemployment reflect the decline in traditional, heavy industries and the difficulties of establishing new ones.

Staveley, although prospering particularly in the nineteenth century, has a long history dating back 20,000 years (Court A., 1948) and traditions associated with that history. For example, the Annual Staveley Feast (Hinde, E., Staveley Local History Collection); the naked boys race banned and condemned by the clergy as "barbarous and vulgar" in 1756, (ibid) and the play of the Derby Tup, (ibid). "Staveleie" is mentioned in the Doomsday book as having "a priest and a church and one mill of five shillings and four pence value ... In the time of Kind Edward and now it was, and is, worth six pounds", (Staveley Town Council, 1984). It also has associations with the Civil War through the owner of Staveley Hall, Sir John Frecheville, and his support for Charles I.

Since those early days the economic development of the town has depended upon, and been dominated by, the exploitation of the rich deposits of iron ore and "very superior" coal found in the area. The opening of the Chesterfield canal in 1777 enabled the Devonshire family, that still owns much local farm land, and their lessees, the Barrows and the Markhams, to make fortunes. They sold and transported produce from their coalmines, iron smelting and casting foundaries, which became "that particular aspect of the parish which has made the name of Staveley so widely known", (Foster, A.J., 1984, pp.157).

By 1900 the Staveley Iron and Coal Company employed 3,000 workers who produced 1,000,000 tons of coal and 20,000 castings of pig iron as well as spun pipes (ibid).

Although coal is still a major industry with three active local pits, Markham being notably productive, new technology and the recession in the

steel industry have resulted in attempts to diversify Staveley's economic base and thereby maintain employment. Today Staveley Chemicals and its subsidiaries, based on the old blast furnaces, are major employers. These works produce and refine industrial chemicals based on a chloralkali plant. Smaller industrial units, supported by the Town Council, such as the Speedwell Estate, have been founded to attract investment in lighter industries.

In the hey-day of Staveley's industrial expansion, Foster (1984) commented that he had "had enough of the dirt and grime and the clang and bang of machinery" (pp.171). He added that "dirt, it is said, is only matter in the wrong place". Both sentiments may be echoed today by those who regret the continuing, albeit reduced, pollution of the environment, particularly that of local rivers, by industrial waste (Yorkshire Water Authority, 1986).

Staveley's 19th Century heritage is also reflected in its housing. Although much has been done to replace the original "drab rows of terraced cottages, typical of the 19th Century" (Staveley Town Council, 1984, pp.16) by the extensive building of council and sheltered housing, which makes up 45.6% of the housing stock of Staveley, (Great Britain 31%, ibid), there are still patches of depressingly poverty stricken, decaying streets. Areas that only massive economic investments will change. This is true not only of Staveley itself, but also of the several villages that developed around outlying industrial activities, such as at Barrow Hill where workers for the Barrow Family's iron pipe-making industry were housed from 1840. In recent years private housing, such as that in Netherthorpe and Inkersall, has attracted commuters to Sheffield and Chesterfield: 37.7% of Staveley's housing is private (Great Britain 55.7%, ibid).

Staveley and the surrounding area now support a range of recreational facilities, some of which have close links with its industry, for example, Miners Welfares, brass bands and sports clubs as well as Trade Union and political organisations, notably the National Union of Mineworkers, the Associated Union of Engineering Workers and the General and Municipal Workers Union and The Labour Party. There is a local leisure centre, a library, five active churches, an adult education service, Citizen's Advice Centre, community associations and groups concerned with the elderly. Shopping is dominated by a hypermarket which attracts customers from far afield, having a ground level car park for 500 cars. Smaller shops are clustered in the small precinct or straggle along the roads leading from the town centre.

At the turn of the century a local doctor, Dr. Court, examined 1,400 miners to study Nystagmus, or miner's eye disease. He showed that the disease is caused by insufficient light, not cramped working conditions, and received a knighthood for this work in 1920. Arthur Court, his son, following his father into practice was to recall in 1948 other conditions his patients risked. He noted; "Beware! Smallpox" posters on the doors of victims' homes where they had to be nursed; typhoid outbreaks; wretched conditions for women in childbirth; operations in homes that "country doctors ... would not dream of doing today". Above all, he lamented medical ignorance that could not alleviate his patients' suffering.

Medical knowledge has obviously increased since Dr. Court's time, as have the facilities for health care, now provided in Staveley by North Derbyshire Health Authority. The town is served by Chesterfield's hospitals, which include maternity and neo-natal wards. Three local general practitioner's practices, with associated primary health care teams, are based in the centre of Staveley. School health services are

provided. Various self-help groups and information services operate, such as one for drug users and another for those anxious about AIDS.

To summarise, just as the industrial heritage of Staveley shows in the physical scars on the local landscape, so it is reflected in its present industry, housing and the health of its population. It is an essential element in understanding Staveley's current social structures where past experiences still effect present concerns.

Appendix ___

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1. Court A., 1948. Staveley My Native Town. J.W. Northend Ltd.

2. Derbyshire Life & Countryside. No date given. Naked Boys Race. In: Staveley Local History Collection.

3. Foster A.J., 1984. Round About the Crooked Spire. Chapman & Hall Ltd, London.

4. Hinde E. No date given. Staveley Feast. In: Staveley Local History Collection.

5. OPCS, 1984. Key Statistics for Urban Areas. HMSO.

6. Staveley Town Council, 1984. Official Guide & Industrial Review. Staveley Town Council.

7. Yorkshire Water Authority, 1986. Report of River Pollution. Yorkshire Water Authority.

Appendix 3.2

Letter to community groups: initial contact

Professor J. Mark Elwood MD DSc FRCP(C)

25th March 1988

Department of Community Medicine
and Epidemiology

**The University of Nottingham
Medical School**

Queen's Medical Centre,
Nottingham, NG7 2UH.

Telephone: 0602 421421

Ext.3474/3552

Dear

SURVEY OF HEALTH IN STAVELEY

I am writing to ask you for your help in a new project which is to start in Staveley in a couple of months.

You may have heard that North Derbyshire Health Authority has just launched its **Peak Health Project** which aims to make is easier for local people to choose healthy lifestyles. Part of the project is, in co-operation with this Department, to collect information from your community about what you already do and think about health. Then, by working together with local people, we plan to use the survey to find ways of improving health in Staveley.

I am very keen that local community groups, whether they are directly concerned with health or not, should have their voices heard. As the organiser of a local group, I am seeking your help by asking if you are willing to give questionnaires and freepost envelopes to any of your members willing to help. Your group may also wish to offer practical ideas about what health promotion activities it would like to see in Staveley.

I will ring you shortly and speak to you personally, in the hope that you will want to join us in this exciting project.

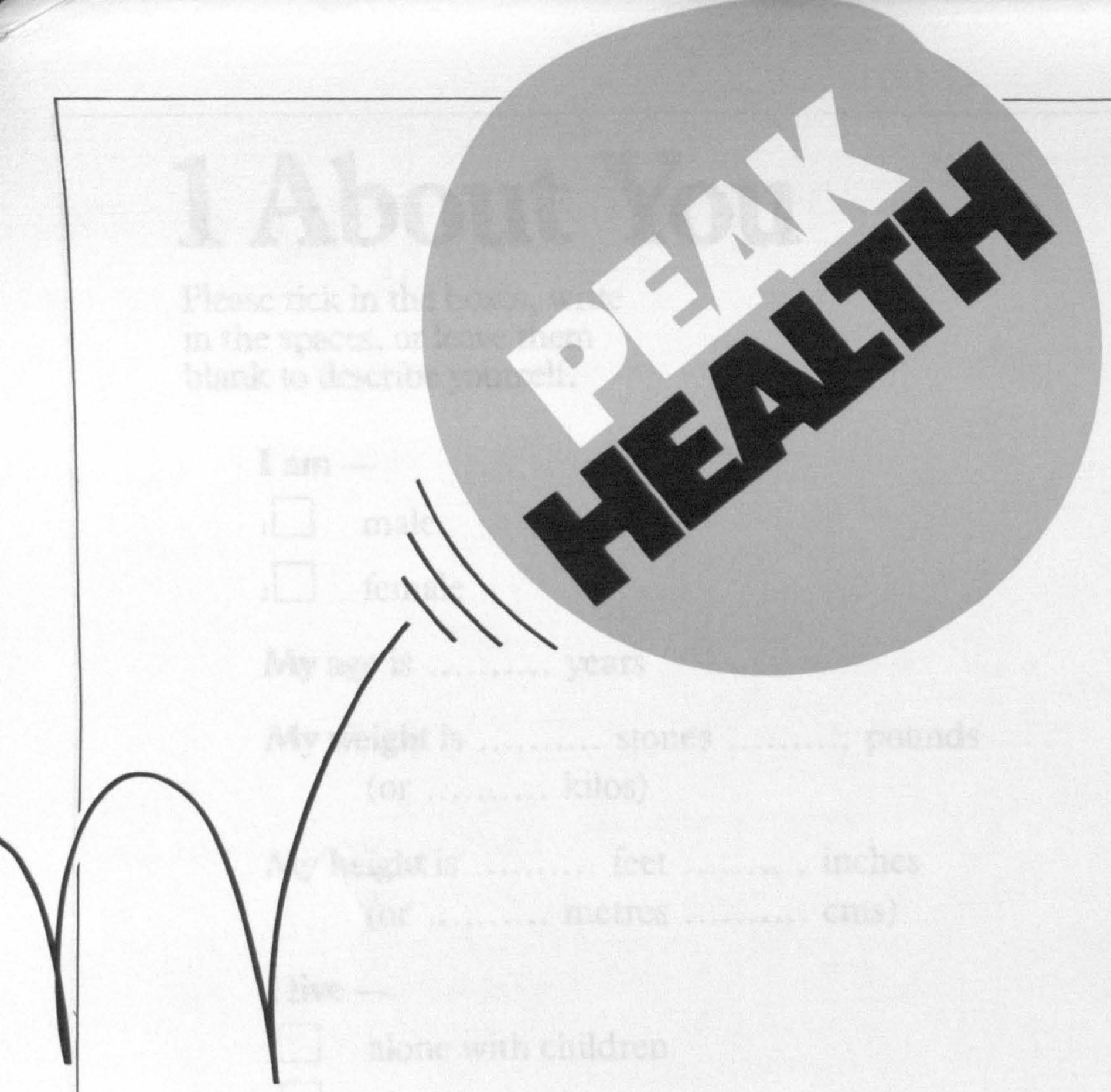
Yours sincerely

Dr. Pamela Gillies
Lecturer in Community Medicine & Epidemiology
Project Director

Heather Roberts
Research Associate
Project Co-ordinator

Appendix 3.3

CHPS adult questionnaire



Your health
Please help

The Peak Health Project aims to help local people to help themselves to better health. To do this, we need to find out what local people are doing, and thinking, about their health.

Please help us by filling in this questionnaire, which will take you about 20 minutes. Your answers will be used only by the Peak Health team to plan better ways of improving local health. No-one else will see your answers.

If you have already filled in one of these questionnaires, please pass this one on to a friend.

You don't need to give your name and address, but if you choose to do so, I will be glad to let you have any 'healthy living' leaflets you might like.

Returning your answers.

1. Seal them in the freepost envelope.
2. Put them in one of the special Peak Health boxes placed in your community — this will help us to cut postage costs– or post them normally in any post box.

Thank you.

Dr. Gerald Beales
Director, Peak Health

Thank you for your help

06

1 About You

Please tick in the boxes, write in the spaces, or leave them blank to describe yourself.

I am —

1☐ male

2☐ female

My age is ..... years

My weight is ..... stones ..... pounds
(or ..... kilos)

My height is ..... feet ..... inches
(or ..... metres ..... cms)

I live —

1☐ alone with children

2☐ alone

3☐ with parents

4☐ with friends

5☐ with a partner, married

6☐ with a partner, unmarried

My usual paid work is, or was —
(please describe as fully as you can)

☐ .....
.....
.....
.....

I now have no paid work, and am —

1☐ unemployed

2☐ retired

3☐ a full-time housewife

My partner's usual paid work is, or was —
(please describe as fully as you can)

☐ .....
.....
.....
.....

☐ **My partner is now unemployed**

In my home **I care for** ..... children
My **youngest child is** ..... years ..... months
I (or my partner) **expect a baby** in ..... weeks

2 Food

How often, if ever, do you eat these?

Please tick a box on **every line.**

	Less than once a week or never	Once a week or more — not most days	Every, or most, days
Sugar — added to drink	1☐	2☐	3☐
— added to food	1☐	2☐	3☐
Salt — added in cooking	1☐	2☐	3☐
— added to food	1☐	2☐	3☐
Chicken or fish	1☐	2☐	3☐
Fresh, not frozen, vegetables — green	1☐	2☐	3☐
— other	1☐	2☐	3☐

	Less than once a week or never	Once a week or more — not most days	Every, or most, days
Fresh fruit	1☐	2☐	3☐
Eggs — cooked any way	1☐	2☐	3☐
Low fat cheese (e.g. cottage cheese, Elmlea)	1☐	2☐	3☐
Skimmed or semi-skimmed milk	1☐	2☐	3☐
Low fat or polyunsaturated margarine (e.g. Flora)	1☐	2☐	3☐

... and these ...

Please tick a box on **every line.**

	Less than once a week or never	Once a week or more — not most days	Every, or most, days
Peas, beans, lentils	1☐	2☐	3☐
Potatoes — baked in their skins	1☐	2☐	3☐
— chips	1☐	2☐	3☐
Brown rice or wholemeal pasta	1☐	2☐	3☐
Brown bread — granary, wholemeal or other high fibre bread	1☐	2☐	3☐
High fibre breakfast cereal (e.g. All Bran, muesli)	1☐	2☐	3☐
Sweet things between meals	1☐	2☐	3☐

My cooked food is usually —

- ☐ grilled rather than fried
- ☐ cooked in vegetable oil rather than hard fat
- ☐ neither of these

3 Smoking

Whether you smoke or not ...

- ☐ I live with a smoker
- ☐ I often spend some of my day where people smoke
- ☐ I use non-smoking areas where I can
- ☐ I think smoking should be banned in public places
- 1 ☐ **I have never smoked** — or have only tried smoking once or twice — go on to **4**
- 2 ☐ **I have given up smoking,** but I used to smoke — go on to **4**

I now smoke —

- 3 ☐ daily
- 4 ☐ occasionally

In a day, I usually smoke —

..... cigarettes
..... cigars or cigarillos
..... pipes of tobacco

☐ **I have tried to give up in the past**

4 Exercise

Write a **number** in the spaces, or tick the box.

Every week, I usually do at least 20 minutes —

keep fit or exercises on ..... days a week

non-stop swimming on ..... days a week

sport that makes me breathless on ..... days a week

brisk, long walks on ..... days a week

jogging or running on ..... days a week

heavy work in the house or garden that makes me breathless on ..... days a week

cycling on ..... days a week

other exercise that makes me breathless (please describe)

..... on ..... days a week

I don't usually do any of these ☐

5 Alcohol

Tick in the boxes, write in the spaces,
or leave them blank to describe yourself.

☐ **I never drink** — go on to **6**

If you do drink, please try to remember how much you drank last Monday to Sunday.

Last week (Monday to Sunday) I drank —

..... pints of all kinds of beer or cider

..... pints of shandy

..... measures of all kinds of spirits or liqueurs (e.g. whisky, gin, vodka, Tia Maria)

..... measures of all kinds of sherry, martini, port

..... glasses of all kinds of wine

I usually drink —

1 ☐ more than this
2 ☐ less than this
3 ☐ about the same as this

I usually drink —

1 ☐ daily
2 ☐ most days
3 ☐ once or twice a week
4 ☐ once or twice a month
5 ☐ less than once a month

When I drink I am usually —

1 ☐ with other people
2 ☐ on my own

6 Health checks

for men and women

I have had my blood pressure taken by a doctor or a nurse —

1 ☐ never
2 ☐ in the last 6 months
3 ☐ 7-12 months ago
4 ☐ 1-5 years ago
5 ☐ more than 5 years ago

My blood cholesterol level has been checked —

1 ☐ at least once
2 ☐ never

I usually visit my dentist —

1 ☐ at least every six months
2 ☐ not every six months, but at least once a year
3 ☐ less than once a year

I usually clean my teeth —

1 ☐ less than once a day
2 ☐ once a day
3 ☐ twice a day
4 ☐ three or more times a day

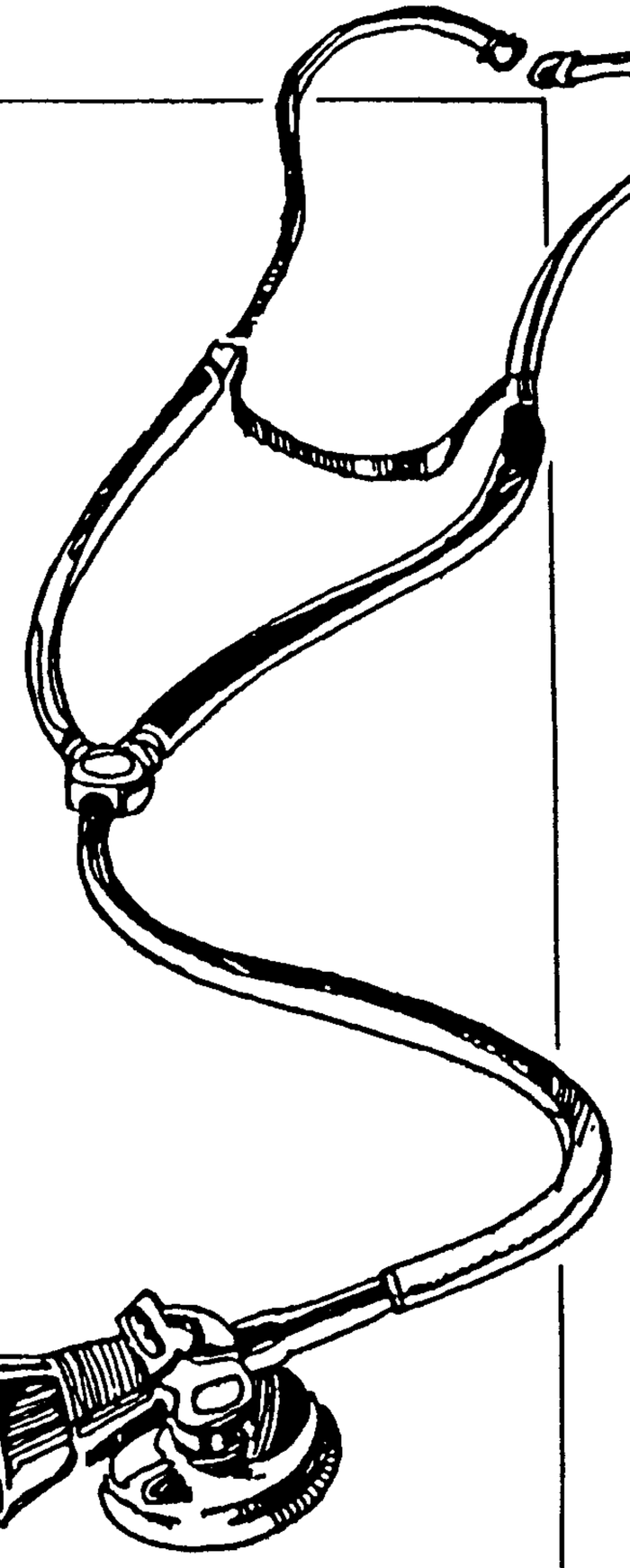
for women only

I have had a smear test —

1 ☐ never
2 ☐ in the last 3 years
3 ☐ 3-5 years ago
4 ☐ more than 5 years ago

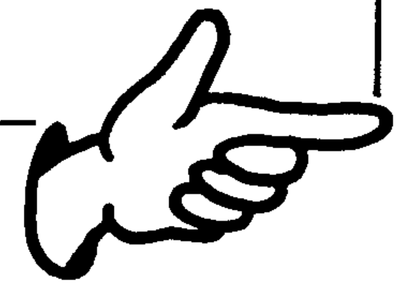
I examine my breasts for lumps —

1 ☐ never
2 ☐ less than every three months
3 ☐ at least every three months
4 ☐ at least once a month
5 ☐ at least once a week



I have had my breast X-rayed (mammography) —

1 ☐ at least once
2 ☐ never



7 What makes your health worse?

Tick any of these things if you think they are making your health worse — and whether you can do anything about them.

	I can't change it	I can change it	I will change it
my housing	1 ☐	2 ☐	3 ☐
my neighbourhood	1 ☐	2 ☐	3 ☐
pollution	1 ☐	2 ☐	3 ☐
my weight	1 ☐	2 ☐	3 ☐
how much exercise I get	1 ☐	2 ☐	3 ☐
foods I eat	1 ☐	2 ☐	3 ☐

	I can't change it	I can change it	I will change it
alcohol I drink	1 ☐	2 ☐	3 ☐
my smoking	1 ☐	2 ☐	3 ☐
other people's smoking	1 ☐	2 ☐	3 ☐
how much money I have	1 ☐	2 ☐	3 ☐
the stresses I have	1 ☐	2 ☐	3 ☐
my work — or being unemployed	1 ☐	2 ☐	3 ☐

If you are planning to make changes in what you do about your health, please suggest anything you think we can do locally to help.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Don't forget to send this back to:
Peak Health,
Health Promotion Unit,
Scarsdale Hospital,
Newbold Road,
Chesterfield,
Derbyshire.

PEAK HEALTH

Thank you for your help

Please tick in the boxes if you would like any of these leaflets about keeping healthy, or about the findings of this survey.
Don't forget to add your name and address.

- ☐ Healthy Eating
- ☐ Exercise. Why Bother?
- ☐ Beating Heart Disease
- ☐ Smoking
- ☐ Alcohol
- ☐ Minor Illnesses
- ☐ Breast Examination
- ☐ Smear Testing
- ☐ AIDS

☐ The findings from the survey about local health.

My name.....

My address .....

.....

.....

..... Post code .....

Appendix 3.4

Summary sheets: community group data

SURVEY RESULTS FOR:

Response rate ...../..... (%)

Number male ..... (%)
[100%]
Number female ..... (%)

Single parents ..... (%)

Living as married ..... (%)

Social class - skilled ..... (%)
by male occupation

- unskilled ..... (%)

Social class - skilled ..... (%)
by female occupation

- unskilled ..... (%)

Unemployed : self or partner ..... (%)

If it makes health worse:

Weight	-	can't change	.....	(%)
		can change	.....	(%)
		will change	.....	(%)
Exercise	-	can't change	.....	(%)
		can change	.....	(%)
		will change	.....	(%)
Diet	-	can't change	.....	(%)
		can change	.....	(%)
		will change	.....	(%)
Alcohol	-	can't change	.....	(%)
		can change	.....	(%)
		will change	.....	(%)

Own smoking - can't change ..... (%)

can change ..... (%)

will change ..... (%)

Others' smoking - can't change ..... (%)

can change ..... (%)

will change ..... (%)

Number of smokers ..... (%)

Number think smoking should be banned ..... (%)

Take less than 20 minutes exercise weekly ..... (%)

Leaflets distributed:

Healthy eating .....

Exercise .....

Heart disease .....

Smoking .....

Alcohol .....

Minor illnesses .....

Breast self-examination .....

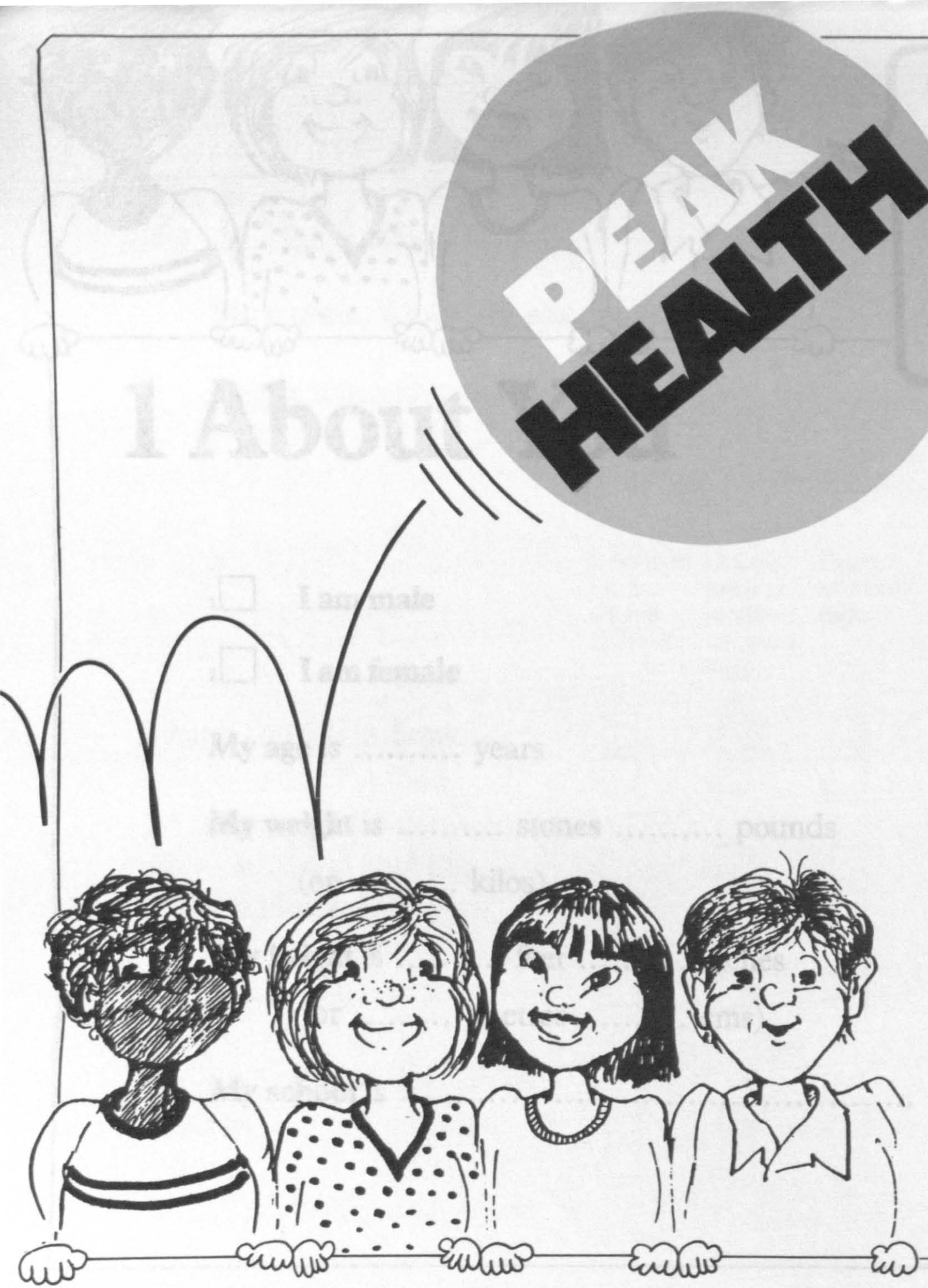
Smear tests .....

AIDS .....

Results of survey .....

Appendix 3.5

CHPS school pupil questionnaire



Your health
Please help

We are asking many young people these questions so that we can find out what you do and think about health.

This is not a test.
The only right answers are the ones that describe you best.
Only you know what they are, so please answer honestly.

You don't need to put your name on your answers, and your teachers will not see them.

Please read each question in turn, and don't think too long before you answer.

Please check to make sure you have answered every question.
When you have, please put your answers in an envelope before handing them in.
They will be returned directly to me.

Thank you.

Dr. Gerald Beales
Director, Peak Health

Thank you for your help

Tick in the boxes,
write in the spaces,
or leave them blank
to describe yourself.

1 About You

1☐ **I am male**

2☐ **I am female**

My age is ..... years

My weight is ..... stones ..... pounds

(or ..... kilos)

My height is ..... feet ..... inches

(or ..... metres ..... cms)

My school is .....

What is your father's job?

Please describe his job as precisely as you can;
for example: car mechanic, labourer or lorry driver.

If you don't know, there is no need to write anything.

.....

.....

(If your father is unemployed or retired, please
write his usual job.)

If your father is now unemployed please tick here ☐

2 Food

How often, if ever, do you eat these?

Please tick a box on **every line.**

	Less than once a week or never	Once a week or more — not most days	Every, or most, days
Sugar — added to drink	1☐	2☐	3☐
— added to food	1☐	2☐	3☐
Salt — added in cooking	1☐	2☐	3☐
— added to food	1☐	2☐	3☐
Chicken or fish	1☐	2☐	3☐
Fresh, not frozen, vegetables — green	1☐	2☐	3☐
— other	1☐	2☐	3☐
Fresh fruit	1☐	2☐	3☐
Eggs — cooked any way	1☐	2☐	3☐
Low fat cheese (e.g. cottage cheese, Elmlea)	1☐	2☐	3☐
Skimmed or semi-skimmed milk	1☐	2☐	3☐
Low fat or polyunsaturated margarine (e.g. Flora)	1☐	2☐	3☐

... and these ...

Please tick a box on **every line.**

	Less than once a week or never	Once a week or more — not most days	Every, or most, days
Peas, beans, lentils	1☐	2☐	3☐
Potatoes — baked in their skins	1☐	2☐	3☐
— chips	1☐	2☐	3☐
Brown rice or wholemeal pasta	1☐	2☐	3☐
Brown bread — granary, wholemeal or other high fibre bread	1☐	2☐	3☐
High fibre breakfast cereal (e.g. All Bran, muesli)	1☐	2☐	3☐
Sweet things between meals	1☐	2☐	3☐

My cooked food is usually —

- ☐ grilled rather than fried
- ☐ cooked in vegetable oil rather than hard fat
- ☐ neither of these

More about food...

Tick in the boxes, write in the spaces or leave them blank to describe yourself.

For breakfast I usually eat —

1☐ cereal, toast or something cooked
2☐ nothing, I don't like breakfast
3☐ nothing, I don't have time
4☐ nothing, no-one in my family does

For lunch on school-days I usually eat —

1☐ school meals
2☐ packed lunches
3☐ food bought locally
4☐ at home
5☐ nothing

I am now —

1☐ on a diet to lose weight
2☐ on a diet to put on weight
3☐ not on a diet

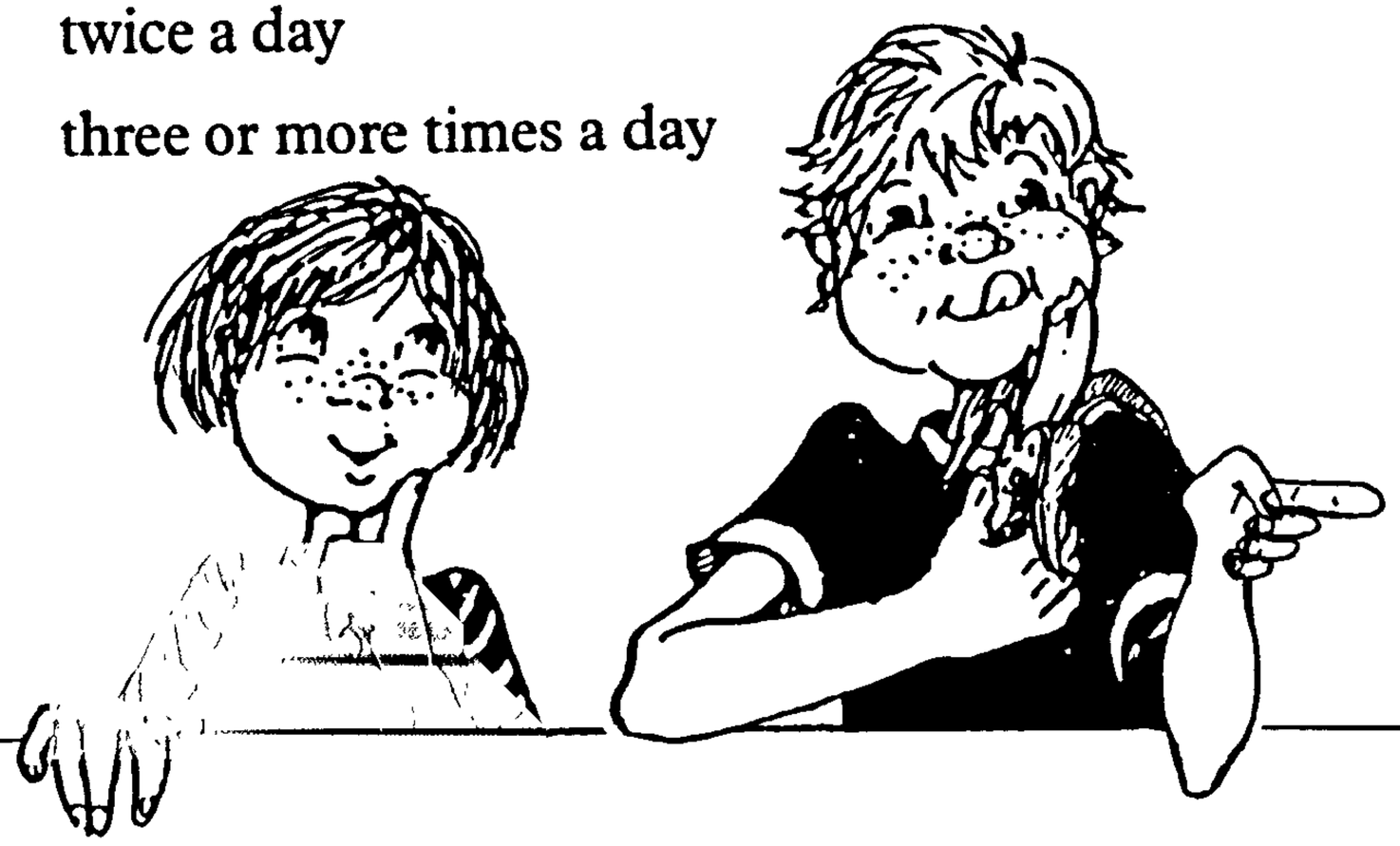
Your teeth

I usually go to the dentist —

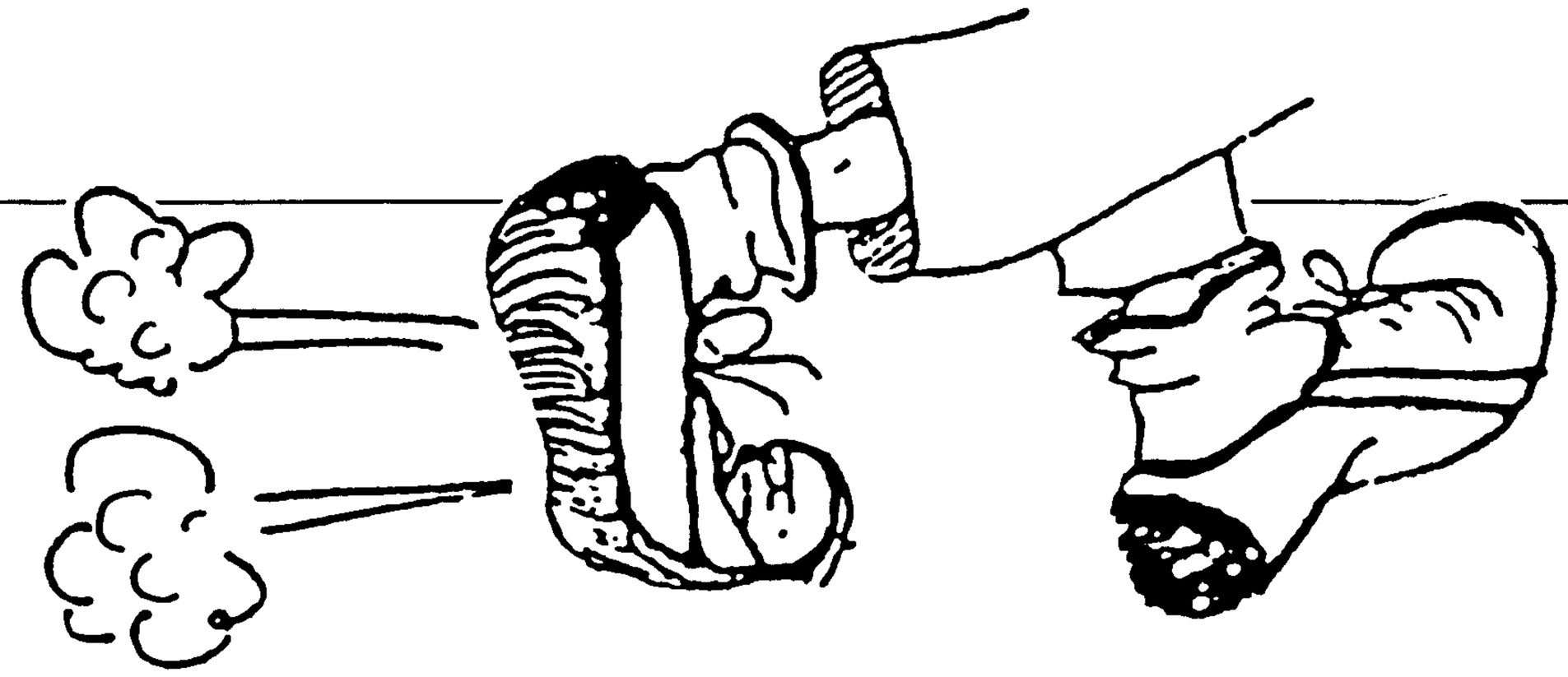
1☐ at least every six months
2☐ not every six months, but at least once a year
3☐ less than once a year

I usually brush my teeth —

1☐ less than once a day
2☐ once a day
3☐ twice a day
4☐ three or more times a day



3 Exercise



Write a number in the spaces, or tick the box.

During the school day, or out of school,
I usually do at least 20 minutes —

keep fit or exercises on ..... days a week

non-stop swimming on ..... days a week

sport that makes me breathless on ..... days a week

brisk, long walks on ..... days a week

jogging or running on ..... days a week

heavy work in the house or garden that makes me breathless on ..... days a week

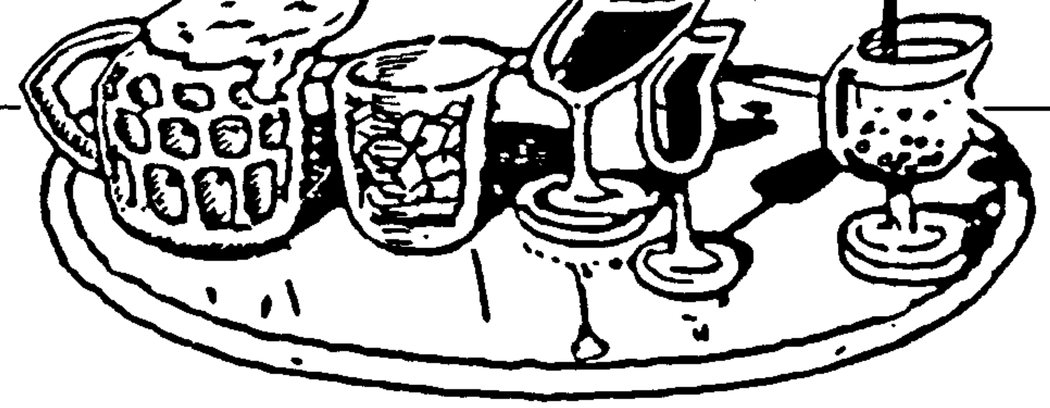
cycling on ..... days a week

other exercise that makes me breathless (please describe)

..... on ..... days a week

I don't usually do any of these for at least 20 minutes a week ☐

4 Alcohol



Tick in the boxes, write in the spaces, or leave them blank.

Do you think you will drink alcohol when you are 20 years old?

1 ☐ definitely yes
2 ☐ probably yes
3 ☐ definitely not
4 ☐ probably not

Please read the following statements carefully and tick the box which best describes you.

1 ☐ I have **never** had **even a taste** of alcohol
2 ☐ I have only **tried** alcohol **once or twice**
3 ☐ I drink alcohol **once a year or less**
4 ☐ I drink alcohol **at least twice a year** — but not monthly
5 ☐ I drink alcohol **at least once a month** — but not weekly
6 ☐ I drink alcohol **once a week**
7 ☐ I drink alcohol **more than once a week**

If you have never had even a taste of alcohol, go on to **5**, over the page.

If you have ever drunk alcohol — even once or twice — please go on to the next question on this page.

I usually drink —

☐ at home
☐ with friends
☐ with relatives
☐ at parties
☐ in pubs
☐ on my own

If you do drink, please try to remember how much you drank last Monday to Sunday.

Last week (Monday to Sunday) I drank —

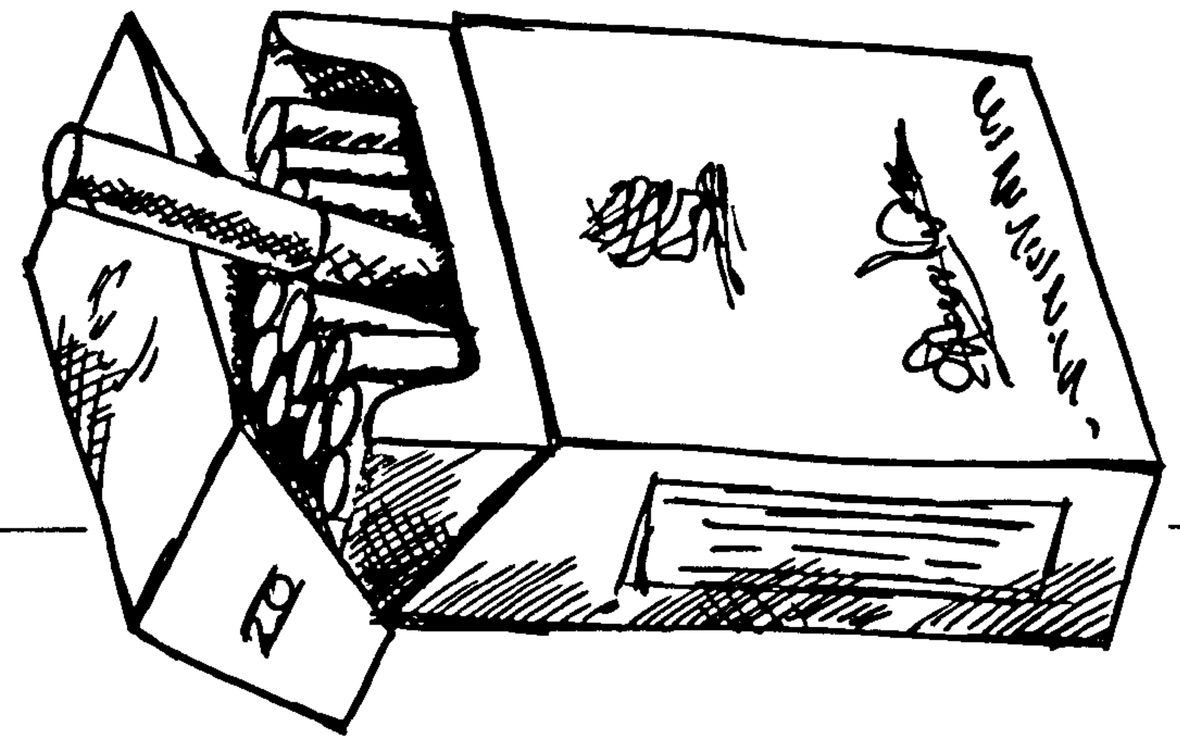
..... pints of all kinds of beer or cider

..... pints of shandy

..... measures of all kinds of spirits or liqueurs (e.g. whisky, gin, vodka, Tia Maria)

..... measures of all kinds of sherry, martini, port

..... glasses of all kinds of wine



5 Smoking

For smokers and non-smokers...

- ☐ I live in the same house as someone who smokes
- ☐ I have friends who smoke
- ☐ I think smoking should be banned in public places

Do you think you will smoke when you are 20 years of age?
(Tick one box only)

- 1☐ definitely yes
- 2☐ probably yes
- 3☐ definitely not
- 4☐ probably not

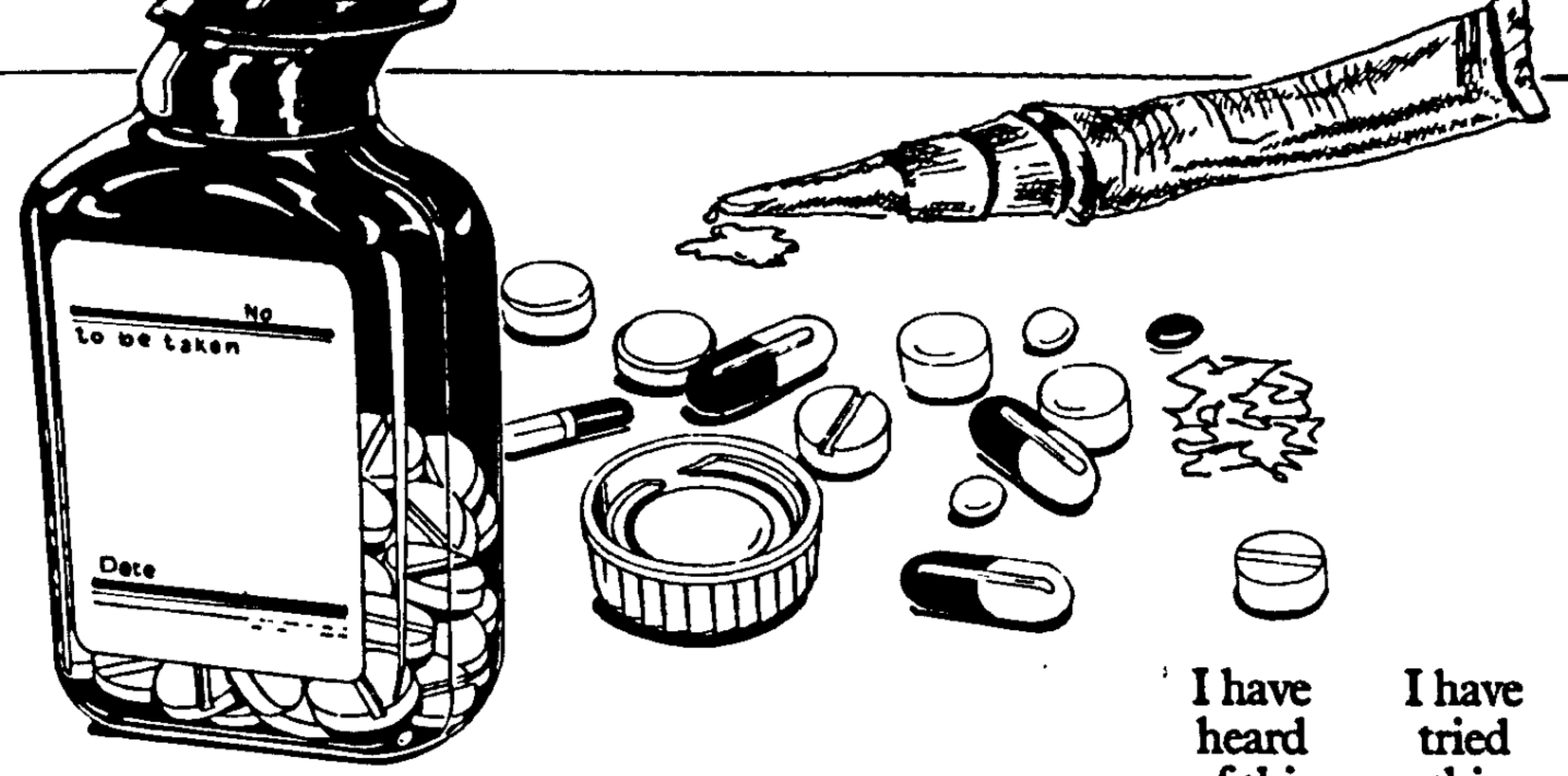
Please read the following statements carefully and tick the one that best describes you.

- 1☐ I have **never** smoked a cigarette
- 2☐ I have only ever **tried** smoking **once**
- 3☐ I **used to smoke** sometimes, but I **don't now**
- 4☐ I smoke **sometimes**, but I **don't** smoke **as much as one cigarette** a week
- 5☐ I usually smoke **between one and six** cigarettes a week
- 6☐ I usually smoke **more than six** cigarettes a week

How many cigarettes do you usually smoke in a week?

..... (number of cigarettes a week)
(If you don't smoke, please write a 0 in the space)

6 Drugs



Tick in the boxes or leave them blank.

Which of these have you heard of, and which have you tried?

	I have heard of this	I have tried this
Cannabis (pot, marijuana, grass, hash, dope)	☐	☐
Barbiturates (barbs)	☐	☐
Glues, solvents, dry-cleaning fluids, fuels	☐	☐
Amphetamines (pep pills, speed)	☐	☐
Heroin (H, Horse)	☐	☐
Cocaine (Coke, snow)	☐	☐
Sleeping tablets / tranquillizers (Tranx)	☐	☐
PCP (Angel Dust)	☐	☐

	I have heard of this	I have tried this
LSD (acid)	☐	☐
Librium	☐	☐
Valium	☐	☐
Morphine	☐	☐
Mogadon	☐	☐
Crack	☐	☐
Methadone	☐	☐
Other — please describe	☐	☐

7 What can make people's health worse?

Please read this carefully.

Look at each item on the list.

Tick the **first box** if you think the item **can't make health worse.** Otherwise leave it blank.

Tick the **second box** if you think the item **can make health worse.** Otherwise leave it blank.

	This can't make health worse	This can make health worse		This can't make health worse	This can make health worse
housing	1 ☐	2 ☐	the alcohol people drink	1 ☐	2 ☐
neighbourhoods	1 ☐	2 ☐	people's own smoking	1 ☐	2 ☐
pollution	1 ☐	2 ☐	other people's smoking	1 ☐	2 ☐
being overweight or underweight	1 ☐	2 ☐	how much money people have	1 ☐	2 ☐
how much exercise people get	1 ☐	2 ☐	the stresses people have	1 ☐	2 ☐
the foods people eat	1 ☐	2 ☐	the kind of work people do	1 ☐	2 ☐

8 Where have you heard about these?

Tick in the boxes or leave them blank. You can tick more than one box.

Exercise and health

- ☐ Guest speaker in school
- ☐ In lessons from teachers
- ☐ Teachers outside lessons
- ☐ Someone in my family
- ☐ Friends
- ☐ TV
- ☐ Magazines
- ☐ None of these

Smoking and health

- ☐ Guest speaker in school
- ☐ In lessons from teachers
- ☐ Teachers outside lessons
- ☐ Someone in my family
- ☐ Friends
- ☐ TV
- ☐ Magazines
- ☐ None of these

Alcohol and health

- ☐ Guest speaker in school
- ☐ In lessons from teachers
- ☐ Teachers outside lessons
- ☐ Someone in my family
- ☐ Friends
- ☐ TV
- ☐ Magazines
- ☐ None of these

Diet and health

- ☐ Guest speaker in school
- ☐ In lessons from teachers
- ☐ Teachers outside lessons
- ☐ Someone in my family
- ☐ Friends
- ☐ TV
- ☐ Magazines
- ☐ None of these

Sex — the facts of life

- ☐ Guest speaker in school
- ☐ In lessons from teachers
- ☐ Teachers outside lessons
- ☐ Someone in my family
- ☐ Friends
- ☐ TV
- ☐ Magazines
- ☐ None of these

Contraception

- ☐ Guest speaker in school
- ☐ In lessons from teachers
- ☐ Teachers outside lessons
- ☐ Someone in my family
- ☐ Friends
- ☐ TV
- ☐ Magazines
- ☐ None of these

...and these...

AIDS

- ☐ Guest speaker in school
- ☐ In lessons from teachers
- ☐ Teachers outside lessons
- ☐ Someone in my family
- ☐ Friends
- ☐ TV
- ☐ Magazines
- ☐ None of these

Sexually transmitted diseases
(e.g. herpes, gonorrhoea, syphilis)

- ☐ Guest speaker in school
- ☐ In lessons from teachers
- ☐ Teachers outside lessons
- ☐ Someone in my family
- ☐ Friends
- ☐ TV
- ☐ Magazines
- ☐ None of these

Drugs

- ☐ Guest speaker in school
- ☐ In lessons from teachers
- ☐ Teachers outside lessons
- ☐ Someone in my family
- ☐ Friends
- ☐ TV
- ☐ Magazines
- ☐ None of these

Finished?
Please check to make sure you have answered every question.

When you have, please put your answers in
an envelope before handing them in.

They will be returned directly to me.

Appendix 3.6
Follow-up letter to GP Practice 20% Sample

NORTH DERBYSHIRE HEALTH PROMOTION PROGRAMME
Director: Dr. J. G. Beales

Health Promotion Service, Scarsdale Hospital, Newbold Road, Chesterfield.
Telephone (0246) 31255 Ext. 267/268

2/11/88

Dear

Peak Health Survey

Although I am delighted at the number of questionnaires that have been sent back so far, I am disappointed not to have heard from you yet.

I know that time is often difficult to find, but please do try to find a few minutes to help me, and the rest of the Peak Health Team, in planning a healthier future for Staveley. You ideas will be taken most seriously.

If you don't see the Derbyshire Times I thought you might be interested in the enclosed articles which tell you a bit more about the Project, and how it hopes to promote better health.

All questionnaires sent off by the end of this month will be included in the survey and it really is important that yours should be one of them.

I look forward to hearing from you.

Yours sincerely,

Dr Gerald Beales
Director: Peak Health

PS. If you have already posted yours off, thank you, and please ignore this letter.

NORTH DERBYSHIRE HEALTH PROMOTION PROGRAMME
Director: Dr. J. G. Beales

Health Promotion Service, Scarsdale Hospital, Newbold Road, Chesterfield.
Telephone (0246) 31255 Ext. 267/268

Dear

Peak Health Survey

CONGRATULATIONS!

Despite problems with the post and the summer holidays, hundreds of Staveley people have returned their Peak Health Questionnaires. We are delighted that so many are giving such thoughtful replies and helpful comments.

We are going to wait another two or three weeks before we put all the information together and so, if there is anyone you know who has forgotton to post off their questionnaire, please give them a reminder so that they can have their views known.

I am enclosing two posters which I hope you will be able to display - one to jog peoples' memories and, more importantly, one to thank everyone who has replied.

Very many thanks for YOUR help and I will be in touch again when the results are known.

Yours sincerely

Dr. J.G Beales,
Director 'Peak Health'.

SURVEY ATTRACTS GREAT INTEREST

A surprisingly large number of people are already co-operating with the first survey of its kind, designed to discover the life-styles of people in one North Derbyshire town.

The Health Promotion Unit chose Staveley as the first part of the District to participate in the survey, being carried out with the help of a questionnaire devised by the Department of Community Medicine at Nottingham University.

With the help of the Family Practitioner Committee, which provided a 10 per cent sample of local names and addresses, and a variety of community groups, members of the public have been sent questionnaires, the individual answers to which will be treated in total confidence.

The answers will help the Health Authority to discover more about people's attitudes to health and their diets, exercise levels, smoking habits and alcohol consumption.

"There has already been a tremendous response in terms of the numbers of questionnaires which have already been returned," said Programme Publicity Manager, Jonathan Watson.

"Hundreds are flowing in and we are almost snowed under, but they should provide invaluable data on which we can then base a programme designed to promote better lifestyles and geared as closely as possible to the particular needs of a local community."

Derbyshire

Councillor Rose officially launches new Peak health campaign

FACED with an average of 226 deaths a year from coronary heart disease in the Derbyshire Dales, the district council has put its weight behind the "Peak Health 88" campaign.

A North Derbyshire Health Authority initiative launched in March, "Peak Health 88" is the response to the World Health Organisation's 'Health For All By The Year 2000' objective.

Environmental health committee chairman Councillor Lewis Rose officially launched the campaign with an appeal for Dales residents to take heed of advice on healthy living.

"If local people are to be helped to make these lifestyle changes, they need to be given accurate information and advice on healthy living.

Pursuit

"But they also require a local environment which facilitates rather than impedes the pursuit of a healthier lifestyle," Councillor Rose told the launch audience Rooms.

The health committee chairman told a gathering of coun-

Matlock Mercury

'Healthier lifestyle' promise

A VISIT from Sir Brian Bailey, Chairman of the National Health Education Authority, saw North Derbyshire become one of the first health authorities in Britain to express official commitment to the aims of the Look After Your Heart programme.

The Authority 'signed' a special charter in the presence of Sir Brian, committing itself to trying to meet the health needs of its staff.

The character spells out 10 ways in which employers can support the Look After Your Heart drive and District Health Promotion Officer, Dr. Gerald Beales, is proud to report many initiatives already in progress to ensure that these criteria are met.

There are action plans covering alcohol, smoking, exercise, nutrition and stress management and advice on all aspects of healthy living is to be included in future editions of 'NORDIS'.

The signing of the charter comes only a few months after the formal launch of the Peak Health Project, designed to co-ordinate all local resources available to assist people to help themselves in adopting healthier ways of living.

A mobile 'Peak Health Roadshow', offering health and fitness checks and general information and advice on healthier living, has already taken part in a number of special events and is really capturing the interest of members of the public, says Programme Manager, Jonathan Watson.

Its visit to a Health Fair Day organised by Killamarsh Health Visitor, Mel Davis to coincide with a market day, created great interest — "I had about five offers from market traders wanting to buy the mobile unit because it was such a crowd-drawer," joked Jonathan.

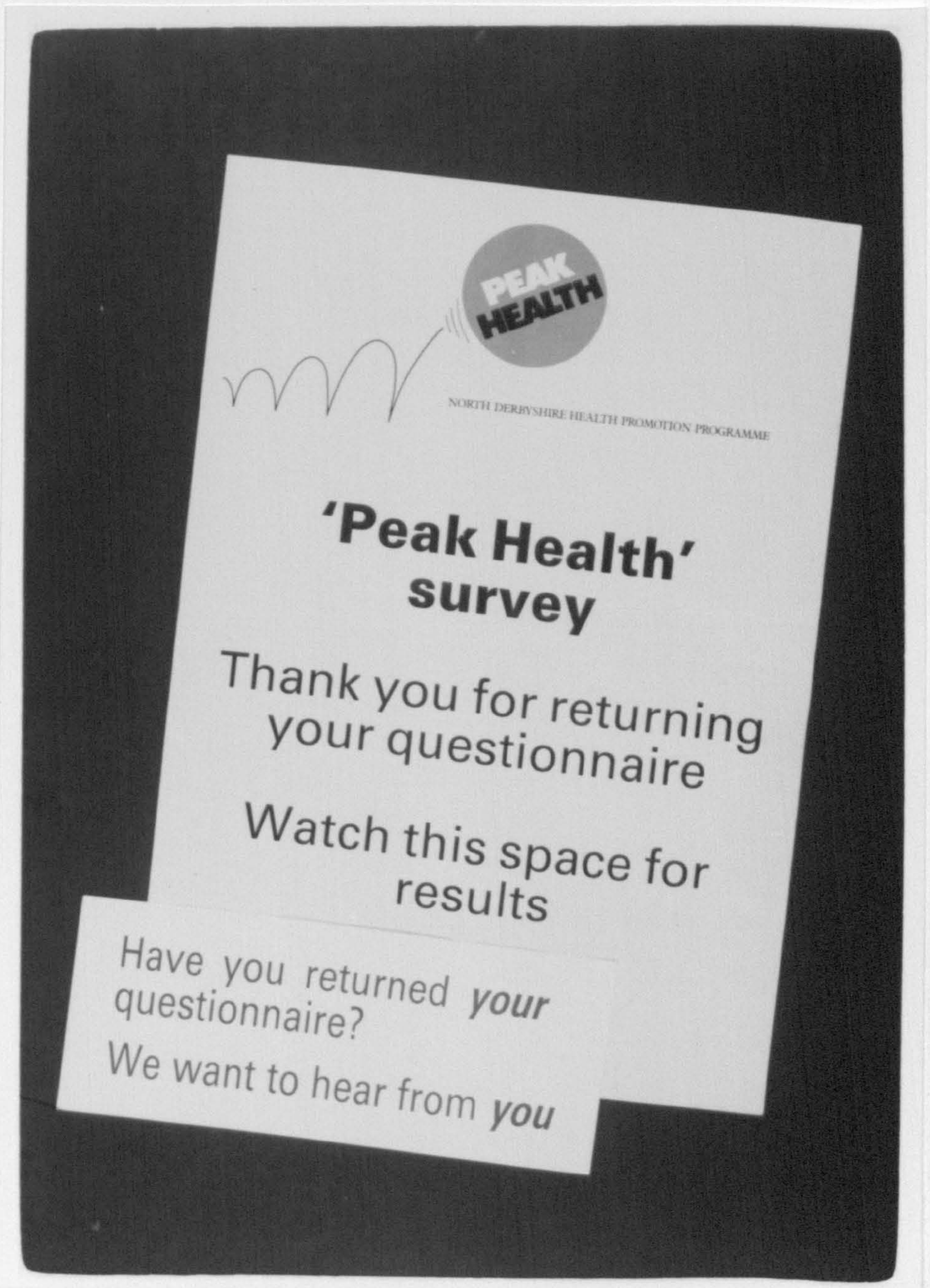
"The local Co-op pitched in on the health foods scene and we had excellent support from other Health Authority staffs and members of local voluntary groups, such as MENCAP," he said.

The mobile unit also spent a week at Shirebrook School where second-year students had already carried out health-related projects and were keen to take matters further.

It was 'absolutely swamped' by the public during its appearance at Yorkshire TVs Chesterfield Telethon where many made beelines for the exercise books while others were more interested in the health tests and diet and stress questionnaires.

Appendix 3.7

Posters to publicise participation in the CHPS


PEAK HEALTH
NORTH DERBYSHIRE HEALTH PROMOTION PROGRAMME
'Peak Health' survey
Thank you for returning your questionnaire
Watch this space for results
Have you returned your questionnaire?
We want to hear from you

Appendix 3.8

Instructions to staff administering the school pupil questionnaire

NORTH DERBYSHIRE HEALTH PROMOTION PROGRAMME
Director: Dr. J. G. Beales

Health Promotion Service, Scarsdale Hospital, Newbold Road, Chesterfield.
Telephone (0246) 31255 Ext. 267/268

Dear

Firstly, thank you for joining us in this North Derbyshire Health Authority project which we hope you will find useful in planning and evaluating health education in schools. We believe your pupils will find the questionnaire interesting and enjoyable. It should take about 30-40 minutes to complete.

Please circulate this letter to staff administering the survey and ask them to read through the following points before they do so. They help to answer any questions staff may have, and prepare them for questions pupils may ask.

Before the survey takes place:

1. arrange to introduce the survey to usual groupings, for example, tutorial or PSE groups, rather than making the survey a "mass" event: children need to feel as at ease as possible

2. ensure that each pupil is going to have a reasonable space in which to fill in the questionnaire without being overlooked

3. ensure access to scales and a height measure,in case some pupils do not know their height or weight

Before giving out questionnaires tell pupils:

1. that this area has been selected for the survey by North Derbyshire Health Promotion Unit, and that adults living in the area are also being asked for this sort of information

2. the survey asks questions about what they do and think about health and so there are no right or wrong answers, only what is true for each person. It is not a test, so please be honest.

3. answers are confidential and no names are asked for on the questionnaire. Teachers will not see the questionnaires

4. the questionnaires will be returned to North Derbyshire Health Authority, who will put all the answers together and then let teachers and pupils know the results of the whole survey, but not about individual answers

5. check that each pupil has a pen

6. mistakes should be corrected clearly

After giving out questionnaires

1. count how many children are present and how many are absent

2. give advice if requested, but without breaching confidentiality

3. ask pupils to check through for any questions they have missed

4. hand round the envelope provided for pupils to put their questionnaires in and seal it in front of them when all have been collected

5. thank the group for its help

After the survey:

1. fill in the attached sheet recording how many children were present and how many absent with reasons, if possible

2. return the envelope with the form attached or enclosed to the office for collection, together with any spare questionnaires

Many thanks for your help. Once the answers have been analysed your school will be given a copy of the results, which will give details by age and sex. We hope you will find it useful and interesting.

Yours faithfully,

Dr J G Beales
'Director' Peak Health'

NORTH DERBYSHIRE HEALTH PROMOTION PROGRAMME
Director: Dr. J. G. Beales

Health Promotion Service, Scarsdale Hospital, Newbold Road, Chesterfield.
Telephone (0246) 31255 Ext. 267/268

PEAK HEALTH SURVEY

SCHOOL SURVEY RETURN SHEET

To be filled in by each member of staff supervising the survey.

Name of staff member .....

Capacity of staff member (eg PSE tutor).....

.....

Age of pupils .....years

No. of pupils present.....

No. of pupils absent.....

Length of time allocated for the survey.....minutes

Usual activity at this time.....

Place where survey took place.....

Notes including reasons for a absence, persistant non-attenders length of time taken to complete, questions that caused problems etc

Please return this form with the envelopes containing questionnaires to the school office or member of staff responsible for the survey.

THANK YOU FOR YOUR HELP

Appendix 3.9

Reliability of the school pupil questionnaire

APPENDIX 3.9 RELIABILITY

Repeat survey to assess the reliability of the School Pupil Questionnaire

489 (93%) of the original pilot sample of 533 pupils satisfactorily repeated the questionnaire. It was not possible to check the consistency of responses using matched samples and the kappa test as pupils were not asked to identify themselves on questionnaires. This was a deliberate strategy to encourage honest responses to potentially sensitive questions, for example, usage of drugs. However, the numbers of responses to 19 key questions were analysed using the chi-square test. The results of these analyses are given in Table A. Questions about smoking were excluded from the analysis because, as noted in Chapter 3, 3.5.2, these questions were known to produce consistent responses.

Table A: **School Pupil Questionnaire: repeat survey by pilot survey by 19 key questions**

	Pilot survey N = 533		Repeat Survey N = 489				
	n	%	n	%	χ^2	d.f.	p
Sex:							
male	260	49	234	48	0.1	1	NS
female	271	51	153	52	0.0	1	NS
Social class:							
I - IIIN	145	27	137	28	0.0	1	NS
IIIM - V	315	59	278	57	0.4	1	NS
Eats breakfast	397	74	383	78	1.9	1	NS
On a diet	103	19	95	19	0.0	1	NS
Brushes teeth twice a day	285	53	275	56	0.0	1	NS
On most days eats:							
chicken or fish	108	20	109	22	0.0	1	NS
fresh fruit	317	59	272	56	1.4	1	NS
low-fat	210	39	193	39	0.0	1	NS
margarine	201	38	175	36	0.3	1	NS
chips	249	47	214	44	0.8	1	NS
brown bread	34	6	44	11	2.1	1	NS
Never takes exercise	367	69	335	69	0.0	1	NS

Will drink when 20	231	43	229	47	1.1	1	NS
Drinks alcohol at parties	464	87	429	88	0.1	1	NS
has heard of cannabis	470	88	437	89	0.3	1	NS
Has heard of heroin	122	23	109	22	0.0	1	NS
Believes:							
Exercise can affect health	44	8	52	11	0.4	1	NS
Foods can affect health	267	50	229	47	1.0	1	NS
Money can affect health							

Table A shows that 19 key questions about self-reported health-related behaviour were answered consistently by school pupils in that the chi-square test showed no statistically significant differences in any instance. The degree of consistency noted on Table A and the findings from both the adult reliability studies testing many of the same questions, and the use of questions already tested for reliability, suggest that the school pupil questionnaire was reliable.

Appendix 3.10

Readability of questionnaires

APPENDIX 3.10

Strategies to increase readability and ease of the questionnaires

Many factors affect the readability of text, the most important of which is that the more complex the sentence and the more syllables per word, the greater the difficulty of the text (Watts and Nesbit, 1974). Sentences on the questionnaire were therefore reduced to as few clauses as possible without losing the natural flow of the text. Phonetic words with few syllables were used in preference to non-phonetic multi-syllabic words. For example, the sentence used in the draft questionnaire to explain how to return questionnaires originally read: "When you have completed your questionnaire, please seal them in the free-post envelope provided and then return them to North Derbyshire Health Promotion Unit. You can post your answers through the ordinary mail, but to help us reduce postage we would appreciate it if you would use one of the special Peak Health boxes you will find in your community."
The final version read,
"Returning your answers.
1.Seal them in the freepost envelope.
2. Put them in one of the special Peak Health boxes placed in your community - this will help us to cut postage costs - or post them normally in any post box."
Thus two sentences of 24 and 36 words respectively were reduced to a list containing three sentences of 3, 6, and 30 words respectively with the longest sentence clearly broken-up with the use of dashes. The use of "North Derbyshire Health Promotion Unit" was avoided, together with multi-syllabic words "completed" "questionnaire" "provided" "ordinary" and "appreciate".
Wherever possible, throughout the questionnaire, words in common usage were used to aid understanding rather than more specialised terminology (Boyle, 1970). For example "smear test" was used instead of "cervical cytology" and "peas, beans and lentils", rather than "pulses".
Two-part questions were avoided as they tend to lead to inaccurate responses. Negatives were also avoided as they tend to lead to confusion (Wright and Barnard, 1975; Wright, 1975). General guidelines about readability were also followed (Tinker, 1963; Watts and Nesbit, 1974). For example, the layout of the questionnaire was such that questions were grouped logically by subject, usually one per page, and subjects were clearly signalled by both labels and illustrations. Upper case letters were used only when grammatically necessary and text was stressed using either larger type face, or bold type. Contrast between text and paper was clear, but not glaring, with black text on white or pale yellow paper being used for the pilot questionnaires and black text on white paper for the final questionnaires. Initial instructions to respondents were kept to the minimum and given, as far as possible, in the same words at the beginning of sections, for example, "Write in the spaces or tick the box to describe yourself". The text was personalised to promote motivation to complete the questionnaire. Motivation is known to be a factor which improves reading performance, (Harrison, 1980). Illustrations in the questionnaires were included for the same reason.
Demands on writing skills were kept to the minimum. Respondents to both questionnaires could satisfactorily complete the bulk of the questionnaire using only ticks. Single boxes in which to place ticks were situated to the left of text so that they clearly related to the appropriate text, for example, questions about smoking. Where a choice of boxes needed to be made boxes were placed on the right of text, and clearly linked to appropriate text by spacing or line breaks, for example, the questions about diet.
Finally, there are a vast number of questions that can be asked about health-related behaviour, depending on the range of topics studied, and the depth in which they are studied. It was therefore decided to ask only questions that related directly to health promotion objectives. For example, as nutrition health education may aim to increase the public's fibre intake (DHSS, 1981) it was decided to ask how often, if ever, respondents eat wholemeal brown or other high fibre bread. No questions were asked about the quantity consumed or about low-fibre bread. The rationale for this was that detailed recall is likely to be faulty and time consuming for the respondent. If no high fibre bread was eaten then either no bread at all was eaten or low fibre bread was eaten. In either case the fibre intake from this source was less than that of the high fibre bread consumer, which was the information required.
By asking only questions of direct relevance to the planning of future health promotion programmes the length of the questionnaire and the time required to complete it were minimised, as were the potential opportunities for recall bias. Calculations of units of alcohol intake were also avoided to prevent the need for additional written instructions and to reduce the level of potential error in calculations required to complete the questionnaire.

Assessing the readability of the texts

Having used techniques likely to reduce the level of difficulty of the questionnaires it was then decided to apply a standardised readability test to the questionnaires. It was recognised that standardised reading tests have limited value in that they tend to be more applicable to children's reading and allow only for the difficulty of vocabulary and syntax and not the layout or tone of a text (Nicoll and Harrison, 1984). However, such a text does provide one, albeit limited, measure of assessment. One of the most generally accepted measures of readability is Flesch's reading Ease Score (Flesch, 1951), which allows for the difficulty of vocabulary and syntax of a minimum of 100 word samples of prose. In designing questionnaires blocks of text of 100 words, or more, are unusual and so this approach to assessing a questionnaire's readability has limitations. However, it was possible to assess the readability of six samples of compiled samples of text taken from the questionnaires. The Flesch Reading Ease Scores for these samples are given in Table A.

Table A **Readability of six 100 word samples of text from the questionnaires using the Flesch Reading Ease Score**

Sample	Flesch Reading Ease Score	Reading Age
Adult		
- covering instructions	64.9 (standard)	14 years
- diet exercise and alcohol questions	80.6 (easy)	11.9 years
School		
- Covering instructions,	88.1 (easy)	11.2 years
- alcohol questions	89.2 (easy)	11.1 years
- smoking questions	92.6 (very easy)	10.7 years
- what makes heath worse questions	98.8 (very easy)	10.1 years

The results in Table 3.36 indicate that the schools' questionnaire was appropriate for individuals reading at the average ability of 10 - 11.2 year olds. The reading ability of an average 11.9 to 14 year old was needed to read the adult questionnaire.

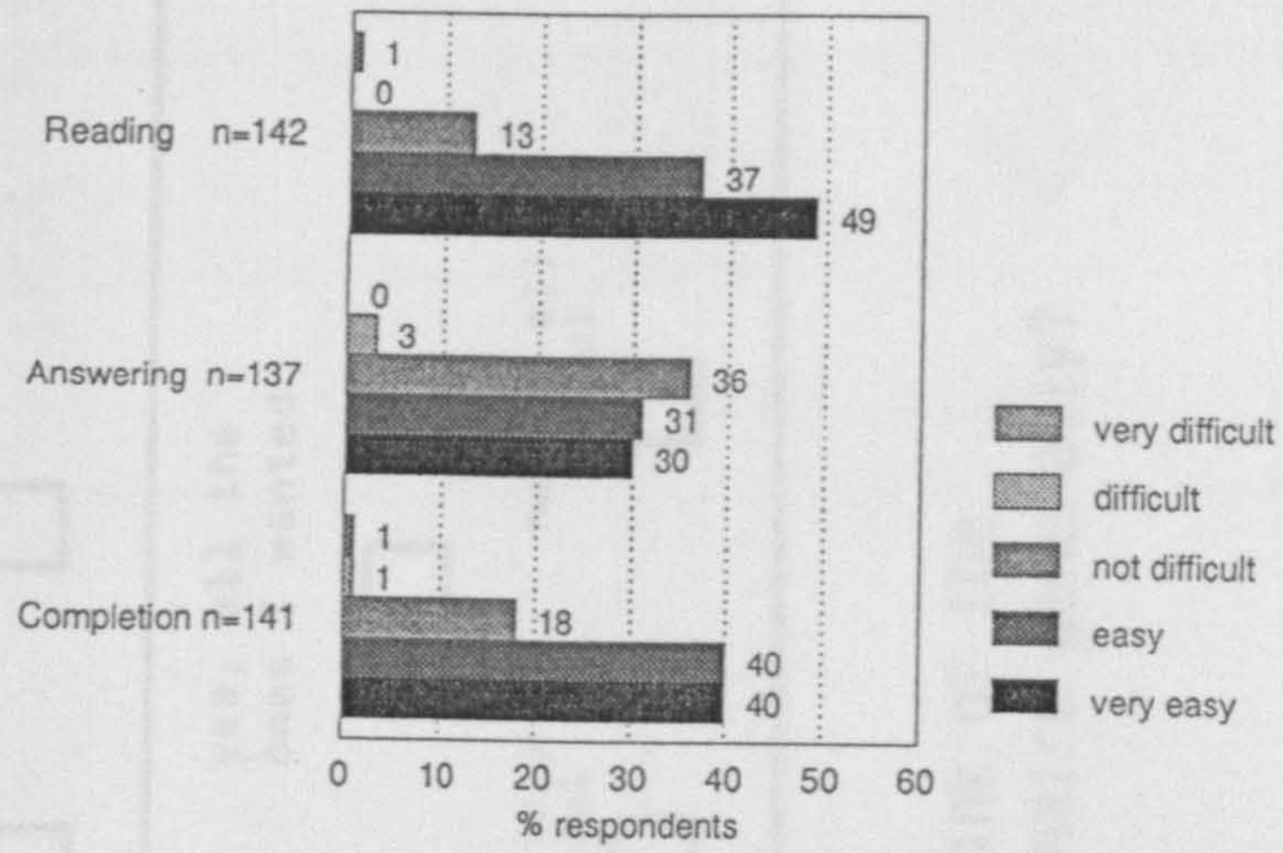
Using the Flesch Reading Ease Score indicated that the texts of both the adult and school pupil questionnaires were easy enough for the populations for which they were intended. Therefore, on the one measure of a readability score, the strategies to make the questionnaire easy to read were successful.

Surveying respondent's views about the ease of reading, answering and completion of the questionnaires

The Adult Questionnaire

Although the Flesch Reading Ease Score indicated that the adult questionnaire was easy enough for those reading as well as the average 14 year old, it has been noted that there are limitations to the usefulness of standardised readability assessment and this is particularly true of material designed for adults (Cutts and Maher, 1980). During the reliability study discussed in 3.5 respondents were therefore asked to rank the questionnaire in terms of its reading ease, answering ease and completion ease on a five point Likert scale, as shown in this Appendix. The results from the respondents to the three questions are given below in Figure A.

Figure A
Respondents' views of the level of difficulty of the questionnaire



Care must be taken in the interpretation of these results as respondents were self-selected in that they had already responded to the pilot health survey and the repeat survey and were consequently not representative. However, the results indicate that respondents found no difficulty in completing the questionnaire.

The School Pupil Questionnaire

School teachers administering the pilot school pupil questionnaire to their usual classes were asked to comment on any specific literacy difficulties experienced by pupils responding to the pilot health survey, see Appendix 1.1. School teachers reported that, on the whole, pupils found the questions easy to read, understand and complete with the exception of the "What makes health worse?" questions. These questions were modified in the final School Pupil Questionnaire. It therefore seems that the readability of the School Pupil Questionnaire was appropriate for the population for which it was intended, as assessed by school teachers using the questionnaire with pupils.

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YOUR HEALTH SURVEY

What do you think?

Please tick to show how you found the questionnaire generally.

	very difficult	difficult	not difficult	easy	very easy
- to read	☐	☐	☐	☐	☐
- to think of answers	☐	☐	☐	☐	☐
- to fill in	☐	☐	☐	☐	☐

Did you get any leaflets?

didn't ask for any	no	yes, but not all the ones I wanted	yes, all the ones I wanted
☐	☐	☐	☐

If you did, were they:

very useful	useful	alright	not very useful	not at all useful
☐	☐	☐	☐	☐

Can you think of any ways in which we can make the survey more useful to people who live locally?

e.g. other leaflets,
telling people what we found out

What did you think of the survey/questionnaire generally?

This number makes your questionnaires confidential, but not anonymous. ☐☐☐☐

Do you have any comments about these sections?

eg. Are any questions unclear?
Should we add any other questions?

1 About you	2 Food	
3 Smoking	4 Exercise	5 Alcohol
6 Health checks	7 What makes your health worse ?	

Appendix 3.11
Special community-based post-box


'Peak Health'

PEAK HEALTH

NORTH DERBYSHIRE HEALTH PROMOTION PROGRAMME

'Peak Health' survey

Let us know what ***you*** do and think about your health

Don't be left out

If you haven't already got ***your*** questionnaire, get one from

Appendix 3.13
Press handout and newspaper article about the CHPS

NORTH DERBYSHIRE HEALTH PROMOTION PROGRAMME
Director: Dr. J. G. Beales

Health Promotion Service, Scarsdale Hospital, Newbold Road, Chesterfield.
Telephone (0246) 31255 Ext. 267/268

PRESS RELEASE

Health Survey in Staveley

North Derbyshire Health Authority have chosen Staveley as the first of many local communities to receive special attention by health promotion staff. This move is seen by staff as an important part of its 'Peak Health' programme which was launched earlier this year in Chesterfield.

To get a clear picture of health in Staveley now, a survey of what people do and think about their health is being carried out in co-operation with the Department of Community Medicine at Nottingham University starting in July.

The information collected in the medical school survey will be used to identify how many people run the risk of ill-health because of the life-styles they adopt. Just as importantly, the information will be used with community groups to help in planning ways of helping people to help themselves to healthier life-styles. To collect the information people who live and work in Staveley are being invited to spend about 20 minutes filling in an easy to complete and confidential questionnaire about their diet, exercise, smoking and alcohol consumption, as well as what they think makes their health worse. It is

hoped that at least 20% of Staveley's population, about 5,000 people will help, returning their questionnaires by freepost through special post-boxes or the usual post system. In return for local people's help, free leaflets about health information, local facilities and, later, the results of the survey, are being offered. The survey has the support of many local community groups who are helping to distribute questionnaires.

If any individual or group would like to take part in the survey they are welcome to join by contacting North Derbyshire Health Promotion Unit and speaking to Heather Roberts.

"ENDS"

FURTHER INFORMATION CONTACT: Heather Roberts, Research Associate, Department Of Community Medicine, Nottingham University, Clifton Boulevard, NOTTINGAM.

Telephone: (0602) 421421 ext. 3474 (3552)

BETTER TO RING HERE.

Article from The Derbyshire Times, November, 1988

Health check for town

Health watchdogs have prescribed a thorough check-up of a north Derbyshire town in a drive to improve people's lifestyles.

North Derbyshire's health promotion unit - Peak Health - is putting Staveley, near Chesterfield, under the microscope by launching a confidential survey about townsfolk's views on health.

Peak Health staff want to know about the public's diet, exercise levels, smoking habits and alcohol consumption to draw up a better living programme geared to community needs.

Said Jonathan Watson, the programme manager: "We want to know what the people of Staveley consider their priorities and concerns about health to let us know what they want help with.

He said high levels of social deprivation in the area and the diverse health needs of townsfolk made Staveley the obvious target for the first survey.

The survey is being carried out in conjuction with the Department of Community Medicine at Nottingham University and results are expected in September.

The work is expected to take 18 months before moving on to Shirebrook

Appendix 3.14

Leaflets about health living:
- feedback to adult respondents
- summary of CHPS results


THAT'S THE
LIMIT
What is the limit?
A guide to examin your brea
A SMOKER'S GUIDE TO
GIVIN
BEATING
Cervical CANCER
IT CAN BE AVOIDED
EXERCISE
WHY
HEALTH EDUCATION COUNCIL
Minor illness
guide to
HEALTHY EATING

NORTH DERBYSHIRE HEALTH PROMOTION PROGRAMME
Director: Dr. J. G. Beales

Health Promotion Service, Scarsdale Hospital, Newbold Road, Chesterfield.
Telephone (0246) 231255 Ext. 267/268

Dear

Peak Health Survey in Staveley

You may remember that I promised to let you and your colleagues or members know the results of the survey of health in Staveley that you so kindly helped to run. All the results are now available and I am pleased to be able to send you the first of four posters about the most important findings.

PLEASE DISPLAY THESE POSTERS WHERE YOU AND YOUR COLLEAGUES CAN SEE IT.

I also enclose a leaflet that gives more details. Again, if you can display it I will be grateful.

May I now invite you to discuss with one of the Peak Health Team any ideas you or your colleagues or members have about how health can be promoted within your group. For example, sessions about diet, exercise or stopping smoking or speakers about arthritis, heart disease, etc.

If you would like to take up this opportunity, please contact the Peak Health Team on the above number. You can also get further posters, leaflets or information about healthy living from this number.

We look forward to hearing from you and thank you for your help.

Yours sincerely

Heather Roberts

Gerald Beales

Heather Roberts
Research Associate

Dr. G. Beales
Director : Peak Health

Appendix

2.25 Feedback to adult respondents:
Summary of CHP Survey
and
Information leaflets about local health services

Health Survey in Staveley

- Who took part in the survey?
- 1079 local men and women aged 16 to 99 - 450 men and 629 women.
- The charts show you what they said, and are coded to show -

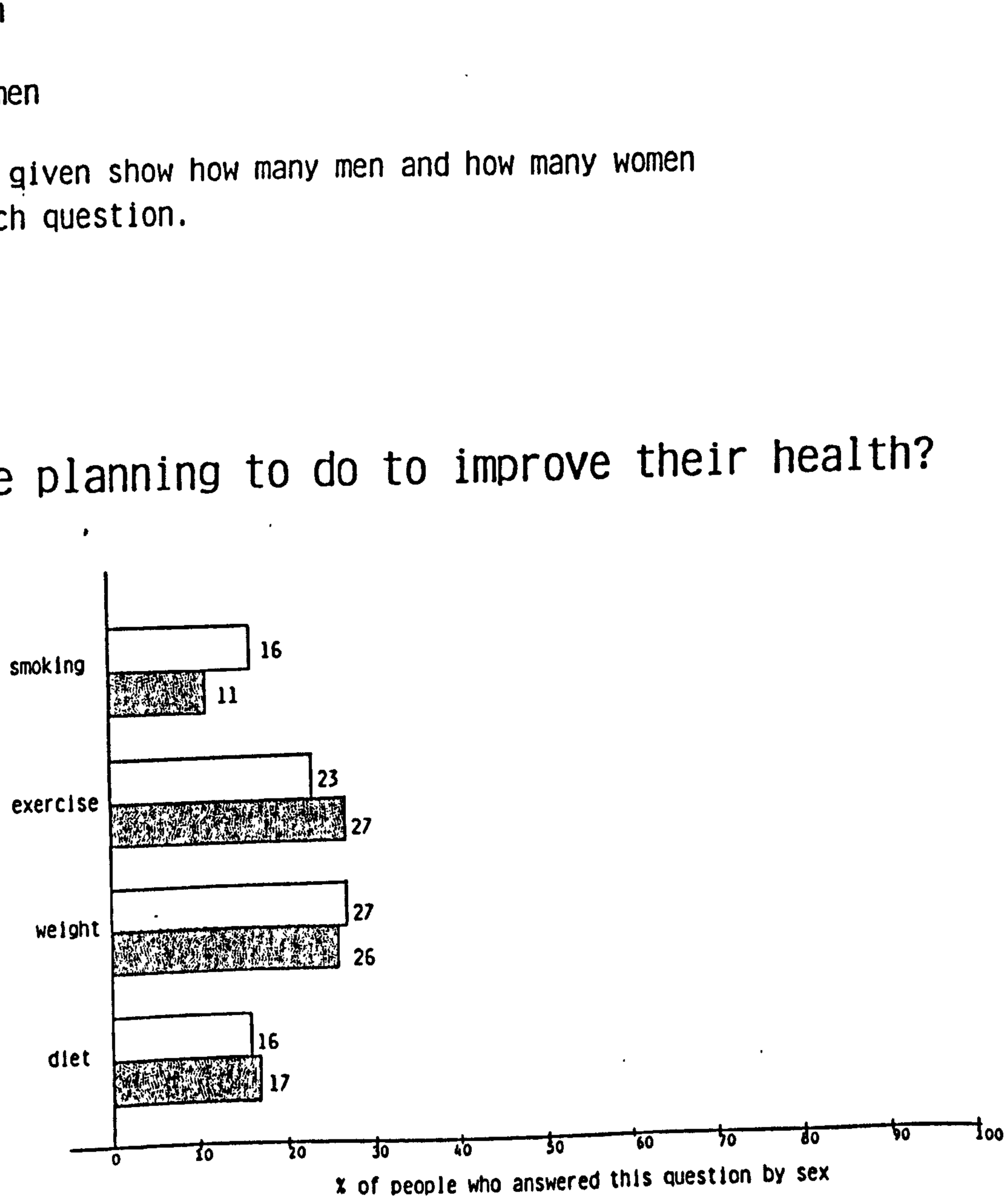
  □ men

  ▒ women

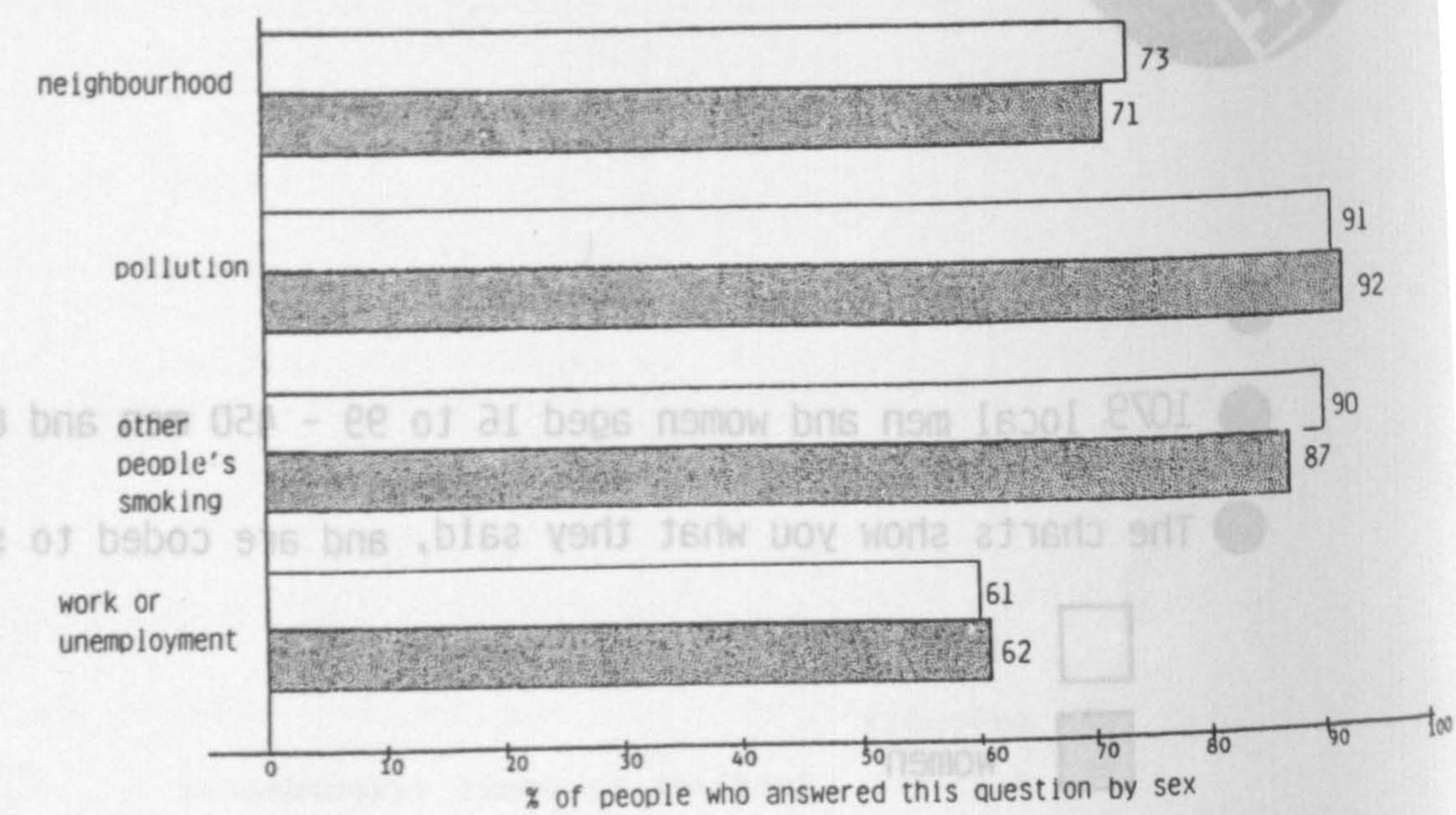
- Percentages given show how many men and how many women answered each question.

What are people planning to do to improve their health?

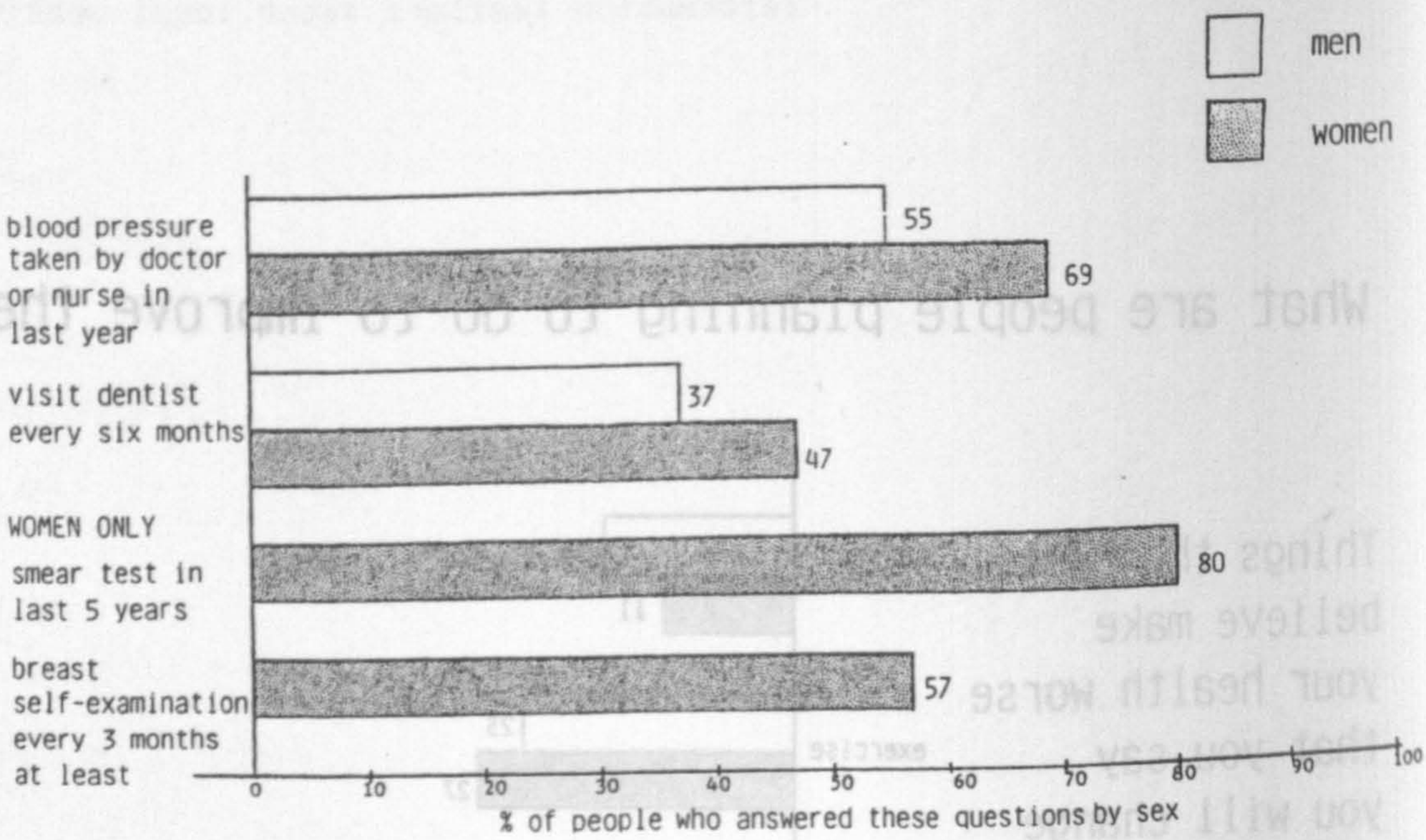
Things that you believe make your health worse that you say you will change



Things that you believe make your health worse that you feel you can't change



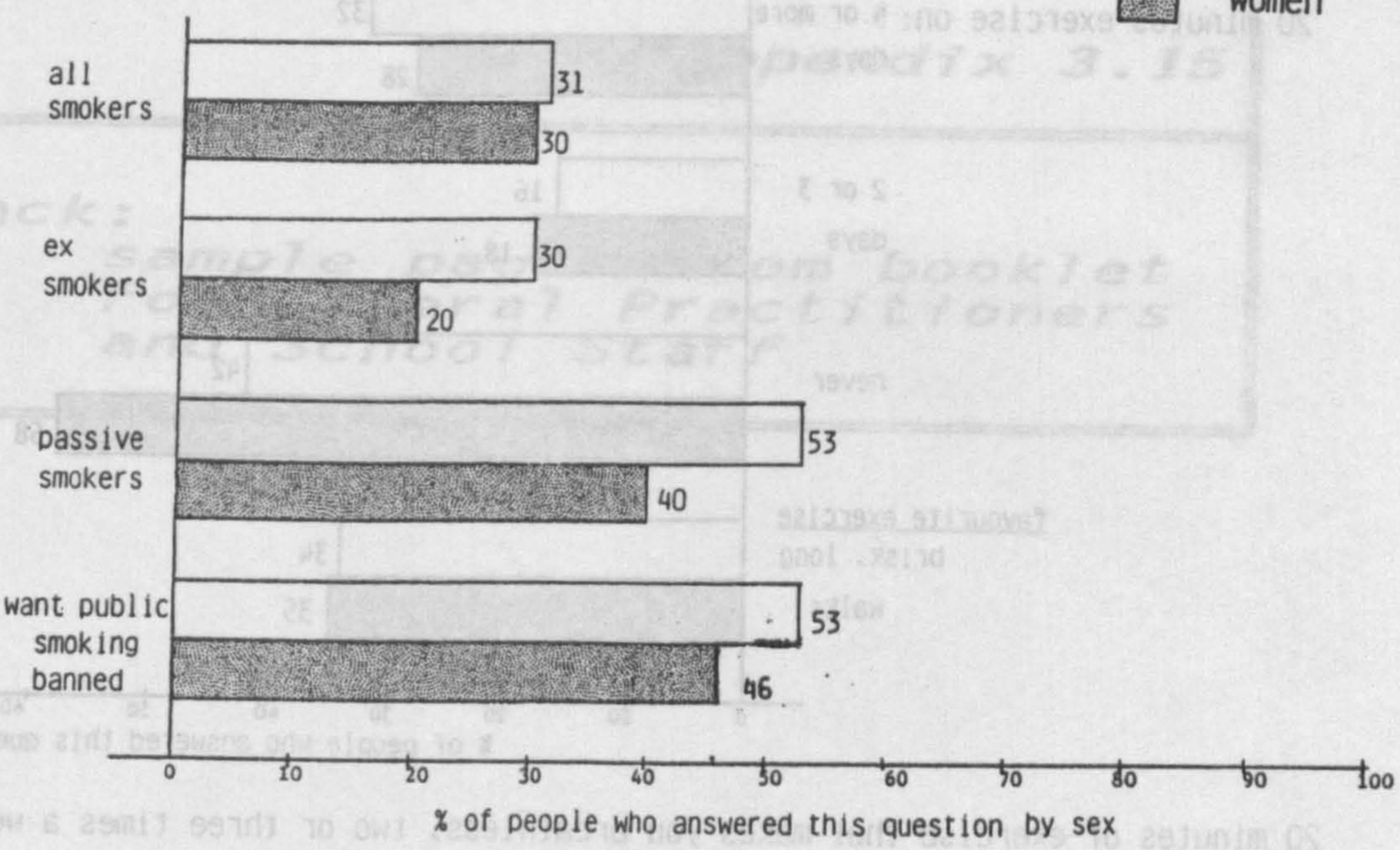
Health checks



Regular health checks tell you what you can do to stop problems you may not even know about becoming serious.

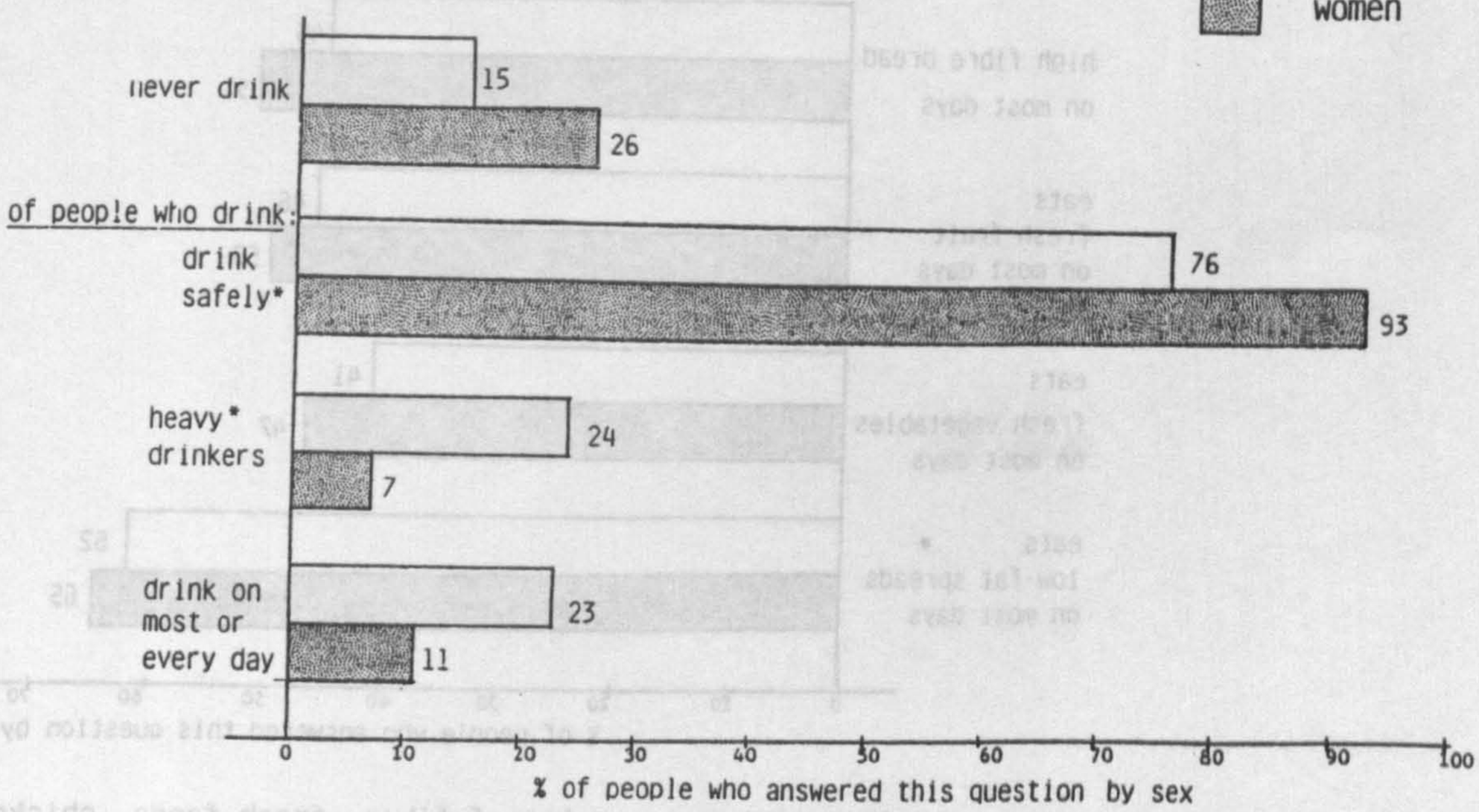
- high blood pressure may increase your risk of heart disease and strokes
- high blood cholesterol levels from eating lost of fatty foods increases your risk of heart disease
- regular dental care can reduce the risk of gum disease or tooth loss
- for women, smear tests and breast self-examination can find abnormalities that may develop into cancer

Smoking



Smoking causes - lung cancer, chest infections and coughs
- damage to non-smokers' health

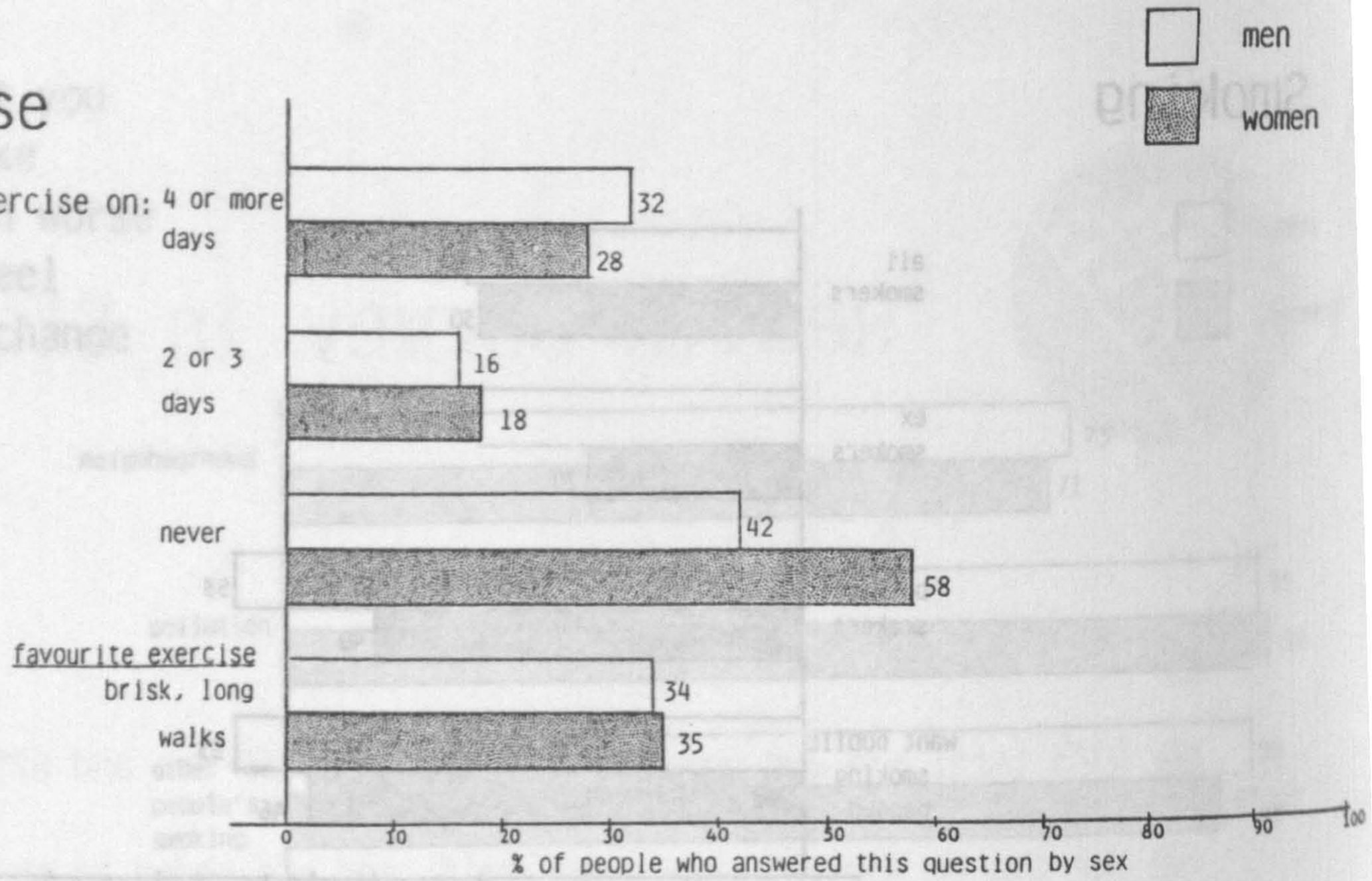
Alcohol



21 units of alcohol per week for men
or
14 units of alcohol per week for women
increase your chances of alcohol-related diseases, for example liver damage.

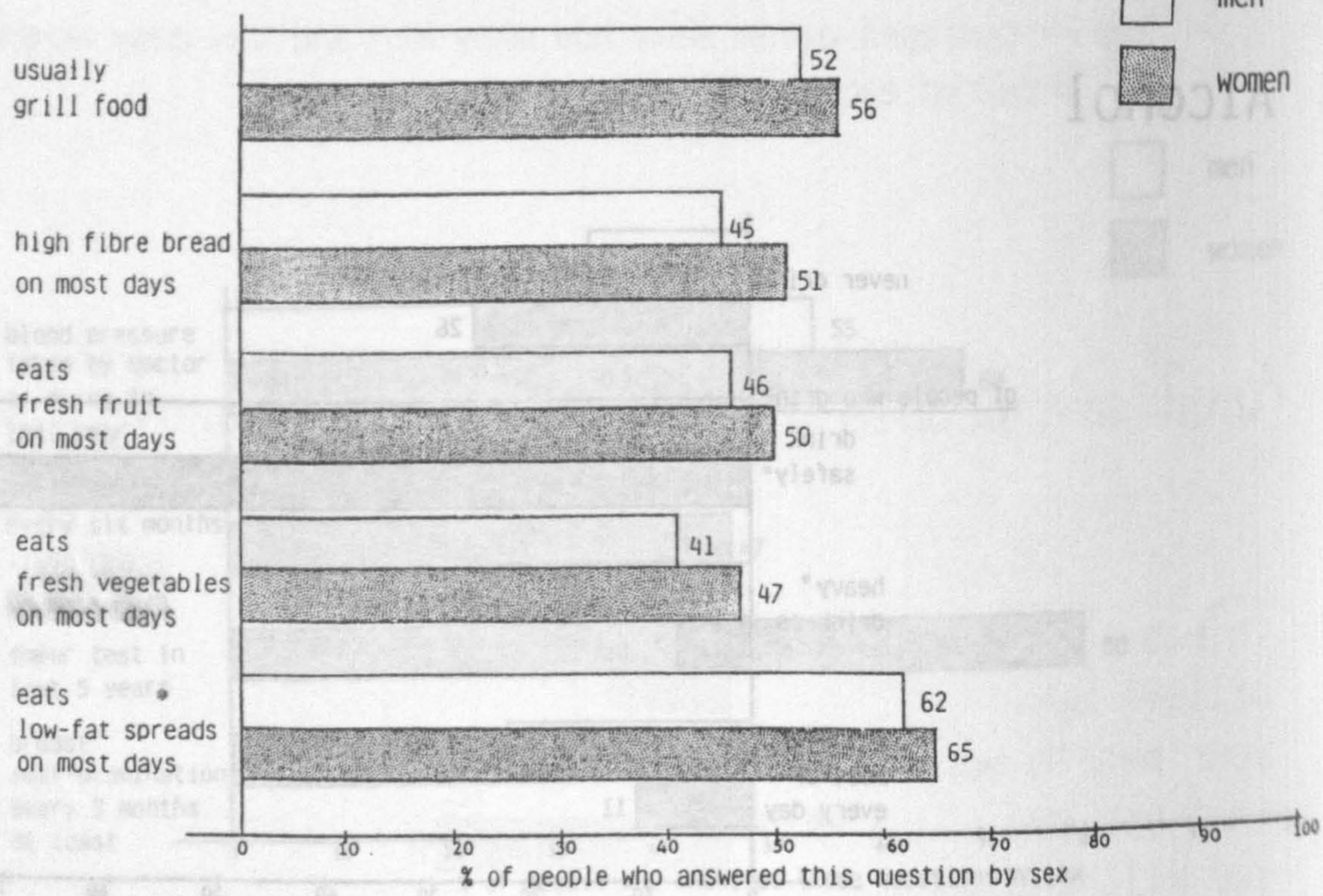
To calculate how much you drink: 1 pint of beer or cider = 2 units
1 measure of other drinks = 1 unit
(eg spirits, wine, martini,
vermouth, sherry port)

Exercise



20 minutes of exercise that makes you breathless, two or three times a week
- improves your heart muscle, reducing the risk of heart disease

Diet



Health experts say that a healthy diet has - a lot of fibre, fresh foods, chicken and fish
- little red meat
- very little or no salt, sugar and animal fat

Thank you to the many people in Staveley who helped with this survey.

Dr G. Beales, Director Health Promotion Unit, Scarsdale Hospital
Newbold Road, Chesterfield.

Appendix 3.15

Feedback:

- *sample pages from booklet for General Practitioners and School Staff*


Working with
SHIREBROOK & STAVELEY
How the Project will work
What you can do
Do YOU want to be in...
PEAK HEALTH
Then Read on...
NORTH DERBYSHIRE
NORTH DERBYSHIRE HEALTH PROMOTION PROGRAMME
Useful Addresses and Telephone Numbers
STAVELEY & NORTH DERBYSHIRE

NB. Percentages given relate to the number of responses to each question.

1 About You

Please tick in the boxes, write in the spaces, or leave them blank to describe yourself.

I am —

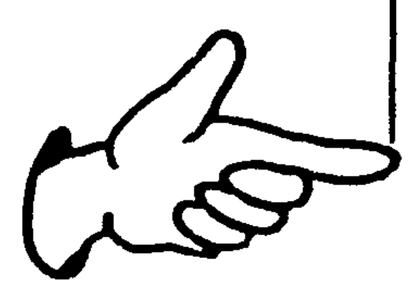
n	%	
__	__	⩽ 24 male
__	__	⩽ 24 female
__	__	25 - 44 male
__	__	25 - 44 female
__	__	45 - 64 male
__	__	45 - 64 female
__	__	⩾65 male
__	__	⩾65 female

I live —

n	%	
__	__	alone with children
__	__	alone
__	__	with parents
__	__	with friends
__	__	with a partner, married
__	__	with a partner, unmarried

My usual paid work is, or was —

n	%	
__	__	Social Class I and II
__	__	Social Class IIIN and IIIM
__	__	Social Class IV and V
__	__	Inadequate data
__	__	Self and/or partner unemployed
__	__	Parents of one or more children at home
__	__	Baby expected by self or partner



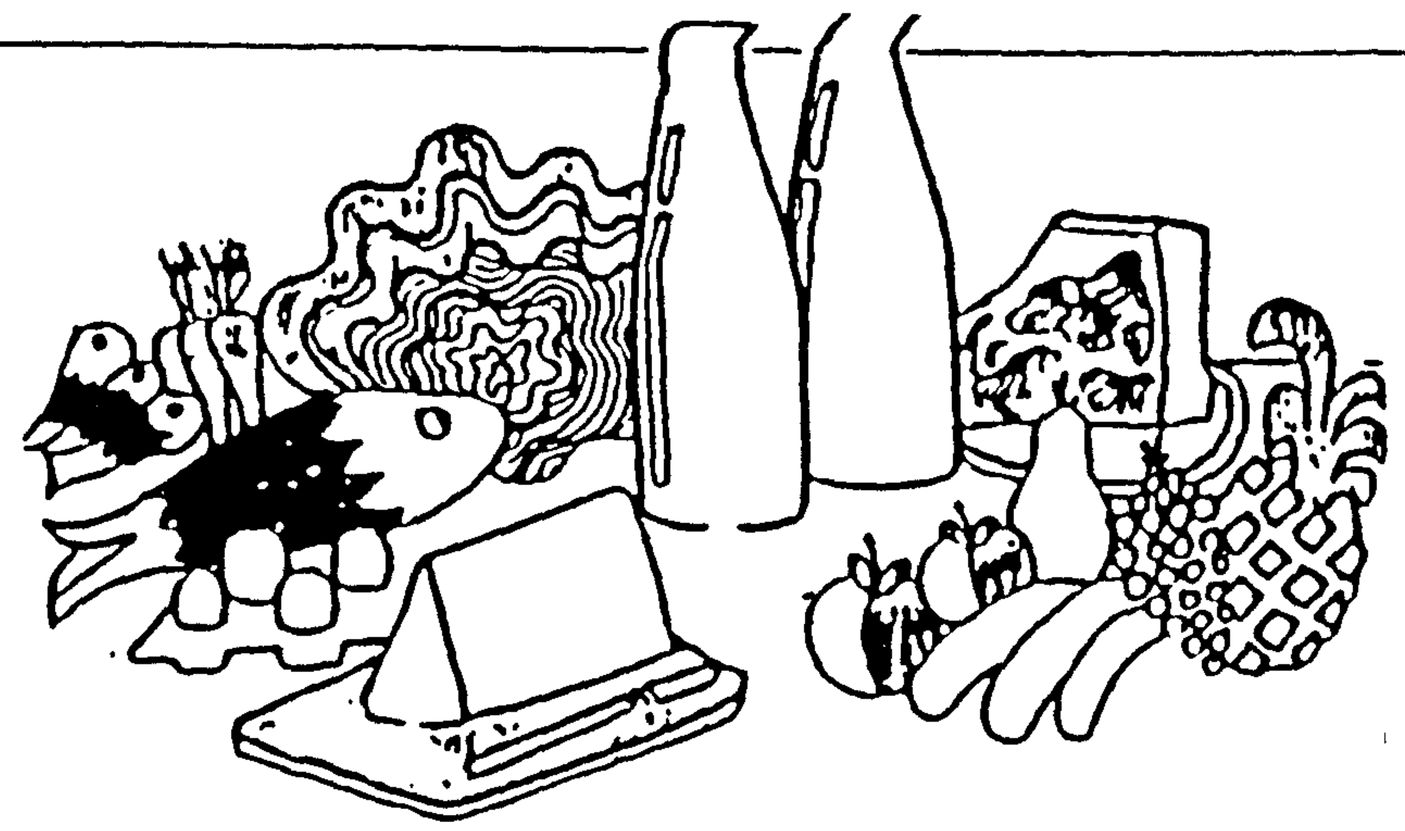
2 Food

How often, if ever, do you eat these?

	Less than once a week or never		Once a week or more — not most days		Every, or most, days	
	n	%	n	%	n	%
Sugar — added to drink	—	—	—	—	—	—
— added to food	—	—	—	—	—	—
Salt — added in cooking	—	—	—	—	—	—
— added to food	—	—	—	—	—	—
Chicken or fish	—	—	—	—	—	—
Fresh, not frozen, vegetables — green	—	—	—	—	—	—
— other	—	—	—	—	—	—

	Less than once a week or never		Once a week or more — not most days		Every, or most, days	
	n	%	n	%	n	%
Fresh fruit	—	—	—	—	—	—
Eggs — cooked any way	—	—	—	—	—	—
Low fat cheese (e.g. cottage cheese, Elmlea)	—	—	—	—	—	—
Skimmed or semi-skimmed milk	—	—	—	—	—	—
Low fat or polyunsaturated margarine (e.g. Flora)	—	—	—	—	—	—

... and these ...



Please tick a box on **every line.**

	Less than once a week or never		Once a week or more — not most days		Every, or most, days	
	n	%	n	%	n	%
Peas, beans, lentils	—	—	—	—	—	—
Potatoes — baked in their skins	—	—	—	—	—	—
— chips	—	—	—	—	—	—
Brown rice or wholemeal pasta	—	—	—	—	—	—
Brown bread — granary, wholemeal or other high fibre bread	—	—	—	—	—	—
High fibre breakfast cereal (e.g. All Bran, muesli)	—	—	—	—	—	—
Sweet things between meals	—	—	—	—	—	—

My cooked food is usually —

n	%	
—	—	grilled rather than fried
—	—	cooked in vegetable oil rather than hard fat
—	—	neither of these

—	—	Underweight
—	—	Normal weight
—	—	Overweight/obese

Calculated using the Quetelet Index:
≤ 19.9 = Underweight
20 - 24.9 = Normal weight
≥25 = Overweight

3 Smoking

Whether you smoke or not ...

n %

__ __ I live with a smoker

__ __ I often spend some of my day where people smoke

__ __ I use non-smoking areas where I can

__ __ I think smoking should be banned in public places

__ __ **I have never smoked** — or have only tried smoking once or twice — go on to **4**

__ __ **I have given up smoking,** but I used to smoke — go on to **4**

I now smoke —

__ __ daily

__ __ occasionally

In a day, I usually smoke —

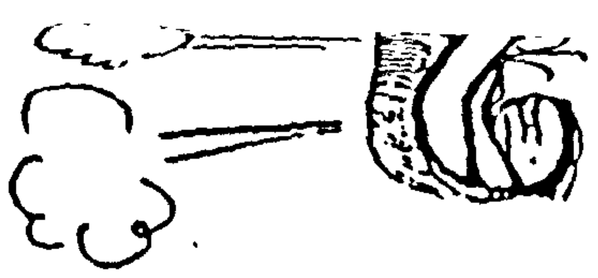
__ __ smokes 1- 10 a day

__ __ smokes 11 - 20 a day

__ __ smokes 21 or more a day

__ __ **I have tried to give up in the past**

4 Exercise



Number of days on which 20 minutes exercise taken

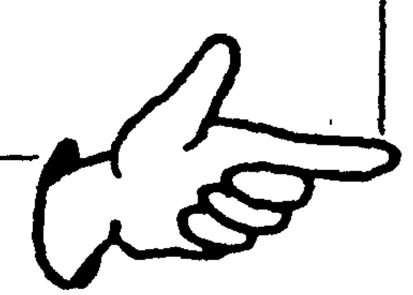
n %

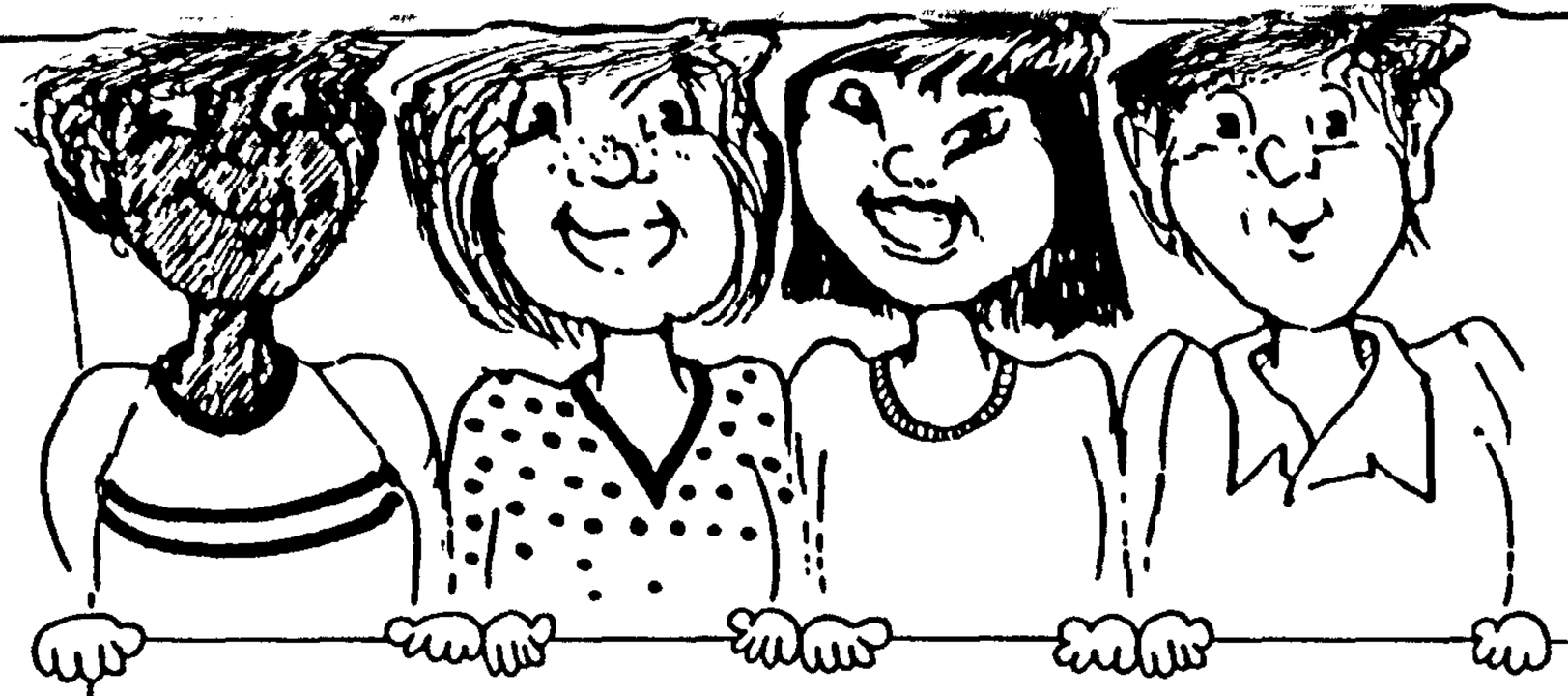
__ __ 1 day a week

__ __ 2 or 3 days a week

__ __ 4 or more days a week

__ __ never





Age of pupils

.....

NB Percentages given relate to the number of responses to each question.

1 About You

N	%	
___	___	**I am male**
___	___	**I am female**
___	100%	

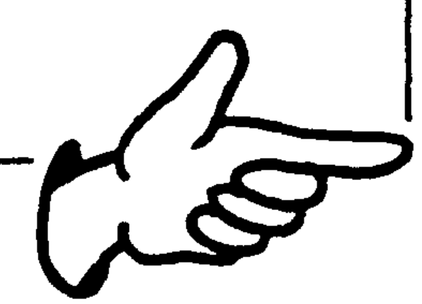
What is your father's job?

Using Registrar Generals Classification

n	%	
___	___	Social Class I and II
___	___	Social Class IIIN and IIIM
___	___	Social Class IV and V
___	___	Inadequate data
___	___	Father now unemployed

2 Food

	Less than once a week or never		Once a week or more — not most days		Every, or most, days	
	n	%	n	%	n	%
Sugar — added to drink	—	—	—	—	—	—
— added to food	—	—	—	—	—	—
Salt — added in cooking	—	—	—	—	—	—
— added to food	—	—	—	—	—	—
Chicken or fish	—	—	—	—	—	—
Fresh, not frozen, vegetables — green	—	—	—	—	—	—
— other	—	—	—	—	—	—
Fresh fruit	—	—	—	—	—	—
Eggs — cooked any way	—	—	—	—	—	—
Low fat cheese (e.g. cottage cheese, Elmlea)	—	—	—	—	—	—
Skimmed or semi-skimmed milk	—	—	—	—	—	—
Low fat or polyunsaturated margarine (e.g. Flora)	—	—	—	—	—	—



... and these ...

	Less than once a week or never		Once a week or more — not most days		Every, or most, days	
	n	%	n	%	n	%
Peas, beans, lentils	—	—	—	—	—	—
Potatoes — baked in their skins	—	—	—	—	—	—
— chips	—	—	—	—	—	—
Brown rice or wholemeal pasta	—	—	—	—	—	—
Brown bread — granary, wholemeal or other high fibre bread	—	—	—	—	—	—
High fibre breakfast cereal (e.g. All Bran, muesli)	—	—	—	—	—	—
Sweet things between meals	—	—	—	—	—	—

My cooked food is usually —

— — grilled rather than fried
— — cooked in vegetable oil rather than hard fat
— — neither of these

More about food...

For breakfast I usually eat —

n	%	
—	—	cereal, toast or something cooked
—	—	nothing, I don't like breakfast
—	—	nothing, I don't have time
—	—	nothing, no-one in my family does

For lunch on school-days I usually eat —

—	—	school meals
—	—	packed lunches
—	—	food bought locally
—	—	at home
—	—	nothing

I am now —

—	—	on a diet to lose weight
—	—	on a diet to put on weight
—	—	not on a diet

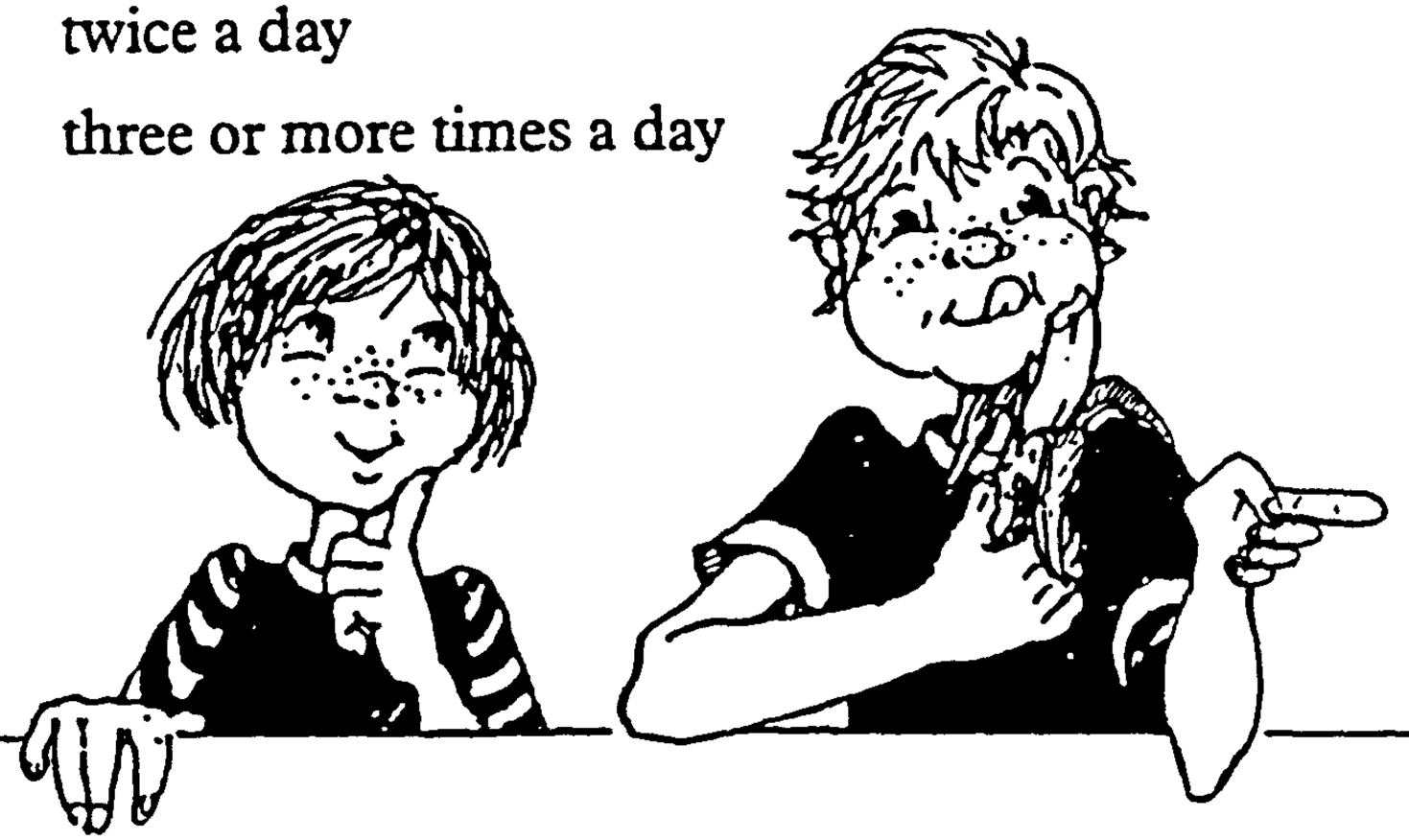
Your teeth

I usually go to the dentist —

n	%	
—	—	at least every six months
—	—	not every six months, but at least once a year
—	—	less than once a year

I usually brush my teeth —

—	—	less than once a day
—	—	once a day
—	—	twice a day
—	—	three or more times a day



RESULTS

PEAK HEALTH

Health Survey in Staveley

Chips with everything

Eating a lot of fat is bad for your heart. Survey found that 8 out of 10 Staveley people are eating too much fatty food.

Many people who took part in the Health Survey said they intended to change what they eat to cut down on the fat

- were you one of them ?

If you want information on how to change what you eat contact:

"Peak Health" on Chesterfield 231255 ext. 281

Designed & produced by Research & Information Unit, NEDDC for the Health Promotion Service, Staveley Hospital, Chesterfield

RESULTS

PEAK HEALTH

Health Survey in Staveley

Are you actively engaged ?

Exercise is good for your heart. The Health Survey found that half of Staveley people are not taking enough exercise to keep themselves healthy.

Many people who took part in the Health Survey said they intended to take more exercise

- were you one of them ?

If you want information on keeping fit contact:

"Peak Health" on Chesterfield 231255 ext. 281

Designed & produced by Research & Information Unit, NEDDC for the Health Promotion Service, Staveley Hospital, Chesterfield

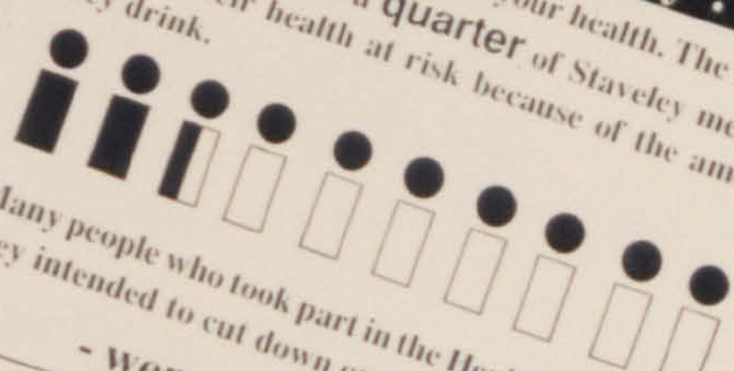
RESULTS

PEAK HEALTH

Health Survey in Staveley

Cheers for Staveley ?

Too much alcohol is bad for your health. The Health Survey found that a quarter of Staveley men are putting their health at risk because of the amount they drink.



Many people who took part in the Health Survey said they intended to cut down on their drinking

- were you one of them ?

If you want information on keeping your drinking within sensible limits contact:

"Peak Health" on Chesterfield 231255 ext. 281

Designed & produced by Research & Information Unit, NEDDC for the Health Promotion Service, Staveley Hospital, Chesterfield

Appendix 3.17

Costs of aspects of the CHPS

Costs of aspects of the CHPS

a)Cost of Staffing

1 full-time professional for 6 months: salary only (i.e. no added costs such as National Insurance or cost of office accommodation)	£6250

Clerical staff calculated on the basis of:

- **The GP Practice 20% Sample**

addressing 4396 envelopes, checking off returns and identifying reminders at 5 minutes per item, at £5 per hour	£1830
addressing envelopes for healthy living feedback, leaflet selection and preparation for postage 670 items at 3 minutes per item at £5 per hour	£167.50
addressing envelopes for local health feedback, filling and preparing for postage 413 items at 2 minutes per item	£68.83

- **The Opportunity Sample**

The cost per response to the GP Practice 20% sample may be calculated as:-
£167.50 + £68.83 ÷ 1079 = 21.9 p

As patterns of response to the Opportunity Survey were roughly similar in terms of requests for leaflets the clerical costs per response may be assumed to be similar.

The total clerical costs were therefore:-

£1830 + £167.50 + £68.83 + (21.9 p x 985) = £2282.03

Data Entry

Data entry at £2 per 1000 codes for GP Practice 20% Survey and School Pupil Survey:
Total number of codes = 244754
Total cost £488.75

Total costs of staffing £9020.78

b) Postal costs of the survey: samples by response

	Sample GP Practice 20% Sample			Opportunity Sample
	Initial mailing	First reminder	Second reminder	
No. of envelopes at £0.016 plus postage at £0.14	2,003	1,390	1,003	None
No. of questionnaires returned at £0.145	613	387	94	985
Cost of deliveries and returns	£401.35	£272.96	£170.10	£142.83
Cost per response	£0.65 (£401.35 ÷ 613)	£1.26 (1,390 x 0.156x2) + (387 x 14.5) ÷ 387	£4.75 (1,003 x 0.156x3) + (94 x 14.5) ÷ 94	£0.145
Average cost of response		£0.77		£0.145

c) Cost of printing questionnaires and freepost envelopes used in the surveys by sample and response

	Sample GP Practice 20% Sample			Opportunity Sample	School Pupil sample
	Initial mailing	First reminder	Second reminder		
No. printed	2,003	1,390	1,003	6,330	544
No. returned unused	-	-	-	339	128
No. returned used	613	387	94	985	416
Cost at £0.09 per adult questionnaire and £0.12 per school pupil questionnaire	£180.27	£125.10	£90.27	£539.19	£49.92
Cost of freepost envelope at £0.03 each	£60.09	£41.70	£30.09	£179.73	-
Total cost	£240.36	£166.80	£120.36	£718.92	£49.92
Cost per response	£0.39	£0.86	£3.84		£0.12
Average cost per response		£0.48		£0.72	£0.12
Total cost of printing per survey		£257.52		£718.92	£49.92

Total cost of all printing £1,296.36

d) **Costs of feedback about local health by sample**

Costs of feedback about local health were calculated by adult sample. No feedback about local health was offered to the School Pupil Survey respondents.

	Sample	
	GP Practice Sample	20% Opportunity Sample
No. of leaflets sent	413	274
Cost of leaflets at £0.04 each	£16.52	£10.96
Cost of postage and envelope at £0.14 and £0.016	£64.43	£42.74
Cost per respondent requesting leaflet	£0.20	£0.20
Average cost per respondent	£0.07	£0.05

Recalculated to include the cost of enclosing a leaflet about local health facilities at 5p per leaflet:

Cost per respondent requesting leaflet	£0.24	£0.24
Average cost per respondent	£0.09	£0.06

e) **Cost of feedback about healthy living**

Cost of feedback about healthy living was calculated by adult sample.

	GP Practice 20% Sample	Opportunity Sample
No. leaflets sent	1579	1299
Cost of leaflets at approx 50p per item	£789.50	£649.50
670 envelopes at 0.016 and 670 stamps at 25p	£167.61	No. required estimated at 33% of respondents: 325 £81.30
Total cost per sample	£957.11	£730.80
Cost per respondent requesting leaflet	£1.43	£2.25
Cost per respondent	£0.88	£0.74 Estimated

f) **Cost of promotional and feedback posters and postage to 50 community groups**

Total no. posters:	350
Printing at 50p per poster	£175.00
Cost of envelopes at £0.016 per item	£5.60
Cost of postage at 14 p per item	£49.00
Clerical costs at 2 mins per item and £5 per hour	£140.00
Total costs	£369.60
Cost per community group	£7.39

g) **Cost of travel**

83 visits to postboxes and 6 to schools with a minimum of two visits per return journey of 9 miles at 25p per mile: 801 miles x 25

£200.25p

Appendix 3.18

Frequencies:
- adult and school pupil data

Appendix

Frequencies

Adults

Variable	Details	Value	Frequency	%
Source	GP Practice 1	1	750	70
	GP Practice 2	2	329	30
Q1	Sex - male	1	450	42
	- female	2	629	58
Agegroup	N/K	0	10	1
	< 24	1	176	16
	25 - 44	2	404	37
	45 - 64	3	324	30
	> 65	4	165	15
Agex	Age and sex groups:			
	N/K	0	10	1
	M < 24	1	87	8
	M 25 - 44	2	161	15
	M 45 - 64	3	135	13
	M > 65	4	63	6
	F < 24	5	89	8
	F 25 - 44	6	243	23
	F 45 - 64	7	189	18
	F > 65	8	102	9
Socclass	Social class of head of household:			
	N/K	0	168	16
	I and II	1	98	9
	III	2	608	56
	IV and V	3	196	18
	student	9	9	1
Nopaid	N/A	0	732	68
	retired	1	193	18
	housewife	2	154	14
Allunemp	N/A	0	873	81
	one or more partner unemployed	1	206	19

Child	No. children cared for in home:			
	None	0	776	72
	1	1	123	11
	2	2	144	13
	3	3	30	3
	› 4	4	6	1
Childage	Age of youngest child at home:			
	N/K	0	763	71
	‹ 1 yr	1	46	4
	1 - 4 yrs	2	83	8
	15 -16 yrs	3	123	11
	› 16 yrs	4	64	6
DOD	Expected date of delivery:			
	N/A	0	1,063	99
	› 10 weeks	1	4	0
	11 or more weeks	2	12	1
Quetelet	Quetelet Index:			
	Underweight	1	109	11
	Normal	2	547	53
	Overweight	3	297	29
	Obese	4	76	7
Q19	Sugar in drinks	1	434	40
		2	66	6
		3	486	45
		9	93	9
Q20	Sugar on foods	1	373	35
		2	310	29
		3	207	19
		9	189	18
Q21	Salt in cooking	1	200	19
		2	286	27
		3	513	48
		9	80	7
Q22	Salt on food	1	287	27
		2	203	19
		3	384	36
		9	205	19
Q23	Chicken or fish	1	197	18
		2	774	72
		3	73	7
		9	35	3

Q24	Fresh green vegetables	1	106	10
		2	470	44
		3	465	43
		9	38	4
Q25	Other green vegetables	1	105	10
		2	388	36
		3	359	33
		9	227	21
Q26	Fruit	1	204	19
		2	345	32
		3	513	48
		9	17	2
Q27	Eggs	1	269	25
		2	695	64
		3	101	9
		9	14	1
Q28	Cheese	1	674	63
		2	270	25
		3	64	6
		9	71	7
Q29	Semi-skimmed or skimmed milk	1	482	45
		2	76	7
		3	458	42
		9	63	6
Q30	Low-fat, polyunsaturated margarine	1	280	26
		2	95	9
		3	671	62
		9	33	3
Q31	Peas, beans or lentils	1	149	14
		2	693	64
		3	202	19
		9	35	3
Q32	Baked potatoes	1	346	32
		2	514	48
		3	109	10
		9	110	10
Q33	Chips	1	339	31
		2	552	51
		3	51	5
		9	137	13
Q34	Brown rice or pasta	1	827	77
		2	113	11
		3	10	1
		9	129	12

Q35	High fibre bread	1	334	31
		2	200	19
		3	501	46
		9	44	4
Q36	High fibre cereal	1	582	54
		2	152	14
		3	272	25
		9	73	7
Q37	Sweet things between meals	1	454	42
		2	387	36
		3	182	17
		9	56	5
Q38	Grills food	0	496	46
		1	583	54
Q39	Uses vegetable oils	0	583	54
		1	496	46
Q40	Neither grills foods nor uses vegetable oils	0	847	78
			232	22
Q41	Lives with a smoker	0	731	68
		1	348	32
Q42	Passive smoker	0	586	54
		1	493	46
Q43	Uses no-smoking areas	0	605	56
		1	474	44
Q44	Wants public smoking barred	0	558	52
		1	521	48
Q45	Smoking status:			
	has never smoked	1	456	42
	ex-smoker	2	246	23
	daily smoker	3	282	26
	occasional smoker	4	29	3
	no response	9	66	6
Q46	No. cigarettes smoked daily	0	802	76
	1 - 10	1	103	10
	11 - 20	2	138	13
	21 - 30	3	0	0
	31 - 40	4	8	1
	41 or more	5	1	0

Q47	No. cigars smoked daily	0	1,073	99
	1	1	1	0
	2	2	1	0
	3	3	3	0
	4	4	0	0
	5	5	1	0
Q48	No. pipes smoked daily			
	none	0	1,068	99
	1 or more	1	11	1
Q49	Have tried to give up smoking	0	877	81
		1	202	19
Exercise	Usual exercise in a week:			
	less than 20 mins	0	504	47
	20 mins on 1 day	1	69	6
	20 mins on 2 days	2	113	11
	20 mins on 3 days	3	74	7
	20 mins on 4 or more days	4	319	30
Q58	Takes no exercise	0	711	66
		1	368	34
Q59	Never drinks	0	845	78
		1	234	22
Alcohol	Alcohol units drunk in last week:			
	none	0	403	37
	1 - 14 units	1	519	48
	15 - 21 units	2	58	5
	22 or more	3	99	9
Q65	Usual amount of alcohol drunk:			
	more than this	1	36	3
	less than this	2	154	14
	about the same	3	459	43
	N/A	9	430	40
Q66	Frequency of drinking:			
	daily	1	53	5
	most days	2	79	7
	once or twice a week	3	431	40
	once or twice a month	4	143	13
	less than once a month	5	79	7
	N/A	9	294	27
Q67	When usually drinks:			
	with other people	1	749	69
	alone	2	44	4
	N/A	9	286	27

Q68	Blood pressure checked:			
	never	1	58	5
	in last 6 months	2	494	46
	7 - 11 months	3	177	16
	1 - 5 years	4	255	24
	> 5 years	5	70	7
	N/A	9	25	2
Q69	Cholesterol checked:			
	at least once	1	312	29
	never	2	662	61
	N/A	9	105	10
Q70	Visits dentist:			
	every 6 months	1	385	36
	at least once a year	2	150	14
	less than once a year	3	364	34
	N/A	9	180	17
Q71	Cleans teeth:			
	less than once a day	1	38	4
	once a day	2	404	37
	twice a day	3	438	41
	3 or more times a day	4	93	9
	N/A	9	106	10
Q72	Smear test taken:			
	never	1	81	8
	in the last 3 years	2	401	37
	3 - 5 years ago	3	88	8
	more than 5 years ago	4	52	5
	N/A	9	457	42
Q73	Breast self-examination:	1	156	14
		2	105	10
		3	108	10
		4	155	14
		5	88	8
		9	467	43
Q74	Mammography:			
	at least once	1	74	7
	never	2	528	49
	N/A	9	477	44
Q75	Housing	1	54	5
		2	24	2
		3	13	1
		9	988	92
Q76	Neighbourhood	1	86	8
		2	21	2
		3	12	1
		9	960	89

Q77	Pollution	1	403	37
		2	30	3
		3	7	1
		9	639	59
Q78	Weight	1	95	9
		2	195	18
		3	102	10
		9	687	64
Q79	Exercise	1	57	5
		2	239	22
		3	97	9
		9	686	64
Q80	Foods	1	68	6
		2	251	23
		3	63	6
		9	697	65
Q81	Alcohol	1	33	3
		2	135	135
		3	13	1
		9	898	83
Q82	Own smoking	1	103	10
		2	103	10
		3	31	3
		9	842	78
Q83	Others smoking	1	574	35
		2	39	4
		3	11	1
		9	655	61
Q84	Money	1	212	20
		2	48	4
		3	21	2
		9	798	74
Q85	Stresses	1	243	23
		2	97	9
		3	30	3
		9	709	66
Q86	Work/unemployed	1	157	15
		2	69	6
		3	33	3
		9	820	76
Q88	Healthy eating	0	690	64
		1	389	36

Q89	Exercise	0	834	77
		1	245	23
Q90	Heart disease	0	831	77
		1	248	23
Q91	Smoking	0	926	86
		1	153	14
Q92	Alcohol	0	997	92
		1	82	8
Q93	Minor illnesses	0	897	83
		1	182	17
Q94	Breast self-examination	0	934	87
		1	145	13
Q95	Smear tests	0	990	92
		1	89	8
Q96	AIDS	0	1,033	96
		1	46	4
Q97	Survey findings	0	666	62
		1	413	38

School Pupils

Variable	Details	Value	Frequency	%
Q1	Sex - male	1	213	51
	- female	2	203	49
Agegroup	11 - 12	1	234	56
	14 - 15	2	182	44
Q10	Schools 1	1	123	30
	2	2	140	34
	3	3	153	37
Q11	Father's Social Class : NK	0	84	20
	I	1	3	1
	II	2	34	8
	III	3	236	57
	IV	4	53	13
	V	5	6	1
Q12	Father unemployed : yes	1	65	16
	no	0	351	84
Q13	Sugar in drinks	1	101	24
		2	62	15
		3	229	55
		9	9	24
Q14	Sugar on foods	1	118	28
		2	143	34
		3	112	27
		9	43	10
Q15	Salt in cooking	1	88	21
		2	177	43
		3	115	28
		9	36	9
Q16	Salt on foods	1	117	28
		2	125	30
		3	135	32
		9	39	9
Q17	Chicken or fish	1	123	30
		2	234	56
		3	42	10
		9	17	4

Variable	Details	Value	Frequency	%
Q18	Green vegetables	1	64	15
		2	186	45
		3	134	32
		4	32	8
Q19	Other vegetables	1	60	14
		2	188	45
		3	111	27
		9	57	14
Q20	Fruit	1	29	7
		2	128	31
		3	247	59
		9	12	3
Q21	Eggs	1	125	30
		2	208	50
		3	64	15
		9	19	5
Q22	Cheese	1	208	50
		2	133	32
		3	55	13
		9	20	5
Q23	Milk	1	165	40
		2	74	18
		3	160	38
		9	17	4
Q24	Spreads	1	111	27
		2	91	22
		3	196	47
		9	18	4
Q25	Peas, beans, lentils	1	76	18
		2	211	51
		3	120	29
		9	9	2
Q26	Baked potatoes	1	135	32
		2	164	39
		3	77	19
		9	40	10
Q27	Chips	1	58	14
		2	191	46
		3	125	30
		9	42	10
Q28	Brown rice or pasta	1	287	69
		2	83	20
		3	17	4
		9	29	7

Variable	Details	Value	Frequency	%
Q29	High fibre bread	1	100	24
		2	126	30
		3	178	43
		9	9	12
Q30	High fibre cereal	1	168	40
		2	120	29
		3	111	27
		9	17	4
Q31	Sweets between meals	1	95	23
		2	210	50
		3	101	24
		9	10	2
Q32	Grills foods	0	233	56
		1	183	44
Q33	Uses vegetable oils	0	275	66
		1	141	34
Q34	Neither	0	303	73
		1	113	27
Q35	Breakfasts	1	335	81
		2	38	9
		3	32	8
		4	5	1
		9	6	1
Q36	Lunches on school days	1	249	60
		2	61	15
		3	18	4
		4	75	18
		5	9	2
		9	4	1
Q37	Dieting	1	70	17
		2	18	4
		3	322	77
		9	6	1
Q38	Dentist visits	1	337	81
		2	52	13
		3	26	6
		9	1	0
Q39	Brushing teeth	1	22	5
		2	89	21
		3	250	60
		4	50	12
		9	9	5

Variable	Details	Value	Frequency	%
Q40	Keep fit	0	149	36
		1	56	13
		2	88	21
		3	30	7
		4	18	4
		5	28	7
		6	7	2
		7	40	10
Q41	Non-stop swimming	0	260	63
		1	110	26
		2	31	7
		3	6	1
		4	5	1
		7	4	1
Q42	Sport	0	153	37
		1	59	14
		2	101	24
		3	27	6
		4	27	6
		5	18	4
		6	6	1
		7	25	6
Q43	Brisk long walks	0	146	35
		1	90	22
		2	67	16
		3	21	5
		4	20	5
		5	21	5
		6	12	3
		7	39	9
Q44	Jogging/running	0	169	41
		1	76	18
		2	82	20
		3	31	7
		4	12	3
		5	20	5
		6	5	1
		7	21	5
Q45	Houswork or gardening	0	231	56
		1	90	22
		2	41	10
		3	15	4
		4	9	2
		5	9	2
		6	3	1
		7	18	4

Variable	Details	Value	Frequency	%
Q46	Cycling	0	198	48
		1	41	10
		2	40	10
		3	39	7
		4	16	4
		5	22	5
		6	6	12
		7	7	58
Q47	Other exercise	0	293	70
		1	23	6
		2	32	8
		3	15	4
		4	8	2
		5	14	3
		6	4	1
		7	27	6
Q48	No exercise	0	389	94
		1	27	6
Q49	Drink alcohol at 20	0	1	0
		1	94	23
		2	202	49
		3	7	79
		4	84	20
		9	5	1
Q50	Frequency of drinking	1	14	3
		2	102	25
		3	53	13
		4	96	23
		5	85	20
		6	39	9
		7	7	23
		9	5	1
Q51	Drink at home	0	178	43
		1	238	57
Q52	Drink with friends	0	320	77
		1	96	23
Q53	Drink with relatives	0	270	65
		1	146	35
Q54	Drink at parties	0	267	64
		1	149	36
Q55	Drink in pubs	0	344	83
		1	72	17

Variable	Details	Value	Frequency	%
Q56	Drink alone	0	401	96
		1	15	4
Alc	Alcohol drunk in last week	0	250	60
		1	42	10
		2	38	9
		3	13	3
		4	17	4
		5	8	2
		6	12	3
		7	7	2
		8	5	1
		9	1	0
		10	4	1
		11	3	1
		12	2	0
		15	3	1
		16	3	1
		17	2	0
		18	1	0
		20	1	0
		25	1	0
		26	1	0
		28	2	0
Q62	Lives in same house as a smoker	0	153	37
		1	263	63
Q63	Has friends who smoke	0	279	67
		1	137	33
Q64	Wants public smoking banned	0	170	41
		1	246	59
Q65	Will smoke when 20	1	4	1
		2	28	7
		3	309	74
		4	70	17
Q66	Frequency of smoking	1	272	65
		2	84	20
		3	26	6
		4	6	1
		5	8	2
		6	10	2
		9	10	2

Variable	Details	Value	Frequency	%
Q67	No. cigarettes smoked per week	0	396	95
		1	3	1
		2	1	0
		3	4	1
		4	3	1
		5	1	0
		20	2	0
		40	3	1
		50	2	0
		70	1	0
Q68	Has heard of cannabis	0	69	17
		1	347	83
Q69	Has used "	0	412	99
		1	4	1
Q70	Has heard of barbiturates	0	279	67
		1	137	33
Q71	Has used "	0	414	100
		1	2	0
Q72	Has heard of glues and solvents	0	59	14
		1	357	86
Q73	Has used " "	0	414	100
		1	2	0
Q74	Has heard of amphetamines	0	219	53
		1	197	47
Q75	Has used "	0	411	99
		1	5	1
Q76	Has heard of heroin	0	48	1
		1	368	88
Q77	Has used "	0	414	100
		1	2	0
Q78	Has heard of cocaine	0	42	10
		1	374	90
Q79	Has used "	0	410	99
		1	6	1

Variable	Details	Value	Frequency	%
Q80	Has heard of tranquilizers	0	54	13
		1	362	87
Q81	Has used "	0	402	97
		1	1	14
Q82	Has heard of PCP	0	229	55
		1	187	45
Q83	Has used "	0	413	99
		1	3	1
Q84	Has heard of LSD	0	217	52
		1	199	48
Q85	Has used "	0	414	100
		1	2	0
Q86	Has heard of librium	0	323	78
		1	93	22
Q87	Has used "	0	415	100
		1	1	0
Q88	Has heard of valium	0	246	59
		1	170	41
Q89	Has used "	0	416	100
		1	0	0
Q90	Has heard of morphine	0	179	43
		1	237	57
Q91	Has used "	0	411	99
		1	5	1
Q92	Has heard of mogadon	0	331	80
		1	85	20
Q93	Has used "	0	415	100
		1	1	0
Q94	Has heard of crack	0	152	37
		1	264	63
Q95	Has used "	0	414	100
		1	2	0
Q96	Has heard of methadone	0	263	63
		1	153	37
Q97	Has used "	0	415	100
		1	1	0

Variable	Details	Value	Frequency	%
Q98	Has heard of other drug	0	386	93
		1	30	7
Q99	Has used " "	0	412	99
		1	4	1
Q100	Housing can make health worse	1	208	50
		2	170	41
		9	38	9
Q101	Neighbourhoods " " "	1	207	50
		2	156	38
		9	53	13
Q102	Pollution " " "	1	21	5
		2	372	89
		9	23	6
Q103	Weight " " "	1	34	8
		2	368	88
		9	14	3
Q104	Exercise " " "	1	118	28
		2	280	67
		9	18	4
Q105	Foods " " "	1	26	6
		2	376	90
		9	14	3
Q106	Alcohol " " "	1	19	5
		2	382	92
		9	15	4
Q107	Own smoking " " "	1	10	2
		2	396	95
		9	10	2
Q108	Passive smoking " " "	1	22	5
		2	381	92
		9	13	3
Q109	Money " " "	1	250	60
		2	138	33
		9	28	7
Q110	Stresses " " "	1	47	11
		2	352	85
		9	17	4
Q111	Work " " "	1	64	15
		2	331	80
		9	21	5

Variable	Details	Value	Frequency	%
Exercise - heard about from:-				
Q112	guest speaker	1	112	27
Q113	in a lesson	1	303	73
Q114	teachers	1	79	19
Q115	family	1	256	62
Q116	friends	1	223	54
Q117	TV	1	323	78
Q118	Magazines	1	258	62
Q119	None	1	5	1
Diet - has heard about from:-				
Q120	guest speaker	1	70	17
Q121	in a lesson	1	240	58
Q122	teachers	1	60	14
Q123	family	1	265	64
Q124	friends	1	182	44
Q125	TV	1	285	69
Q126	Magazines	1	243	58
Q127	None	1	12	3
Smoking - has heard about from:-				
Q128	guest speaker	1	115	28
Q129	in a lesson	1	262	63
Q130	teachers	1	68	16
Q131	family	1	285	69
Q132	friends	1	236	57
Q133	TV	1	316	76
Q134	Magazines	1	254	61
Q135	None	1	8	2
Sex - has heard about from:-				
Q136	guest speaker	1	119	29
Q137	in a lesson	1	269	65
Q138	teachers	1	48	12
Q139	family	1	241	58
Q140	friends	1	271	65
Q141	TV	1	279	67
Q142	Magazines	1	236	57
Q143	None	1	8	2

Variable	Details	Value	Frequency	%
Alcohol - has heard about from:-				
Q144	guest speaker	1	81	19
Q145	in a lesson	1	231	56
Q146	teachers	1	67	16
Q147	family	1	258	62
Q148	friends	1	239	57
Q149	TV		1	319
Q150	Magazines	1	229	55
Q151	None	1	7	2
Contraception - has heard about from:-				
Q152	guest speaker	1	62	15
Q153	in a lesson	1	181	44
Q154	teachers	1	46	11
Q155	family	1	167	40
Q156	friends	1	221	53
Q157	TV	1	226	64
Q158	Magazines	1	215	52
Q159	None	1	26	6
AIDS - has heard about from:-				
Q160	guest speaker	1	70	17
Q161	in a lesson	1	177	43
Q162	teachers	1	53	13
Q163	family	1	208	50
Q164	friends	1	221	53
Q165	TV	1	355	85
Q166	Magazines	1	275	66
Q167	None	1	8	2
Sexually transmitted diseases - has heard about from:-				
Q112	guest speaker	1	49	12
Q113	in a lesson	1	156	38
Q114	teachers	1	36	9
Q115	family	1	152	37
Q116	friends	1	169	41
Q117	TV	1	269	65
Q118	Magazines	1	200	48
Q119	None	1	37	9

Variable	Details	Value	Frequency	%
Drugs - has heard about from:-				
Q112	guest speaker	1	105	25
Q113	in a lesson	1	248	60
Q114	teachers	1	63	15
Q115	family	1	226	54
Q116	friends	1	241	58
Q117	TV	1	339	81
Q118	Magazines	1	262	63
Q119	None	1	10	2

Appendix 3.19

Data from the GP Practice Survey:
- health-related behaviour by age, sex and social class

Table a : Health behaviour by age

N = 1,069

	Younger				Older			
	Yes		No		Yes		No	
	n	%	n	%	n	%	n	%
On most days eats:								
Sugar - drinks	NS							
- foods n = 885	101 X^2 = 9.08; 1 df; p = 0.00	20	413	80	106	29	265	71
Salt - in cooking n = 990	237 X^2 = 29.80; 1 df; p = 0.00	44	308	57	272	61	173	39
- on foods n = 868	209 X^2 = 6.31; 1 df; p = 0.00	40	308	60	173	49	178	51
Chicken/fish	NS							
Green vegetables n = 1,032	217 X^2 = 20.9; 1 df; p = 0.00	38	350	62	245	53	220	48
Other vegetables n = 848	183 X^2 = 12.19; 1 df; p = 0.00	37	309	63	176	49	180	51
Fresh fruit	NS							
Eggs	NS							
Low-fat cheese	NS							
Skimmed milk n = 1,007	224 X^2 = 15.04; 1 df; p = 0.00	39	345	61	227	52	211	48
Low-fat margarine n = 1,037	350 X^2 = 5.3; 1 df; p = 0.02	61	225	39	314	68	148	32
Pulses n = 1,035	132 X^2 = 11.22; 1 df; p = 0.00	23	439	77	68	15	396	85
Potatoes - baked	NS							
- chips n = 935	47 X^2 = 25.55; 1 df; p = 0.00	91	487	91	4	1	397	99
Brown rice/pasta	NS							
High fibre - bread n = 1,026	238 X^2 = 20.43; 1 df; p = 0.00	42	332	58	256	56	200	44
- cereal n = 997	115 X^2 = 25.79; 1 df; p = 0.00	21	444	79	154	35	284	65
Sweet things between meals n = 1,015	129 X^2 = 18.8; 1 df; p = 0.00	23	441	77	53	12	392	88
Grilled food n = 1,067	237 X^2 = 14.63; 1 df; p = 0.00	41	343	59	258	53	231	47
Uses vegetable oil n = 1,067	336 X^2 = 7.64; 1 df; p = 0.01	58	244	42	241	49	248	51
Neither grills nor uses vegetable oil	NS							
Lives with smoker n = 1,069	226 X^2 = 25.32; 1 df; p = 0.00	39	354	61	119	24	370	76
Passive smoker n = 1,069	321 X^2 = 46.25; 1 df; p = 0.00	55	259	45	168	34	321	66

... continued

	Younger				Older			
	Yes		No		Yes		No	
	n	%	n	%	n	%	n	%
Uses non-smoking areas n = 1,069	NS							
Wants smoking banned n = 1,069	257	44	323	56	260	53	229	47
	X^2 = 7.99; 1 df; p = 0.00							
Ex-smoker n = 1,069	88	15	492	85	156	32	333	68
	X^2 = 41.21; 1 df; p = 0.00							
Now smokes n = 1,069	NS							
Has tried to give up n = 1,069	133	23	447	77	69	14	420	86
	X^2 = 12.9; 1 df; p = 0.00							
Less than 2 x 20 mins exercise n = 1,069	72	12	508	88	34	7	455	93
	X^2 = 8.26; 1 df; p = 0.00							
Smear over 5 years ago n = 602	43	13	282	87	85	31	192	69
	X^2 = 26.18; 1 df; p = 0.00							

What makes your health worse?
n = 1069

		16-24		25-44		45-64		65 and over	
		N = 176		N = 404		N = 324		N = 165	
		N	%	N	%	N	%	N	%
housing	yes	25	14	36	9	19	6	10	6
	no	151	86	368	91	305	94	155	94
	X^2 = 11.7 3 d.f. p = 0.01								
neighbourhood	yes	27	15	50	12	28	9	13	8
	no	149	85	354	88	296	91	152	92
	X^2 = 7.62 3 d.f. p = 0.05								
pollution	yes	94	53	191	47	111	34	39	24
	no	82	47	213	53	213	66	126	76
	X^2 = 44.5 3 d.f. p 0.00								
weight	yes	67	38	161	40	114	35	46	28
	no	109	62	243	60	210	65	119	72
	X^2 = 7.78 3 d.f. p 0.05								
exercise	yes	87	49	183	45	87	27	30	18
	no	89	51	221	55	237	73	135	82
	X^2 = 63.2 3 d.f. p = 0.00								
foods	yes	88	50	177	44	88	27	24	15
	no	88	50	227	56	236	73	141	86
	X^2 = 70.01 3 d.f. p = 0.00								
alcohol	yes	52	30	81	20	31	10	14	9
	no	124	71	323	80	293	90	151	92
	X^2 = 44.09 3 d.f. p = 0.00								
my own smoking	yes	40	23	116	29	61	19	19	12
	no	136	77	288	71	263	81	146	89
	X^2 = 23.07 3 d.f. p = 0.00								
passive smoking	yes	106	60	186	46	101	31	28	17
	no	70	40	218	54	223	69	137	83
money	yes	61	35	123	30	57	18	37	24
	no	115	65	281	70	267	82	128	78
	X^2 = 24.01 3 d.f. p = 0.00								
stress	yes	61	35	173	43	98	30	34	21
	no	115	65	231	57	226	70	131	79
	X^2 = 29.14 3 d.f. p = 0.00								
work/unemployment	yes	57	34	122	30	68	21	8	5
	no	119	68	282	70	256	79	157	95
	X^2 = 50.28 3 d.f. 0 = 0.00								

Table b: Health behaviour by age groups and sex

N = 1069

	Males n = 446								Females n = 623							
	Younger				Older				Younger				Older			
	Yes		No		Yes		No		Yes		No		Yes		No	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
DIET: On most days eats -																
sugar in drinks n = 977	142	60	94	40	111	60	75	40	117	37	197	63	113	47	128	53
				X^2 = 37.93;		3df;		p = 0.00								
sugar in foods n = 885	52	25	157	75	49	34	94	66	49	16	256	84	57	25	171	75
				X^2 = 19.16;		3df;		p = 0.00								
salt in cooking n = 990	101	44	127	56	105	58	75	42	136	43	181	57	167	63	98	37
				X^2 = 31.55;		3df;		p = 0.00								
salt on food n = 868	100	44	127	56	78	50	77	50	109	38	181	62	95	49	101	52
				X^2 = 8.94;		3df;		p = 0.03								
fresh green vegetables n = 1032	85	35	156	65	92	48	99	52	132	41	194	60	153	56	121	44
				X^2 = 25.68;		3df;		p = 0.00								
fresh - not green vegetables n = 848	72	34	142	66	72	47	83	54	111	40	167	60	104	52	97	48
				X^2 = 15.64;		3df;		p = 0.00								
fresh fruit n = 1052	110	45	135	55	87	45	105	55	152	46	179	54	157	55	127	45
				X^2 = 8.1;		3df;		p = 0.04								
eggs n = 1055	33	13	213	87	21	11	171	89	24	7	305	93	22	8	266	92
				X^2 = 7.88;		3df;		p = 0.05								
low fat cheese n = 998	7	3	234	97	10	6	169	95	22	7	302	93	23	9	231	91
				X^2 = 8.35;		3df;		p = 0.04								
skimmed milk n = 1007	90	37	156	63	97	34	83	46	134	42	189	59	130	50	128	50
				X^2 = 17.42;		3df;		p = 0.00								
pulses n = 1035	67	27	179	73	29	15	162	85	65	20	260	80	39	14	234	86
				X^2 = 16.52;		3df;		p = 0.00								
chips n = 935	26	11	205	89	1	1	169	1	21	7	282	93	3	1	278	99
				X^2 = 31.9;		3df;		p = 0.00								
high fibre bread n = 1026	91	38	152	63	100	54	87	47	147	45	180	55	156	58	113	42
				X^2 = 25.05;		3df;		p = 0.00								
high fibre cereals n = 997	41	17	200	83	55	30	127	70	74	23	244	77	99	39	157	61
				X^2 = 33.11;		3df;		p = 0.00								
sweet things between meals n = 1015	48	20	197	80	29	16	156	84	81	25	244	75	24	9	236	91
				X^2 = 25.27;		3df;		p = 0.00								
grills food n = 1069	109	44	139	56	109	55	89	45	128	39	204	61	149	51	142	49
				X^2 = 17.47;		3df;		p = 0.00								
uses vegetable oil n = 1069	145	59	103	42	103	52	95	48	191	58	141	43	138	47	153	53
				X^2 = 9.04;		3df;		p = 0.03								
SMOKING:																
lives with smoker n = 1069	87	35	161	65	44	22	154	78	139	42	193	58	75	26	216	74
				X^2 = 29.65;		3df;		p = 0.00								
passive smoker n = 1069	154	62	94	38	83	42	115	58	167	50	165	50	85	29	206	71
				X^2 = 62.7;		3df;		p = 0.00								
ban public smoking n = 1069	121	49	127	51	117	59	81	41	136	41	196	59	143	49	148	51
				X^2 = 16.5;		3df;		p = 0.00								
given up smoking n = 1069	40	16	208	84	89	45	109	55	48	15	284	86	67	23	224	77
				X^2 = 74.53;		3df;		p = 0.00								
smear 5 years or more ago n = 602									43	13	282	87	85	31	192	69
				X^2 = 26.18;		3df;		p = 0.00								
tried to give up n = 1069	23	23	75	77	58	16	294	84	30	28	78	72	91	17	430	83
				X^2 = 8.98;		3df;		p = 18.35								

.....continued

	Yes n	Yes %	No n	No %	Yes n	Yes %	No n	No %	Yes n	Yes %	No n	No %	Yes n	Yes %	No n	No %
EXERCISE:																
less than 2 x 20 per week n = 1069	124	50	124	50	155 $X^2 = 57.71$;	78 3df;	43 $p = 0.00$	22	188	57	144	43	214	74	77	27
ALCOHOL:																
heavy drinkers n = 1069	51	21	197	79	30 $X^2 = 66.12$;	15 3df;	168 $p = 0.00$	85	21	6	311	94	4	1	287	99
What makes health worse? n = 1069																
Pollution	140	57	108	44	65 $X^2 = 47.71$;	33 3 df;	133 $p = 0.00$	67	145	44	187	56	85	29	206	71
Weight	83	34	165	67	61 $X^2 = 11.91$;	31 3 df;	137 $p = 0.01$	69	145	44	187	56	99	34	192	66
Exercise	122	49	126	51	57 $X^2 = 63.52$;	29 3 df;	141 $p = 0.00$	71	148	45	184	55	60	21	231	79
Foods	111	45	137	55	50 $X^2 = 61.31$;	25 3 df;	148 $p = 0.00$	75	154	46	178	54	62	21	229	79
Alcohol	68	27	180	73	27 $X^2 = 47.03$;	14 3 df;	171 $p = 0.00$	86	65	20	267	80	19	6	273	94
Own smoking	64	26	184	74	32 $X^2 = 17.43$;	16 3 df;	166 $p = 0.00$	84	92	28	240	72	48	17	243	84
Passive smoking	141	57	107	43	57 $X^2 = 72.32$;	29 3 df;	141 $p = 0.00$	71	151	46	181	55	72	25	219	73
Money	82	33	166	67	43 $X^2 = 23.03$;	22 3 df;	155 $p = 0.00$	78	102	31	230	70	51	18	240	83
Stress	88	36	160	65	54 $X^2 = 25.56$;	27 3 df;	144 $p = 0.00$	73	146	44	186	56	78	27	213	73
Work/unemployment	97	39	151	61	37 $X^2 = 52.33$;	19 3 df;	161 $p = 0.00$	81	82	25	250	75	39	13	252	87

Table 6 : Health behaviour by age and social class

N = 900

	Social Class I + II								Social Class III								Social Class IV + V							
	Younger n = 53				Older n = 45				Younger n = 331				Older n = 275				Younger n = 119				Older n = 77			
	Yes		No		Yes		No		Yes		No		Yes		No		Yes		No		Yes		No	
On most/every day eats:	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Sugar in drinks n = 829	20	39	31	6	15	34	29	66	145	45	175	55	130	56	104	44	52	46	60	54	34	49	36	51
					X^2 = 13.04; 5 df; p = 0.02																			
Sugar on foods n = 767	8	15	45	85	13	34	25	66	53	17	251	83	62	29	154	71	21	22	74	78	13	21	48	79
					X^2 = 14.05; 5 df; p = 0.02																			
Salt in cooking n = 835	21	40	31	60	26	62	16	38	135	44	175	56	160	63	93	37	52	48	37	52	31	45	38	55
					X^2 = 27.17; 5 df; p = 0.00																			
Fresh green vegetables n = 874	23	44	29	56	19	42	26	58	137	42	189	58	142	53	124	47	36	31	79	69	37	53	33	47
					X^2 = 19.33; 5 df; p = 0.00																			
Other fresh vegetables n = 732	23	44	29	56	17	47	19	53	120	42	163	58	106	51	103	49	23	24	73	76	23	41	33	59
					X^2 = 19.7; 5 df; p = 0.00																			
Fresh fruit n = 890	24	45	29	55	31	69	14	31	164	50	166	50	139	51	132	49	42	36	76	64	33	45	40	55
					X^2 = 16.92; 5 df; p = 0.00																			
Skimmed milk n = 860	24	45	29	55	25	57	19	43	129	39	198	61	133	53	120	47	44	38	71	62	30	44	38	56
					X^2 = 14.54; 5 df; p = 0.01																			
Chips n = 803	1	2	47	98	-	-	40	100	23	7	292	93	2	1	230	99	13	12	92	88	1	2	62	98
					X^2 = 28.53; 5 df; p = 0.00																			
High fibre bread n = 871	29	55	24	45	32	73	12	27	142	43	186	57	139	54	120	46	44	38	72	62	42	59	29	41
					X^2 = 25.75; 5 df; p = 0.00																			
High fibre cereal n = 849	14	26	39	74	20	46	24	55	71	22	253	78	87	34	167	66	18	17	91	84	20	31	45	69
					X^2 = 25.14; 5 df; p = 0.00																			
Tried to give up smoking n = 900	6	11	47	89	4	9	41	91	72	22	259	78	48	17	227	83	34	29	85	71	4	5	73	95
					X^2 = 23.95; 5 df; p = 0.00																			
Sweet things between meals n = 869	13	25	40	76	3	7	41	93	65	20	263	80	24	9	234	91	29	25	87	75	11	16	59	84
					X^2 = 23.67; 5 df; p = 0.00																			
Grills food n = 900	34	64	19	36	23	51	22	49	204	62	127	38	141	51	134	49	61	51	58	49	37	48	40	52
					X^2 = 11.58; 5 df; p = 0.04																			
Uses vegetable oil n = 900	27	51	26	49	28	62	17	38	139	42	192	58	140	51	135	49	45	38	74	62	42	55	35	45
					X^2 = 15.31; 5 df; p = 0.01																			
SMOKING																								
Lives with a smoker n = 900	17	32	36	68	5	11	40	89	125	38	206	62	79	29	196	71	51	43	68	57	18	23	59	77
					X^2 = 23.96; 5 df; p = 0.00																			
Passive smoker n = 900	21	40	32	60	15	33	30	67	179	54	152	46	103	38	172	63	79	66	40	34	28	36	49	64
					X^2 = 42.66; 5 df; p = 0.00																			
Ban public smoking n = 900	34	64	19	36	29	64	16	36	152	46	179	54	142	52	133	48	47	40	72	61	37	48	40	52
					X^2 = 15.51; 5 df; p = 0.01																			
Smokes n = 900	9	17	44	83	6	13	39	87	100	30	231	70	79	29	196	61	43	36	76	64	20	26	57	74
					X^2 = 12.64; 5 df; p = 0.03																			
Ex-smoker n = 900	14	26	39	74	20	44	25	56	62	19	269	81	96	35	179	65	10	8	109	92	23	30	54	70
					X^2 = 48.92; 5 df; p = 0.00																			
Exercise less than 20 x 2 n = 900	26	49	27	51	30	67	15	33	178	54	153	46	198	72	77	28	74	62	45	38	59	77	18	23
					X^2 = 32.38; 5 df; p = 0.00																			
Wear more than 5 yrs ago n = 900	3	9	29	91	4	18	18	82	20	11	162	89	43	28	110	72	4	6	66	94	9	20	37	80
					X^2 = 26.5; 5 df; p = 0.00																			

Appendix 4.1

Electoral roll questionnaire and follow-up letters to the electoral roll survey sample

Professor J Mark Bywood MD DSc FRCM

Professor Richard Madeley DM, MSc, FFCM
Head of Department.

Department of Community Medicine
and Epidemiology

The University of Nottingham
Medical School

Queen's Medical Centre,
Nottingham, NG7 2UH.

Telephone: 0602 421421 Ex 41322

Date as postmark

Dear

As part of a research project within North Derbyshire many people who, like you, are on Staveley's electoral roll are being asked about where they get information from, particularly about health. The information is being used to find out how well information is now reaching the public, and to suggest possible improvements.

Please try and find a few minutes to help by answering the enclosed questions and returning them in the freepost envelope within the next two or three weeks. Your answers will remain confidential.

Your help will be very much appreciated.

Yours sincerely,

Heather Roberts

Heather Roberts
Research Associate

INFORMATION AND ADVICE QUESTIONNAIRE

Please tick in the boxes and/or write details in the spaces.

1 Other than asking family or friends what 2 things would you be most likely to do if you wanted information or advice for yourself or a friend about the topics listed below?

(If you cannot think of an answer just leave the space blank)

	1	2
housing problems	_____	_____
a healthy diet	_____	_____
AIDS	_____	_____
state benefits	_____	_____
stress	_____	_____
health screening, (eg blood pressure checks)	_____	_____
stopping smoking	_____	_____

2 As far as you know, during the last year in Staveley has there been:

	No	Yes
an exhibition about safety		
a health 'roadshow'		
a health survey		
a careers exhibition		
a housing survey		

3

If you answered 'yes' to a health survey
how did you hear about it? Otherwise go on to Question **6**

(You can tick more than one box, and please give details,
eg. name of programme, group or newspaper.)

- ☐ TV _____
- ☐ Radio _____
- ☐ Newspaper _____
- ☐ Poster / display _____
- ☐ Leaflet _____
- ☐ A group you belong to _____
- ☐ Your family _____
- ☐ A friend _____
- ☐ Other _____

4

Did you receive a health survey questionnaire?

- ☐ No - go on to Question **5**
- ☐ Yes

If 'yes' where did you get it from?
(You can tick more than one box)

- ☐ Through the post
- ☐ From a group you belong to
- ☐ From a friend
- ☐ From someone in your family
- ☐ From someone at work
- ☐ Picked it up in a public place, which was

  _____
- ☐ Rang up to ask for one
- ☐ Other, please give details

  _____

If 'yes, you did receive a health survey questionnaire', did you fill it in?

- ☐ No
- ☐ Yes

If 'yes' did you return it?

- ☐ No
- ☐ Yes

If 'yes' did you ask for leaflets?

- ☐ No
- ☐ Yes
- Can't remember

If 'yes' did you get the leaflets you asked for?

- ☐ No
- ☐ Yes

If 'yes' what did you think of them generally?

- ☐ not at all interesting
- ☐ not very interesting
- ☐ interesting
- ☐ quite interesting
- ☐ very interesting

Have you changed anything that you do about health because of taking part in the survey or the leaflets you were sent, for example eating habits.
Please give details.

- ☐ no, I didn't change anything
- ☐ no, but I thought about_____
- ☐ yes, I tried to_____
- ☐ yes, I succeeded in_____

_____

5 Have you heard about the results of the health survey?

☐ No - go on to Question **6**
☐ Yes

If 'yes' how did you hear about the results?
(You can tick more than one box, and please give details, eg place, name of group, title of programme.)

☐ TV_____
☐ Radio_____
☐ Newspaper_____
☐ Poster / display_____
☐ Leaflet_____
☐ A group you belong to_____
☐ Your family_____
☐ A friend_____
☐ Other_____

6 In the last year have you changed any of these things to make your health better?

You can tick more than one box.

☐ your weight
☐ exercise
☐ foods you eat

☐ alcohol you drink
☐ your own smoking
☐ other people's smoking

☐ none of these

If you have changed anything else to make your health better, please write it in here:

_____

_____

7

Have you heard of 'Peak Health'?

☐ No - go on to Question **8**
☐ Yes

If 'yes, you have heard of 'Peak Health',
where have you heard about it?
(You can tick more than one box, and please give details.)

☐ TV_____
☐ Radio_____
☐ Newspaper_____
☐ Poster / display_____
☐ Leaflet_____
☐ A group you belong to_____
☐ Your family_____
☐ A friend_____
☐ Other_____

Have you seen this logo?

☐ No
☐ Yes

If 'yes' where you have seen it?
(You can tick more than one box, and please give details.)

☐ TV_____
☐ Newspaper_____
☐ Poster / display_____
☐ Leaflet_____
☐ Other_____

and

describe what you think 'Peak Health' is
as fully as possible.

_____

_____

_____

8 Finally, please answer a few questions about yourself by ticking the boxes that best describe you.

Are you

- ☐ male
- ☐ female

How old are you?

- ☐ 18 - 24
- ☐ 25 - 44
- ☐ 45 - 64
- ☐ 65 or over

What is - or was- your most recent paid job?
(Please describe as fully as possible.)

_____

_____

If you are married, what is - or was - your partner's most recent job?
(Please describe as fully as possible.)

_____

_____

Please add any comments you would like to make about how information and advice, especially about health, could be made more easily available to the public.

_____

_____

_____

Please don't forget to return your answers in the freepost envelope enclosed.

Thank you very much for your help.

Please do not add your name or address - this number makes your answers confidential so that only members of the research team know whose questionnaire this is.

Professor R Madeley MD MSc FFCM

Professor Richard Madeley DM, MSc, FFCM
Head of Department.

Department of Community Medicine
and Epidemiology

The University of Nottingham
Medical School

Queen's Medical Centre,
Nottingham, NG7 2UH.

Telephone: 0602 421421

21st July 1989

Dear

I had hoped that by now you would have been able to return the questionnaire I sent you a couple of weeks ago.

Please do try to find time to complete and return it. Your answers will be treated in confidence and used here at the University Medical School to help us to understand how best to spread information to the general public.

I look forward to hearing from you.

Yours sincerely

Research Associate

Appendix 4.2

Change in health-related behaviour: data

Table A: Respondents to the CHP Survey stimulated by the Survey to at least thinking about changing health related behaviour by those not thinking about change by sex, age and social class

Characteristics of respondents		Not considering change		At least considering change	
		n	%	n	%
N = 54					
Sex:					
Male	(n = 19)	11	58	8	42
Female	(n = 35)	14	40	21	60
		x^2 = 0.9 1 d.f. NS			
Age:					
16 - 44	(n = 25)	9	36	16	64
45 + over	(n = 29)	16	55	13	45
		x^2 = 1.3 1 d.f. NS			
Social class:					
I - IIIM	(n = 42)	18	43	24	57
IV - V	(n = 11)	8	73	3	27
		x^2 = 2.0 1 d.f. NS			

Table B: Achieved change by attempted/considered change in health related behaviours stimulated by the CHP Survey method by respondents' age, sex and social class of respondents

Characteristics of respondents		Changes in health related behaviours			
		Achieved		Attempted/Considered	
N = 29		n	%	n	%
Sex:					
Male	(n = 8)	2	25	6	75
Female	(n = 21)	8	38	13	62
		Fisher exact probability p = 0.84			
Age:					
18 - 44	(n = 16)	4	25	12	75
45 + over	(n = 13)	6	46	7	54
		Fisher exact probability p = 0.42			
Social class:					
I - IIIM	(n = 24)	10	42	14	58
IV - V	(n = 3)	0	0	3	100
		Fisher exact probability p = 0.47			

Appendix 4.3

Knowledge about Peak Health and CHPS: data

Table A: Knowledge about "Peak Health" and CHP Survey, by sources of information

N = 287

Sources of knowledge		Activity			
		Peak Health		CHP Survey	
all		n	%	n	%
	yes	75	26	117	41
	no	212	74	170	59
		X^2 = 13.2; 1 d.f.; p < 0.001			
1) leaflet		n = 86		n = 157	
	yes	24	28	45	29
	no	62	72	112	71
		X^2 = 0.0; 1 d.f. NS			
2) poster					
	yes	36	42	18	11
	no	50	58	139	89
		X^2 = 28.0; 1 d.f. p < 0.001			
3) newspaper					
	yes	5	6	8	5
	no	81	94	149	95
		Fisher exact probability NS			
4) TV/radio					
	yes	5	6	4	3
	no	81	94	153	97
		Fisher exact probability NS			
5) friend					
	yes	3	3	43	27
	no	83	97	114	73
		X^2 = 19.2; 1 d.f. p < 0.001			
6) family					
	yes	7	8	19	12
	no	79	92	138	88
		X^2 = 0.5; 1 d.f. NS			
7) group					
	yes	6	7	20	13
	no	80	93	137	87
		X^2 = 1.4; 1 d.f; NS			
Overall X^2 = 44.1; 6 d.f. p 0 < 0.00					
Conflated:					
impersonal sources (1-4)		70	81	75	48
personal sources (5-7)		16	19	82	52
		X^2 = 24.7; 1 d.f. p < 0.001			

Appendix 4.4

Characteristics of the CHPS respondents by the Follow-Up Survey eligible sample by age, sex and social class

Table 1 Characteristics of the CHP Survey respondents by the Follow-Up Survey eligible sample, by age and sex

	CHP Survey n = 1,069		Follow-Up Survey n = 533	
	n	%	n	%
Male				
16 - 24	87	8	43	8
25 - 44	161	15	81	15
45 - 64	135	13	67	13
65 and over	63	6	31	6
Subtotals	446	42	222	42
Female				
16 - 24	89	8	44	8
25 - 44	243	23	122	23
45 - 64	189	18	94	18
65 and over	102	9	51	10
Subtotals	623	58	311	58
Totals	1,069	100	533	100

X^2 = 0.0; 7 d.f. NS

Table 1 shows that there were no differences by age by sex between the sample and the CHP Survey respondents.

The known social class of 441 (83%) of the eligible sample are shown in Table 2. These data were obtained from self-reported social class in the CHP Survey.

Table 2 Social class of Follow-up Survey eligible sample

	Eligible Sample	
	n	%
Social Class		
I + II	47	11
IIIN + IIIM	301	68
IV + V	93	21
Totals	441	100

These characteristics were then compared to the social class of the CHP Survey study respondents, using the chi-square test to assess comparability, as shown in Table 3.

Table 3 Social class characteristics of CHP Survey study respondents and eligible Follow-up Survey Sample

	CHP Survey respondents		Eligible Follow-up Survey sample	
	n	%	n	%
Social Class				
I + II	98	11	47	11
IIIN + IIIM	608	67	301	68
IV + V	196	22	93	21
Totals	902	100	441	100

$X^2 = 0.1$; 2 d.f. NS

Appendix 4.5

Follow-up Survey questionnaire, telephone interview reply slip and follow-up letters

NORTH DERBYSHIRE HEALTH PROMOTION PROGRAMME
Director: Dr. J. G. Beales

Health Promotion Service, Scarsdale Hospital, Newbold Road, Chesterfield.
Telephone (0246) 231255 Ext. 280/281

Dear Sir/Madam

Just over a year ago a survey of health was carried out in Staveley. Many local people, like you, helped us then.

We are now trying to find out what changes, if any, people have made to their lifestyle since then. Please help us by filling in the enclosed questionnaire. All you need to do is tick in the boxes, write in the spaces or leave them blank to describe yourself. It will take you about 15 minutes.

Your answers will be confidential.

Please return your answers in the freepost envelope as soon as possible.

Thank you.

Yours sincerely

Dr. Gerald Beales
Director: Peak Health

This number makes your answers confidential but not anonymous.

About You

I am ☐ male ☐ female.

My age is ..... years.

Food

Please tick a box on every line.

How often, if ever, do you eat these?

	Less than once a week or never	Once a week or more - not most days	Every, or most, days
Sugar - added to drink	1 ☐	2 ☐	3 ☐
Salt - added in cooking	1 ☐	2 ☐	3 ☐
Fresh fruit	1 ☐	2 ☐	3 ☐
Eggs - cooked any way	1 ☐	2 ☐	3 ☐
Skimmed or semi-skimmed milk	1 ☐	2 ☐	3 ☐
Brown bread - granary, wholemeal or other high fibre bread	1 ☐	2 ☐	3 ☐

Compared to a year or so ago, how often do you eat these now?

	more often	less often	about the same
Sugar - added to drink	1 ☐	2 ☐	3 ☐
Salt - added in cooking	1 ☐	2 ☐	3 ☐
Fresh fruit	1 ☐	2 ☐	3 ☐
Eggs - cooked any way	1 ☐	2 ☐	3 ☐
Skimmed or semi-skimmed milk	1 ☐	2 ☐	3 ☐
Brown bread - granary wholemeal or other high fibre bread	1 ☐	2 ☐	3 ☐

If you said that you eat any of these things more or less often than you did a year or so ago, please say why that is -

.....

.....

.....

Exercise

Write a number in the spaces, or tick the box.

Every week, I usually do at least 20 minutes -

keep fit or exercises on ..... days a week

non-stop swimming on ..... days a week

sport that makes me breathless on ..... days a week

brisk, long walks on ..... days a week

jogging or running on ..... days a week

heavy work in the house or garden that makes me breathless on ..... days a week

other exercise that makes me breathless (please describe)

..... on ..... days a week

☐ I don't usually do any of these

Compared to a year or so ago, do you now take -

1 ☐ more exercise

2 ☐ less exercise

3 ☐ about the same amount of exercise

If you said that you take more or less exercise than you did a year ago, please say why that is -

.....

.....

.....

Smoking

Tick in the boxes, write in the spaces,
or leave them blank to describe yourself.

Whether you smoke or not ...

☐ I live with a smoker

☐ I often spend some of my day where people smoke

☐ I use non-smoking areas where I can

☐ I think smoking should be banned in public places

1 ☐ I have never smoked - or have only tried smoking once or twice

2 ☐ I now smoke

3 ☐ I gave up smoking over a year ago, but I used to smoke

4 ☐ I've tried to give up smoking in the last year or so, but didn't succeed

5 ☐ I have given up smoking in the last year or so,
- please say how many months .....

If you said you tried to, or did, give up smoking,
please say why -

.....

.....

Compared to a year or so ago, do you now -

1 ☐ spend more time with smokers

2 ☐ spend less time with smokers

3 ☐ spend about the same amount of time with smokers

If you said above that you spend more or less time with smokers than you did a year or so ago,
please say why that is -

.....

.....

.....

Alcohol

Tick in the boxes, write in the spaces,
or leave them blank to describe yourself.

☐ I never drink

If you do drink, please try to remember how much you drank last Monday to Sunday.

Last week (Monday to Sunday) I drank -

..... pints of all kinds of beer or cider

..... pints of shandy

..... measures of all kinds of spirits or liqueurs
(e.g. whisky, gin, vodka, Tia Maria)

..... measures of all kinds of sherry, martini, port

..... glasses of all kinds of wine

Compared to a year or so ago,
do you now -

1 ☐ drink more alcohol

2 ☐ drink less alcohol

3 ☐ drink about the same

If you drink more or less alcohol
than you did a year or so ago,
please say why that is -

.....

.....

.....

What makes your health worse?

Tick any of these things if you think they are now making your health worse - and whether you can do anything about them.

	I can't change it	I can change it	I will change it
my housing	1☐	2☐	3☐
my neighbourhood	1☐	2☐	3☐
pollution	1☐	2☐	3☐
my weight	1☐	2☐	3☐
how much exercise I get	1☐	2☐	3☐
foods I eat	1☐	2☐	3☐
alcohol I drink	1☐	2☐	3☐
my smoking	1☐	2☐	3☐
other people's smoking	1☐	2☐	3☐
how much money I have	1☐	2☐	3☐
the stresses I have	1☐	2☐	3☐
my work - or being unemployed	1☐	2☐	3☐

... and ...

In the last year, have you tried to or succeeded in changing any of these things to make your own health better. Please say what you did (not why you did it).

Tick the boxes, write in the spaces or leave them blank to describe yourself.

	I tried to change it	I succeeded in changing it	What I did was -
housing	1 ☐	2 ☐	.....
			.....
neighbourhood	1 ☐	2 ☐	.....
pollution	1 ☐	2 ☐	.....
			.....
my weight	1 ☐	2 ☐	.....
			.....
exercise I take	1 ☐	2 ☐	.....
			.....
foods I eat	1 ☐	2 ☐	.....
			.....

and these

	I tried to change it	I succeeded in changing it	What I did was -
alcohol I drink	1 ☐	2 ☐	.....
			.....
my own smoking	1 ☐	2 ☐	.....
			.....
other people's smoking	1 ☐	2 ☐	.....
			.....
how much money I have	1 ☐	2 ☐	.....
			.....
stresses I have	1 ☐	2 ☐	.....
			.....
my work or being unemployed	1 ☐	2 ☐	.....
			.....

Thank you for your help.

Please help even more.

We hope to telephone some people who reply to the survey. If you are willing to be interviewed by phone, please return this slip. Thank you.

I am willing for someone to telephone me.

Name.....

Address.....

Telephone number.....

Please return this in the freepost envelope enclosed.

NORTH DERBYSHIRE HEALTH PROMOTION PROGRAMME
Director: Dr. J. G. Beales

Health Promotion Service, Scarsdale Hospital, Newbold Road, Chesterfield.
Telephone (0246) 231255 Ext. 280/281

6th November 1989

Dear

I wrote to you a couple of weeks ago asking you for your help in a survey about what changes, if any, there have been in your diet, exercise, drinking and smoking over the past year. So far I have not heard from you.

Please do find time to fill in this copy of the questionnaire and return it in the freepost envelope. I know how busy you must be, but it really is important to find out what people are thinking and doing for themselves about their own health.

I look forward to hearing from you.

Yours sincerely

pp Gerald Beales
Director "Peak Health"

P.S. There are sometimes delays in freepost deliveries. Please ignore this letter if you have already sent the first questionnaire back, and thank you for your help.

NORTH DERBYSHIRE HEALTH PROMOTION PROGRAMME

Director: Dr. J. G. Beales

Health Promotion Service, Scarsdale Hospital, Newbold Road, Chesterfield.
Telephone (0246) 231255 Ext. 280/281

12th December 1989

Dear

I am writing to you to remind you once again about the questionnaire about health that I have not yet received back from you. With Christmas coming, I know how pressed for time you must be. However, if you have put it to one side to do later, please try and find time to do it today.

I cannot stress enough how much your views, as local people, are needed and used in planning future activities.

Please help.

I look forward to hearing from you and thank you for your co-operation.

Yours sincerely

p.p. Dr. Gerald Beales
Director: Peak Health

P.S. If you posted your questionnaire in the last few days, please ignore this letter.

Appendix 4.6

Eligible sample and study respondents by sex, age and sex and social class

Table 1 Eligible sample and study respondents by sex, age and sex and age

Characteristic	Eligible sample		Study respondents				
	n	%	n	%	X^2	d.f.	p
Sex							
Male	222	42	117	46			
Female	311	58	138	54	1.1	1	NS
Totals	533	100	255	100			
Age							
16 - 24	87	16	33	13			
25 - 44	203	38	98	38			
45 - 64	161	30	88	35			
65 and over	82	15	36	14			
Totals	533	100	255	100			
	X^2 = 2.5; 3 d.f. NS						
Sex and age							
Male							
16 - 24	43	8	16	6			
25 - 44	81	15	41	16			
45 - 64	67	13	42	16			
65 and over	31	6	18	7			
Subtotals	222	42	117	46			
	X^2 = 2.4; 3 d.f. NS						
Female							
16 - 24	44	8	17	7			
25 - 44	122	23	57	22			
45 - 64	94	18	46	18			
65 and over	51	10	18	7			
Subtotals	311	58	138	54			
	X^2 = 1.3; 3 d.f. NS						
Totals	533	100	255	100			
	X^2 = 5.0; 7 d.f. NS						

Table 1 shows that study respondents were not statistically significantly different from the eligible sample by the numbers in each age, sex and age and sex category and so the two groups may reasonably be assumed to be comparable by age, sex and age and sex.

Using the social class data obtained in the CHP Survey it was possible to identify the social class characteristics of 217 (85%) respondents, which are shown in Table 2.

Table 2 Study respondents by social class

	Study respondents	
	n	%
Social Class		
I + II	33	15
IIIN + IIIM	142	65
IV + V	42	19
Total	217	100

The social class of study respondents was compared to that of the eligible sample, as shown in Table 3.

Table 3 Study respondents by eligible sample by social class

	Study respondents		Eligible sample	
	n	%	n	%
Social Class				
I + II	33	15	47	20
IIIN + IIIM	142	65	301	61
IV + V	42	19	93	19
Totals	217	100	441	100

$X^2 = 2.9$; 2 d.f. NS

Table 3 shows that the Follow-Up Survey study respondents were representative of the eligible sample by social class.

Summary of Response

255 individuals responded to the Follow-up Survey, having self-reported participation in the previous, CHP Survey, and who could also be matched by reference number, age and sex to respondents to the CHP Survey. Respondents were representative of the CHP Survey respondents by age, sex and social class.

Appendix 4.7

Telephone semi-structured interview schedule

Telephone Survey
Semi-structured questionnaire

Introduction

My name is Heather Roberts and I work with North Derbyshire Health Promotion Unit. I'm ringing because you were kind enough to agree to a telephone interview when you sent back the questionnaire we sent you about health. Do you have time to answer a few questions now?

(Arrange to ring back if inconvenient)

1. The first questions are about DIET

Would you say that compared to a year ago you eat these more often, less often or about the same?

	1	2	3	
Sugar added to drink	more	less	about the same	☐
Salt added to cooking	more	less	about the same	☐
Fresh fruit	more	less	about the same	☐
Eggs.	more	less	about the same	☐
Skimmed or semi-skimmed milk	more	less	about the same	☐
Brown bread or other high fibre bread	more	less	about the same	☐

If more or less,
Why do you think that is?

2. I now want to ask you about EXERCISE

Would you say that compared to a year or so ago you now take

1	2	3	
more	less	about the same	☐

amount of exercise?

If more or less,
Why do you think that is?

3. The next questions are about
<u>SMOKING</u>

	1	2	
Do you now smoke?	Yes	No	☐
If no, In the last year or so, have you given up smoking?	Yes	No	☐
If yes, In the last year or so, have you tried to give up?	Yes	No	☐

Would you say that compared to a year or so ago
you spend

1	2	3	
more	less	same	☐

amount of time with smokers?

If more or less,
Why do you think that is?

4. Now a few questions about
<u>ALCOHOL</u>

	1	2	
Do you ever drink alcohol?	Yes	No	☐

Would you say that compared to a year or so ago
you drink

1	2	3	
more	less	about the same	☐

amount of alcohol?

If more or less,
Why do you think that is?

5. Finally, a couple of questions about surveys like this

Have you taken part in any other surveys about health?

Prompt: "Peak Health Survey" about a year ago

Yes	No	
1	2	☐

If no : Thank you for your help.

If yes

6. How do you feel about having taken part in that survey?

and

7. Do you think that having taken part in that survey a year ago

1 made no difference at all to what you do about health?

2 made you think about changing what you do about health?

3 encouraged you to actually change what you do about health?

4 was directly responsible for changing something you do about health?

Thank you for your help.

Notes:

Appendix 4.8

Telephone Interview Study respondents by Follow-up study respondents by sex, age and sex and social class, and by eligible Follow-up Survey sample

Table 1 Telephone Interview study respondents by Follow-up study respondents by sex, age, and age and sex

Characteristic	Telephone interview study respondents n	%	Eligible sample of follow-up study respondents n	%	X^2	df	p
Sex							
Male	27	45	121	44			
Female	33	55	154	56	0.0	1	NS
Totals	60	100	275	100			
Age							
16 - 24	4	7	33	13			
25 - 44	27	45	98	38			
45 - 64	23	38	88	35			
65 and over	6	10	36	14			
Totals	60	100	255	100			
	X^2 = 3.0 3 d.f. NS						
Sex and Age (conflated)							
Male							
16 - 24)	2	3	16	6			
25 - 44)	9	15	41	16			
					0.6	1	NS
45 - 64)	11	18	42	16			
65 and over)	5	8	18	7			
Subtotals	27	45	117	45			
Female							
16 - 24)	2	3	17	7			
25 - 44)	18	30	57	22	0.3	1	NS
45 - 64)	12	20	46	18			
65 and over)	1	2	18	7			
Subtotals	33		138	54			
Totals	60	100	255	100			

Table 2 Telephone Interview study respondents by eligible Follow-up Survey sample by sex, age and age and sex

N = 533

Characteristic	Telephone interview study respondents n	%	Eligible sample of follow-up study respondents n	%	X^2	df	p
Sex							
Male	27	45	222	42			
Female	33	55	311	58	0.1	1	NS
Totals	60		533	100			
Age							
16 - 24	4	7	87	16			
25 - 44	27	45	203	38			
45 - 64	23	23	161	30			
65 and over	6	6	82	15			
Totals	60	100	533	100			
	X^2 = 6.1 3 d.f. NS						
Sex and Age							
Male							
16 - 24	2		43	8			
25 - 44	9		81	15			
45 - 64	11		67	13			
65 and over	5		31	6			
Subtotals	27		222	42			
	X^2 = 2.2 1 df. NS						
Female							
16 - 24	2		44	8			
25 - 44	18		122	23			
45 - 64	12		94	18			
65 and over	1		51	10			
Subtotals	33		311	58			
	X^2 = 0.4 1 df. NS						
Totals	60		533	100			
	X^2 = 3.2 3 df. NS						

In terms of social class, it was possible to identify 55 (92%) respondents whose social class was known from CHP Survey data. Table 3 shows these characteristics.

Table 3 Telephone Interview study respondents by social class

Social Class	Telephone interview sample	
	n	%
I + II	17	31
IIIN + IIIM	30	55
IV + V	8	15
Totals	55	100

To assess how comparable telephone interviewees were to Follow-Up Survey study respondents in terms of social class the two sets of data were analysed using the chi-square test, the result of which are shown in Table 4.

Table 4 Telephone Interview study respondents by Follow-Up study respondents by social class

Social Class	Telephone interviewees		Follow-up study respondents	
	n	%	n	%
I + II	17	31	33	15
IIIN + IIIM	30	55	142	65
IV + V	8	15	42	19
Totals	55	100	217	100

$X^2 = 7.3$ 2 df. $p = < 0.05$

The social class characteristics of telephone interviewees were then compared to those of the Follow-Up Survey eligible sample, as shown in Table 5.

Table 5 Telephone interview study respondents by Follow-Up Survey eligible sample by social class

Social Class	Telephone interviewees		Follow-up survey eligible sample	
	n	%	n	%
I + II	17	31	47	20
IIIN + IIIM	30	55	301	61
IV + V	8	15	93	19
Totals	55	100	441	100

$X^2 = 17.9$ 2 df. $p < 0.001$

Tables 4 and 5 show that there were statistically significant differences between the Follow-Up Survey eligible sample, and Follow-Up Survey respondents to Telephone interview study respondents.

Appendix 4.9

Data: responses to questions about health-related behaviours, beliefs and attitudes: Follow-up survey by CHPS

Appendix 4.9

Data : CHPS responses by follow-up survey

Eats added sugar	< once a week	once a week or more	every/most days
n=233			
< once a week	95	4	8
once a week or more	6	1	10
most days	8	4	97

added salt	< once a week	once a week or more	every/most days
n=233			
< once a week	32	7	7
once a week or more	16	40	37
most days	8	23	63

fresh fruit	< once a week	once a week or more	every/most days
n=246			
< once a week	20	14	5
once a week or more	17	36	24
most days	8	23	99

eggs	< once a week	once a week or more	every/most days
n=251			
< once a week	50	41	3
once a week or more	23	110	14
most days	1	5	4

semi or skimmed milk	< once a week	once a week or more	every/most days
n=237			
< once a week	81	4	10
once a week or more	14	3	2
most days	24	8	91

high fibre bread	< once a week	once a week or more	every/most days
n=243			
< once a week	44	11	10
once a week or more	26	19	14
most days	12	16	91

No exercise	Yes	No
n=254 Yes	52	35
No	27	140

No times exercise taken	<1	Once	Twice	3 or more
n=254 <1	70	6	11	10
Once	2	1	4	2
Twice	12	5	14	16
3 or more	30	4	22	45

Lives with a smoker		Yes		No
n=254	Yes	59		10
	No	18		167
Exposed to smoke daily		Yes		No
n=254	Yes	72		36
	No	32		114
Uses no smoking areas		Yes		No
n=254	Yes	92		43
	No	22		97
Wants smoking banned		Yes		No
n=254	Yes	97		36
	No	22		99
Units of alcohol in a week		1-14	15-21	22 and over
n=133	1-4	85	5	4
	15-21	9	4	0
	22 and over	5	5	16
Never drinks		Yes		No
n=254	Yes, never	26		17
	No: drinks	23		188
Smoking status		no-smoker	ex-smoker	smoker
n=210	no-smoker	95	5	4
	ex-smoker	0	49	8
	smoker	4	4	41
<u>Health made worse by</u>				
Others smoke		Yes		No
n=254	Yes	64		35
	No	36		119
Housing		Yes		No
n=254	Yes	8		12
	No	9		225
Neighbourhood		Yes		No
n=254	Yes	10		16
	No	12		216
Pollution		Yes		No
n=254	Yes	62		31
	No	37		124
Weight		Yes		No
n=254	Yes	46		27
	No	38		143
Exercise		Yes		No
n=254	Yes	49		34
	No	33		138

Foods		Yes	No
n=254	Yes	45	34
	No	35	140
Alcohol		Yes	No
n=254	Yes	22	27
	No	16	189
Smoking		Yes	No
n=254	Yes	37	20
	No	12	185
Money		Yes	No
n=254	Yes	27	36
	No	24	167
Stress		Yes	No
n=254	Yes	53	33
	No	30	138
Work		Yes	No
n=254	Yes	28	27
	No	28	171

Appendix 4.10

Semi-structured interview schedule

FEEDBACK OF DATA INTERVIEW SCHEDULE

Thank you for agreeing to be interviewed.

I wanted to talk to you because I'm trying to find out what data people involved in the survey received, what they thought about it and how they used it, if at all.

Q1 Did you get any data from the survey? Yes/No/D/K

Q2 How did you receive the data?

- by post
- in person from H.P. staff .....
- other .....

Any comments about the way in which you received the data?

Q3 In what format was it presented?

- computer printouts
- summary sheets for the whole of Staveley
- " " " community group(s)
- GP practice summary/barcharts
- school " "
- posters
- integrated into a report
- other

Any comments about the format in which data was presented?

Q4 What information did you receive?

ie the content of feedback

i) Analysis by characteristic

- age
- sex
- social class
- parental status
- key variables (.....)
- other

ii) Analysis by topic

- diet
- exercise
- alcohol
- smoking
- health intentions
- leaflets
- other .....

.....

.....

Any comments about the information you received?

eg not enough, too complicated

Q5 Did you <u>use</u> the data in any way?

Yes/No

If so, how?

eg newspaper items for discussion with staff

Collect copies of any reports etc.

Q6 In your view hasa the data influenced policy in any way?

Yes/No

Please specify:

and

Do you think it will in the future?

Collect copies of any documentation

Q7 In your view How the data influenced <u>practice</u> in any way?

Yes/No

Please specify:

and

Do you think it will in the future?

Q8 Are there any further comments you would like to make about feedback from the survey?

Q9 Finally, could you let me have the names/addresses of anyone you have given information about the survey to.

Interview?

1) .....

2) .....

3) .....

4) .....

5) .....

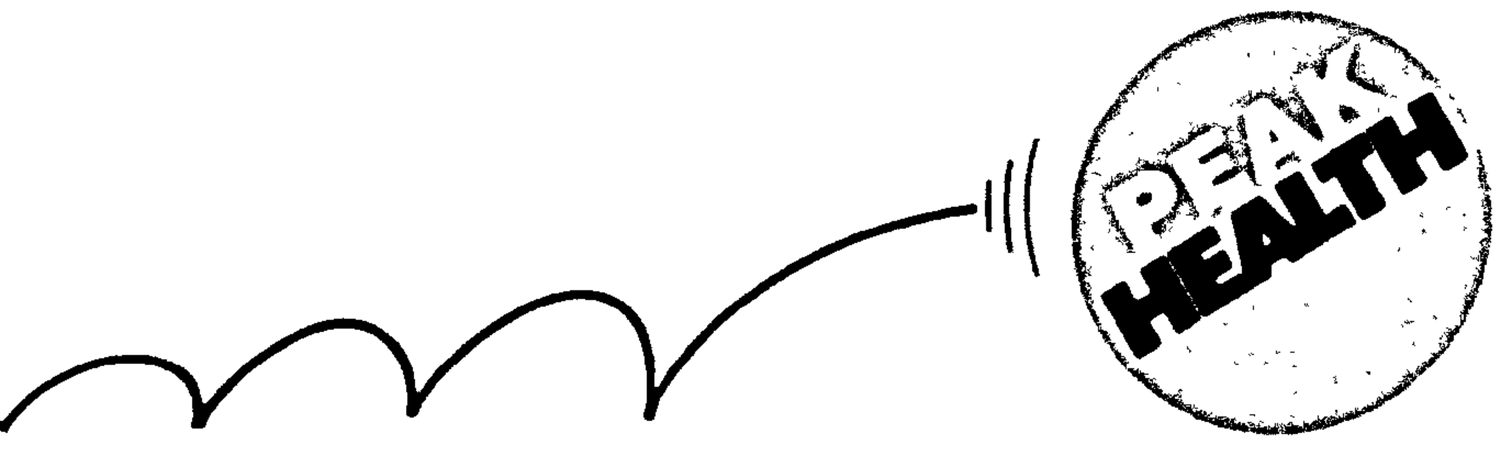
6) .....

Do you think they will be willing to be interviewed?

Thank you for your help

Appendix 4.11

Letter and reply form to community group contacts and follow-up letter



NORTH DERBYSHIRE HEALTH PROMOTION PROGRAMME

Director: Dr. J. G. Beales

Health Promotion Service, Scarsdale Hospital, Newbold Road, Chesterfield.
Telephone (0246) 231255 Ext. 280/281

Dear

re: Peak Health Survey

Over a year ago you and your organisation were kind enough to help in carrying out a survey of health in North Derbyshire.

We are now trying to find out whether having taken part in the survey and having received results from it has influenced your organisation, if at all, by, for example, making it more aware of health generally, introducing discussions and/or activities focusing on an aspect of health, formally or informally.

I will be very grateful for your own and others' comments about this, together with any views you or members of your organisation may have about the survey generally, or queries you would like to make on behalf of your organisation. If you feel it would be easier to discuss your comments, please let me know on the attached form.

I look forward to hearing from you and enclose a pre-paid envelope.

Yours sincerely

Research Associate

pp Dr. G. Beales
Director of Health Promotion

NORTH DERBYSHIRE HEALTH PROMOTION PROGRAMME
Director: Dr. J. G. Beales

Health Promotion Service, Scarsdale Hospital, Newbold Road, Chesterfield.
Telephone (0246) 231255 Ext. 280/281

Dear

I am writing to you again in the hope that you will respond to my previous invitation to comment on the survey about local health that you were involved in just over a year ago.

I am interested to hear <u>any</u> views you may have, in favour of the survey or against it, about the findings from the survey or the leaflets about healthy living that were sent out, and what, if anything, has been done by people you know as a result of taking part in the survey.

A second reply slip and freepost envelope are enclosed.

Please help us in this important follow-up to the survey.

Yours sincerely,

pp Dr G. J. Beales: Director 'Peak Health'

MIS 306 A

Return Form

1. Please telephone me to discuss my comments:-

Name .....

Tel. .....

Organisation .....

Best time to ring .....

OR
==

2. Comments about Peak Health Survey:-

Name .....

Address .....

Tel. .....

Organisation .....

Appendix 4.12

Press releases

PRESS RELEASE

Date issued: August 8, 1989

micro - 1

The lifestyles of a whole North Derbyshire community have been analysed for the first time and the results show that too many residents are in danger of eating and drinking themselves into early graves.

A total of 1,079 men and women living in Staveley completed a postal questionnaire issued as part of the Peak Health Project launched by North Derbyshire Health Authority's Health Promotion Department.

Their answers revealed that a quarter of the menfolk and 1 in 12 women admitted drinking at levels which could damage their health; half those surveyed confessed they were not getting the amount of exercise they needed to stay fit and healthy; and 83 per cent of diets contained too much fat and too little fibre.

But the survey, one of a series planned to help North Derbyshire people to help themselves to better health, has also shown some encouraging trends.

Said Dr. Gerald Beales, Director for Health Promotion in North Derbyshire: "It's not all gloom and doom in the Staveley area by any means - the results of the survey show that many people are aware of things they can do themselves to improve their health prospects. Some have already made important changes to their own lifestyles and others have said they are determined to do so in future."

more follows .....

The survey showed that smoking in Staveley is on the decline with only 3 out of 10 people still 'hooked' and 23 per cent of the residents who replied to the questionnaire said they were ex-smokers who had managed to give up while other smokers said they intended to try to kick the habit.

Fewer young people were smoking, but in the under-25 age group, more young women than men were indulging in the habit.

Although most alcohol drinkers were staying within the safe limits recommended by doctors, a quarter of men and 1 in 12 women reported drinking at levels which could damage their health.

About 50 per cent of men and women acknowledged they were not getting enough exercise.

Many people said that had made some dietary changes, such as changing to wholemeal bread, but 83 per cent still had diets which contained too much fat and too little fibre although, after filling in the questionnaire, substantial numbers said they would be trying to improve their diets.

Many also expressed concern about things over which they had no personal control affecting their health with 4 out of 10 fearing they were being harmed by pollution and other people's 'passive' smoking.

more follows.....

Dr. Beales added: "Armed with the results of this survey, we feel that we are now in a better position to provide people with the kind of information and help they need to take better care of their health. The survey will be repeated after two years to see how successful Staveley people have been in making the change to a healthier way of life - you don't have to abandon everything that is pleasurable, just exercise common sense and moderation and you're bound to have a better chance of avoiding ill-health and even premature death."

end

Note to newsdesk:

For more information, Dr. Beales and his staff can be contacted at the offices of the Health Promotion Service, Scarsdale Hospital, Newbold Road, Chesterfield, Tel. (0246) 231255 Exts. 267/268.

PRESS RELEASE

Health Survey in Staveley

North Derbyshire Health Authority have chosen Staveley as the first of many local communities to receive special attention by health promotion staff. This move is seen by staff as an important part of its 'Peak Health' programme which was launched earlier this year in Chesterfield.

To get a clear picture of health in Staveley now, a survey of what people do and think about their health is being carried out in co-operation with the Department of Community Medicine at Nottingham University starting in July.

The information collected in the medical school survey will be used to identify how many people run the risk of ill-health because of the life-styles they adopt. Just as importantly, the information will be used with community groups to help in planning ways of helping people to help themselves to healthier life-styles. To collect the information people who live and work in Staveley are being invited to spend about 20 minutes filling in an easy to complete and confidential questionnaire about their diet, exercise, smoking and alcohol consumption, as well as what they think makes their health worse. It is

"MORE"

hoped that at least 20% of Staveley's population, about 5,000 people will help, returning their questionnaires by freepost through special post-boxes or the usual post system. In return for local people's help, free leaflets about health information, local facilities and, later, the results of the survey, are being offered. The survey has the support of many local community groups who are helping to distribute questionnaires.

If any individual or group would like to take part in the survey they are welcome to join by contacting North Derbyshire Health Promotion Unit and speaking to Heather Roberts.

"ENDS"

FURTHER INFORMATION CONTACT: Heather Roberts, Research Associate, Department Of Community Medicine, Nottingham University, Clifton Boulevard, NOTTINGAM.

Telephone: (0602) 421421 ext. 3474

Peak Health - notes for Health Telegraph article

Peak Health was launched by North Derbyshire Health Authority in March 1988.

It is an ambitious programme designed to help the people of North Derbyshire to help themselves to better health.

It aims to ensure that people of all ages have the information and advice they need to enable them to follow a healthy lifestyle. And it also seeks to promote a healthier social and physical environment for local people.

To achieve its objectives, Peak Health is working to bring together everyone who has an interest in health. And, in a little over a year, the Peak Health team has embarked on a wide range of healthy living projects involving schools, general practitioners, local industry, community groups, and many other people and organizations; In addition, the Peak Health roadshow has visited locations throughout North Derbyshire, offering free health and fitness checks and advice.

The response from local people has been extremely positive, and it is clear that many want to make the change to a healthier way of life.

A Peak Health survey conducted recently in one North Derbyshire town found that:

- 8 out of 10 people are eating a diet that contains too much fat and too little fibre
- 3 out of 10 men and women are still smoking
- 5 out of 10 people are not getting enough exercise
- a quarter of all men are drinking more alcohol than the amount recommended by doctors.

Many of the people who took part in the survey recognized that their way of life is putting their health at risk, and - with the support of Peak Health - they expressed their determination to do something about it.

4 out of 10 people also felt that their health is being damaged by pollution and other people's smoking, and these are also issues that Peak Health is setting out to tackle, through joint action with other local organizations.

Everyone who is concerned about health can play a part in Peak Health, and the team is always keen to hear from anyone who would like to be involved. Such involvement can range from putting up a poster at work to organizing a 'healthy living' fair for the local community.

JGB/CEH 28 June 1989

Pam Carter
Derby Evening Telegraph
Northcliffe House
Meadow Road
DERBY DE1 2DW

Health Survey in Staveley

Peak Health is North Derbyshire's health promotion programme. It's aim is to help the people of North Derbyshire to help themselves to better health.

As part of this effort, Peak Health has just completed a survey in one local community, to find out what things people feel are affecting their health. The survey was conducted in Staveley, and 1079 men and women took part by completing a postal questionnaire.

The results show that many people are aware of things they can do themselves to improve their health prospects. Some have already made important changes to their own lifestyle, and others said they were determined to do so in future.

Smoking

The survey revealed that smoking in Staveley is on the decline with only 3 out of 10 people still hooked on the habit. 23% of those who replied were ex-smokers who had succeeded in giving up, and many of those who were still smokers said that they had previously tried to give up and would do so again. Fewer young people were found to be taking up smoking, but the rate of decline was less evident among young women than among young men, and in the under 25 age group more young women than men were smoking.

25-44	men	smokers 37%	non-smokers 63%
	women	smokers 33%	non-smokers 67%
<25	men	smokers 18%	non-smokers 82%
	women	smokers 27%	non-smokers 73%

Alcohol

Most drinkers were staying within the safe limits recommended by doctors. But a quarter of men, and 1 in 25 women reported drinking at a level that could damage their health.

Exercise

About a half of the men and women who took part in the survey admitted not getting the amount of exercise they needed to keep fit and healthy.

Health Survey in Staveley

Diet

Although many people reported making some changes (such as switching to wholemeal bread),
83% still had a diet that contained too much fat and too little fibre. And the women were easting no more healthily than the men. But many people said that having completed the questionnaire, they would be taking steps to improve their diet.

Pollution and Passive Smoking

As well as the things over which they had personal control, many people felt that factors outside their immediate control were also affecting their health. 4 out of 10 people felt that their health was being damaged by pollution and other people's smoking.

Armed with the results of this survey, Peak Health is in a better position to provide people with the kind of information and help they need to take better care of their health. The survey will be repeated after 2 years, to see how successful Staveley people have been in making the change to a healthier way of life.

JGB/VJ 12.7.89.

Appendix 4.13

Examples of data used in North Derbyshire Health Authority's Annual Report for 1989

Child Protection

2.6 Many children in this district continue to be abused within their homes. The reported rate of physical abuse has not been rising but more and more sexual abuse is being uncovered. This usually happens when the child or an adult discloses to the professional service what is going on. The professionals in Derbyshire have worked together in investigating abuse for over a decade using a common policy, and this has just gone through its third revision, which takes particular account of the increased disclosure of sexual abuse. It also takes account of the increasing resistance amongst families to professional action to protect their children. Staff will be trained to use the new policy when it is introduced.

2.7 Many children have suffered great emotional damage through abuse, and this adds to the numbers of distressed children and families who need the child and adolescent psychiatric services. This work is a major hope for us in preventing the transmission of emotional damage to adult life and the next generation of children. The district has expanded these services over the last 5 years and further growth will be required.

Prevention of Later Disease

2.8 Many of the diseases of later life have their origins in childhood, for instance recent research (Lancet 86 1 1077-81) has shown that much of the morbidity from cardiovascular disease in adults which concerns us today is linked to the state of health that they enjoyed in earlier childhood. Thus, our concern with the health of the middle aged and elderly should never divert us from the preventive groundwork that must be done in childhood. Children who learn to live healthily will benefit as adults. In the light of this it is worrying that many school children smoke, as smoking far outweighs other adverse factors in its known effect on future health. The number of girls who smoke now equals the number of boys and this is particularly disturbing in that, within ten years, many of these girls will be mothers and smoking will have many harmful effects on their baby before and after birth. The health promotion department has worked with the education service on a syllabus of health education which enables children to learn the harmful effects of smoking and resist peer pressure, and this is reinforced by school doctors and nurses in their individual contacts with children. We still need to know further what it is that draws children to cigarettes (apart from massive advertising, parents example and peer pressure) before we will be fully effective, and the same applies to children who are drawn to alcohol and drug abuse. Fortunately, the latter problems remain relatively small in North Derbyshire.

Smoking in School Children

The problem 33% of boys and 37% of girls smoke more than 6 cigarettes a week in North Derbyshire Secondary Schools.

The Pressures 63% of children in Staveley area live in the same house as a smoker.

22% of 1st year and 47% of 4th year children have a friend who smokes.

Yet, 97% of children know that smoking can make health worse.

7. Alcohol and Drug Misuse in North Derbyshire Health Authority

7.1 For most adults, alcohol is a normal and enjoyable part of life. Used sensibly, alcohol does not constitute a hazard to health. But drinking too much, or drinking at the wrong time, can cause many problems, and, contrary to what some people imagine, there is no firm evidence that drinking moderate amounts of alcohol is actually good for health.

To avoid health problems it is recommended that a man should drink no more than 21 units of alcohol, spread over a single week. For a woman, the safe limit is 14 units of alcohol per week

a single unit of alcohol = half a pint of beer or larger

a single measure of spirits*

a glass of wine

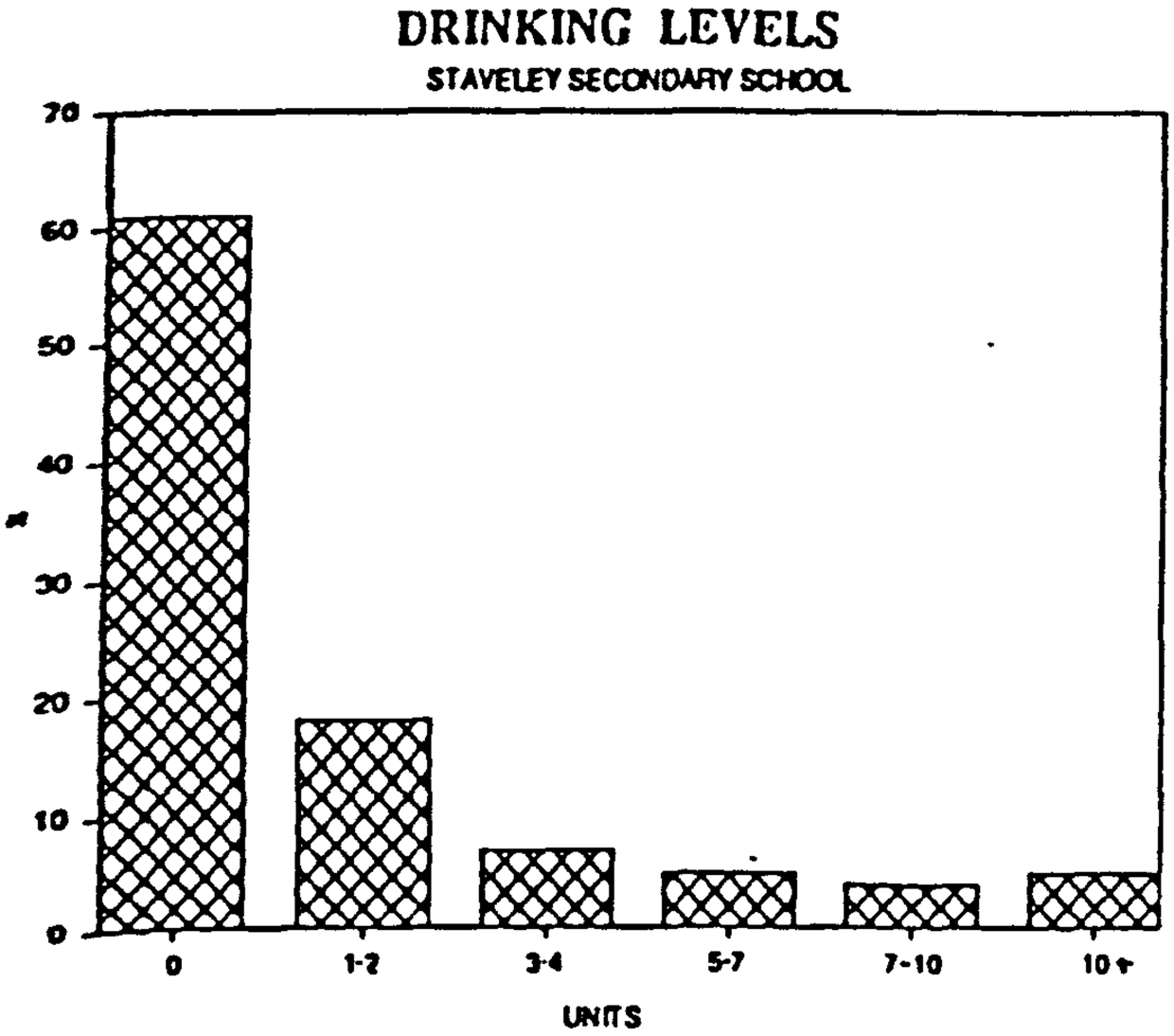
(* this is a pub measure - home measures tend to be more generous)

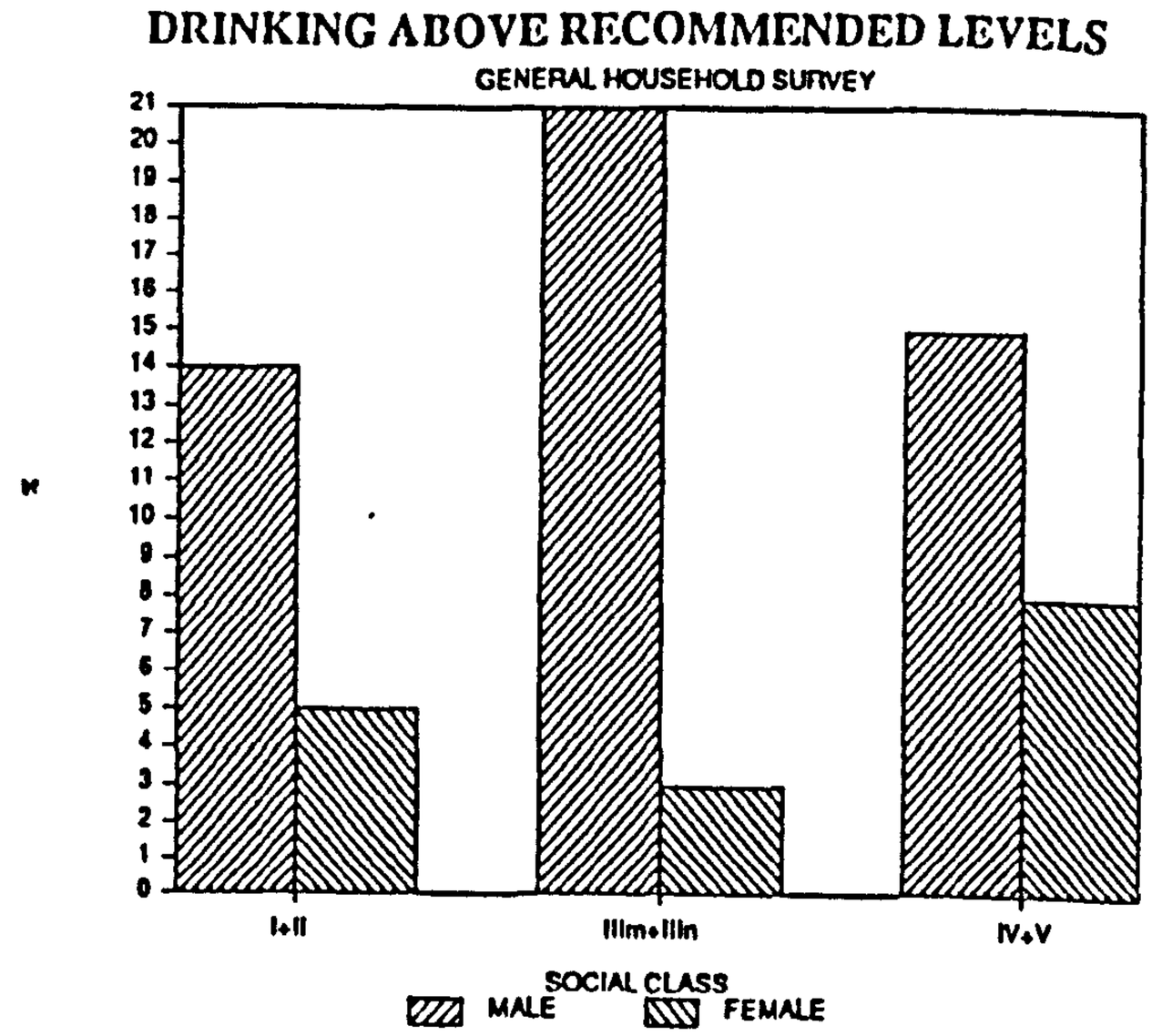
7.2 The more that is drunk above the limit, the greater the risk of ill-health. A man who regularly drinks more than 50 units of alcohol per week is almost certain to suffer serious ill effects. The problems that alcohol can cause include potentially fatal physical disorders (such as cirrhosis of the liver), as well as psychological illness. But in addition to the personal harm which excessive drinkers can do to themselves, there are consequences for their families and the rest of society. Alcohol has been implicated in a great deal of marital breakdown, child abuse and crime.

7.3 A woman who drinks while she is pregnant risks harming her unborn child, and pregnancy is therefore one of those times when any drinking is best avoided. Alcohol should also be out when driving or operating machinery. Many accidents at work and in the home can be blamed on alcohol, and people who drink and drive, risk inflicting death and injury upon other innocent road users, as well as upon themselves. Nationally, alcohol consumption is on the increase, and there is no reason to doubt that consumption in North Derbyshire is in line with the national trend. During the last 5 years, the total amount of alcohol consumed in this country has risen by 9%, and government figures indicate that approximately 5 million men and 1 million women, are drinking more than the recommended limits. It is estimated that 1 million men and 1/4 million women are now drinking at dangerously high levels (ie more than 50 units a week for men, and 35 units a week for women).

7.4 The 1984 General Household survey showed, however, that heavy drinking is not uniform throughout the country. In Wales, and in the part of England covered by the Northern Regional Health Authority, 29% of men have been shown to be drinking more than 21 units per week. The comaprable figure for the East Midlands (which includes North Derbyshire) is 19% of men. In a survey of adults in Staveley, conducted in 1988, 18% of men reported having drunk more than the recommended amount of alcohol in the previous week, confirming the General Household Survey figures. Excessive drinking appears to be much less of a problem among women, with only 4% of Staveley women reporting having drunk more than 14 units in the week prior to the survey.

But there were important variations within these overall figures, although the reasons for these variations are by no means clear. For example, the highest level of excessive drinking was recorded amongst social class IIIm and IIIn men (21%), the lowest level (3%) amongst social class IIIm and IIIn women.





7.5 National figures show that heavy drinking is especially frequent amongst younger men, and this is in line with the Staveley finding that almost one third of men with a child under the age of 5 were drinking more than the recommended limit (with important implications for child health and welfare).

Drinking above recommended limit by parent status

	Men	Women
parent of child <5 years	32%	4%
parent of child 5-16 years	11%	4%
no child < 17 years	23%	4%

7.6 The Staveley survey also showed that many people recognise the harm that alcohol may be doing to their health, although not all of them feel willing or able to do something about it.

Percentage of drinkers who believe that alcohol is affecting their health

Total	I cannot do anything about it	I can do something about it	I will do something about it
27%	5%	20%	2%

7.7 At the same time as overall alcohol consumption in increasing nationally, there is concern that young people are turning to alcohol at an earlier age, and drinking in greater amounts. A 1988 survey amongst 1st and 4th year pupils in Staveley secondary schools, showed that almost all children had already tasted alcohol, and most expected to drink when they were older, these statistics illustrate how alcohol is not perceived as a health hazard as compared to smoking, Reference page 9. The oldest children in this survey were aged 15, 16% claimed to have drunk alcohol in pubs, and 5% reported having drunk more than 10 units of alcohol in the previous week.

Appendix 4.14

Minutes of Unemployment and Health Working Party, North Derbyshire Health Authority

Unemployment, Social Class, and Health: community projects

Report on completion of the 2 year pilot phase

1. Background

1.1 This initiative arose from two important developments during 1988:

(i) the launch of North Derbyshire's Health Promotion Programme (Peak Health) with its commitment to the reduction of health inequalities (particularly between social classes)

(ii) the HA's decidion to set up a working group (under Dr Kevin Woods) to address the health implications of unemployment.

1.2 It was agreed to establish pilot projects in two communities with particularly high levels of deprivation and unemployment (Staveley and Shirebrook). These projects were to run for approximately 2 years.

1.3 In order to implement these projects within the constraints of available resources, the following staffing arrangements were made:

Shirebrook: the work to be led by existing, full-time staff of the Health Promotion Service, with one programme manager taking principle responsibility for the project.

Staveley: a part-time 'health service coordinator' to be appointed, solely concerned with the project, and funded from the budget of the (then) Consumer and Operation Research Department.

1.4 The objectives of these projects were to:

(i) identify the needs and wishes of the most deprived sections of the two populations (including the unemployed and their families)

(ii) establish and evaluate pilot schemes appropriate to those needs and wishes, to guide District-wide actionin the 1990s.

2. Identifying Needs and Wishes

2.1 During 1988 and 1989, lifestyle surveys were conducted in the two communities to identify health-related behaviours and the factors which local people felt to be affecting their health.

2.2 The survey results revealed that:

(i) members of social classes 4 and 5 were more likely than members of other social classes to have an unhealthy diet, drink alcohol above the recommended limit, and be smokers;

(ii) unemployed people were more likely than employed people to have an unhealthy diet and be smokers;

(iii) a substantial proportion of people who were unemployed or whose partner was unemployed, felt that physical and mental health was being adversely affected by unemployment, and by related issues such as a shortage of money.

2.3 The survey data, complemented by information obtained from community groups by informal research methods, also showed that, among social classes 4 and 5, and the unemployed:

(i) there was a high level of awareness that personal lifestyle factors could affect health;

(ii) there was a demand for information and advice on lifestyle issues which was easy to understand and relevant to their own situation;

(iii) there was a demand for support for those wishing to make lifestyle changes (i.e. establishment of a network of self-help and support groups dealing with such topics as smoking-cessation, stress and relaxation, fitness, and weight-reduction)

(iv) there was a need for access to leisure and sports facilities to be improved (i.e. providing improved local facilities, and addressing the issues of cost and transport);

(v) there was a reluctance to use preventative health services which were considered to be too formal and professional-led; there was a desire for more local and informal services, with local people being given a greater degree of control;

(vi) whilst many felt that a poor quality environment was affecting their physical and mental health, the main concern was with such immediate issues as vandalism, dereliction, litter, and dog fouling, rather than with the larger-scale problems of air, and river, pollution.

3. Operation of pilot schemes

3.1 The collection of data on local needs and wishes indicated that practical action could be taken (within the limits of existing resources) to reduce health inequalities and tackle some of the health effects of unemployment. The response involved the setting-up of a number of specific projects, and the support and facilitation of various smaller-scale local initiatives.

3.2 Whilst the long-term objective of initiatives might be to improve mortality and morbidity rates, it was recognised that no change could be expected in the limited period of the project. Even lifestyle changes (e.g. a reduction in the number of smokers) would be unlikely to occur on a significant scale within this period. It was therefore necessary to evaluate individual schemes primarily in terms of:

(i) uptake

(ii) expressed satisfaction of local people

3.3 Health checks for unemployed workers

(i) For a limited number of weeks, health checks were offered to unemployed workers at the Staveley Job Centre. The checks comprised:

- blood pressure, urine, height/weight-checks
- discussion of diet, exercise, alcohol, and smoking, and the provision of appropriate advice
- identification of causes of stress and the provision of basic counselling

Despite some initial suspicions and reservations, the demand for this service quickly increased. The intention was to screen 15% of all claimants at the Job Centre (i.e. 154 people). In the event, this total was reached with only one person refusing. Approximately two-thirds of those seen (102) were men.

(ii) The scheme was well-received, with virtually all those attending welcoming the advice offered. A substantial proportion indicated their wish to attend support groups as follows:

smoking cessation	19%
stress reduction	22%
'look after yourself'	28%

Follow-up questionnaires were sent out to those who had received a health check. 51% reported making some or all of the lifestyle changes recommended.

3.4 Drop-in and family centre schemes

(i) the Mastin Moor drop-in and Shirebrook family centre schemes were established to cater for the needs of women and children in families with very low incomes and with related problems.

Both schemes had the following principle characteristics:

- control by the women themselves (including the agreement of a constitution, election of officers, etc)
- use of local premises in which the women felt confortable (i.e. not formal health authority premises)
- provision of child health services by community health staff 'at the invitation' of the women
- provision of other services (e.g. welfare rights advice) again at the women's invitation'
- provision of creche facilities
- availability of practical advice and support on such issues as stress, smoking, diet, and child care in response to the wcmen's requests
- training in assertiveness, relaxation, and related skills

(ii) Both schemes have proved extremely popular, with attendances being limited only by the facilities available.

The women have demonstrated their enthusiasm for the schemes by their willingness to take on various tasks, including organisation and fund-raising.

Informal comments have indicated that the schemes have improved women's confidence and self-esteem (with important mental health implications), increased their ability to handle stress, made them more aware of lifestyle issues (e.g. some women have already given up smoking), and improved their relationship with/ willingness to make use of preventative health services. A formal evaluation of the long-term value of such schemes is now being undertaken by the Department of Community Medicine and Epidemiology, University of Nottingham.

3.5 Facilitation of smaller-scale initiatives

In addition to the major schemes outlined above, there was facilitation of a multiplicity of smaller-scale, self-help initiatives. This ranged from supporting existing groups to encouraging new responses to fill identifiable gaps.

A major part of this work involved facilitating links between community groups and those responsible for the provision of leisure services, transpost, and environmental health, in order to find practical solutions to specific local problems.

4. Implications for future action

4.1 It will only be possible to see to what extent people in the target populations have made lasting lifestyle changes when the surveys are repeated in Staveley and Shirebrook after an appropriate interval.

However, there are strong indications that, even among the most deprived sections of the community, there is a willingness and ability to make changes if advice, information, and support are delivered in an acceptable way.

Focussing health promotion effort upon social classes 4 and 5, and the unemployed, is likely to yield substantial, and worthwhile benefits, and should therefore continue.

4.2 Delivering preventative health services in a relatively informal and consumer-led manner has proved to be both popular and effective. Sections of the population who traditionally do not respond to health promotion/disease prevention efforts, have been shown to be receptive if they are given a sense of control over services, and if services are delivered in a 'user-friendly' way.

All localities should be encouraged to explore the desirability of delivering health promotion/disease prevention services along the lines of the drop-in and family centre models.

4.3 The project has demonstrated the value of having a worker who is in a position to support a multiplicity of small-scale self-help initiatives, and to provide a link between community groups and relevant agencies. There is a need for at least one such worker in each community identified as having a high level of deprivation. In addition, each worker would require a budget to provide practical assistance to community groups (usually very small amounts are involved - a few pounds to hire a room for a series of relaxation classes, for example).

Accomplishing this will require a collaborative approach involving health authority, district/borough councils, and county councils. If new resources cannot be committed to such a venture, there may be scope for improving the use of existing staff (the various agencies already employ a number of people with some form of community brief).

4.4 Specific new projects have been identified as a result of experiences with the Mastin Moor drop-in and Staveley Job Centre Schemes:

(i) unemployed workers project

This is intended as a joint initiative with the Chesterfield Unemployed Workers Centre, providing a service throughout North Derbyshire by means of out-reach work.

It is proposed to offer health checks, advice and information, counselling, support groups, and skills training to unemployed workers and their families.

It is anticipated that the project would have worthwhile benefits in improving the mental and physical health of the unemployed.

Implementation of the project will require the services of one w.t.e. health worker.

(ii) <u>parent and child support network</u>

This initiative aims to prevent child neglect and other family problems by empowering parents to better handle the difficulties facing them. Details of the project, and the resource implications, have been set out in a separate paper.

Dr J G Beales
<u>Director of Health Promotion</u>

JGB/VJ 5th April 1990

Appendix 4.15

Extract from the Annual Report on the Health of the Population of North Derbyshire, North Derbyshire Health Authority, July, 1989

7. Alcohol and Drug Misuse in North Derbyshire Health Authority

7.1 For most adults, alcohol is a normal and enjoyable part of life. Used sensibly, alcohol does not constitute a hazard to health. But drinking too much, or drinking at the wrong time, can cause many problems, and, contrary to what some people imagine, there is no firm evidence that drinking moderate amounts of alcohol is actually good for health.

To avoid health problems it is recommended that a man should drink no more than 21 units of alcohol, spread over a single week. For a woman, the safe limit is 14 units of alcohol per week

a single unit of alcohol = half a pint of beer or larger

a single measure of spirits*

a glass of wine

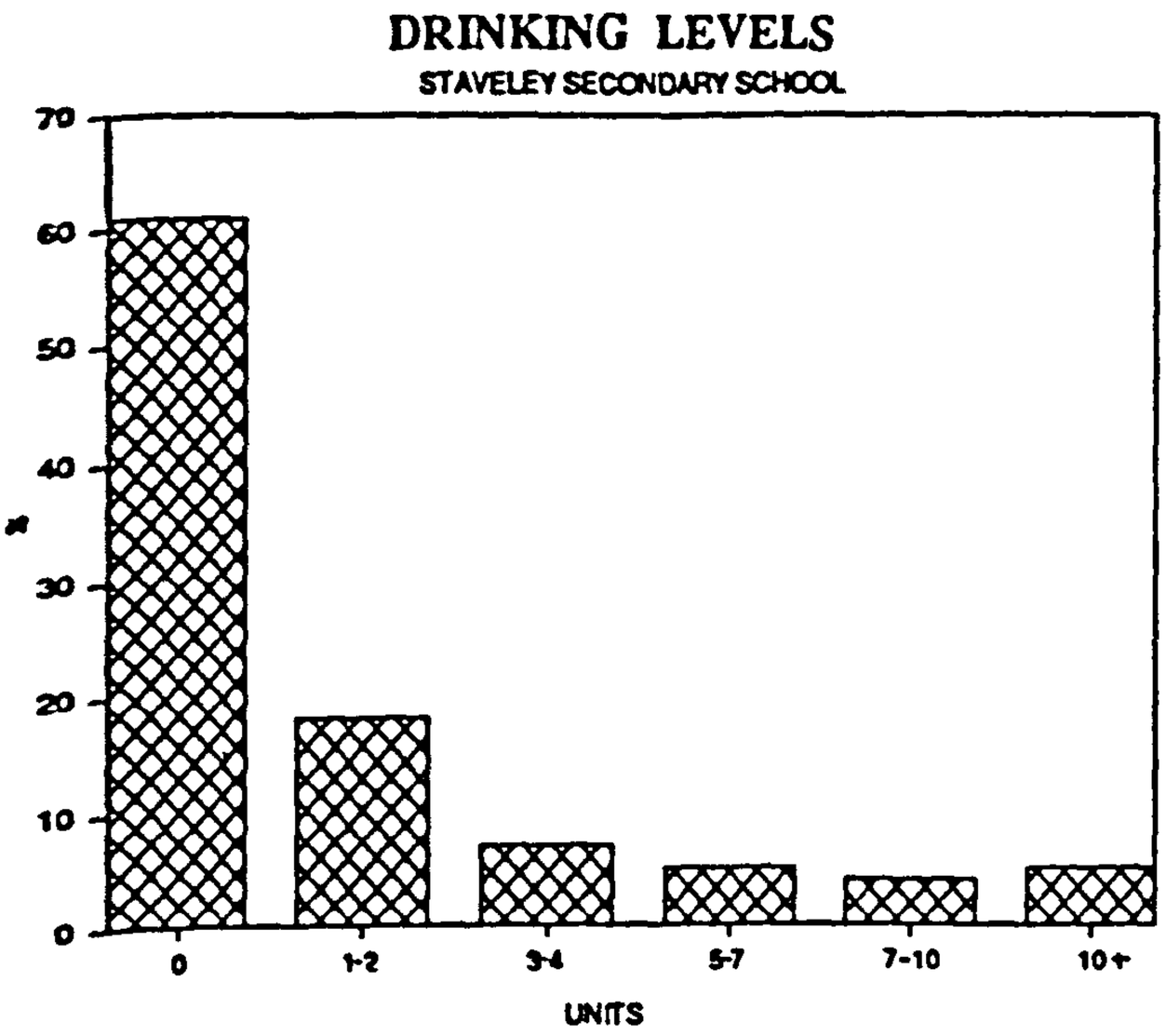
(* this is a pub measure - home measures tend to be more generous)

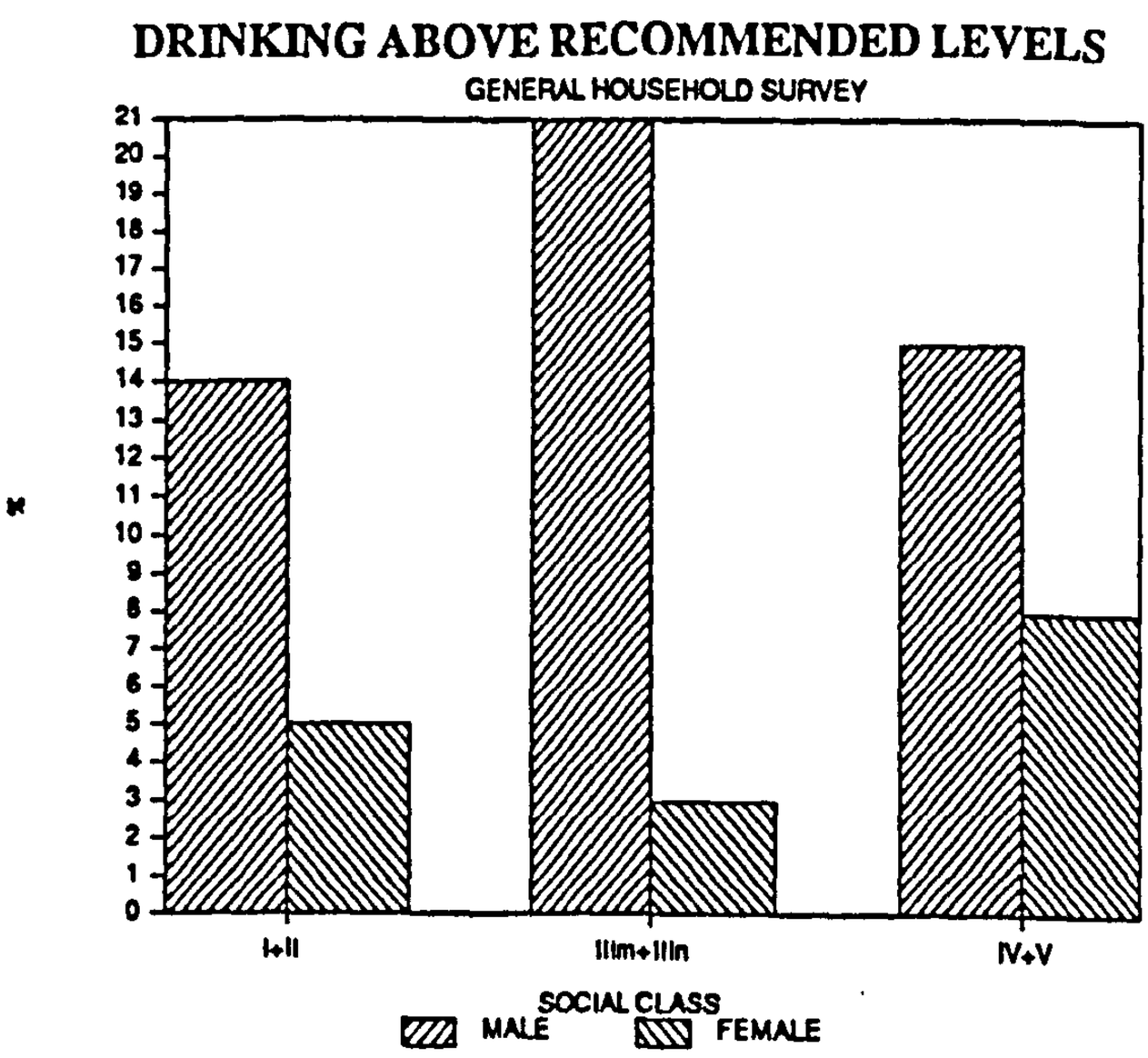
7.2 The more that is drunk above the limit, the greater the risk of ill-health. A man who regularly drinks more than 50 units of alcohol per week is almost certain to suffer serious ill effects. The problems that alcohol can cause include potentially fatal physical disorders (such as cirrhosis of the liver), as well as psychological illness. But in addition to the personal harm which excessive drinkers can do to themselves, there are consequences for their families and the rest of society. Alcohol has been implicated in a great deal of marital breakdown, child abuse and crime.

7.3 A woman who drinks while she is pregnant risks harming her unborn child, and pregnancy is therefore one of those times when any drinking is best avoided. Alcohol should also be out when driving or operating machinery. Many accidents at work and in the home can be blamed on alcohol, and people who drink and drive, risk inflicting death and injury upon other innocent road users, as well as upon themselves. Nationally, alcohol consumption is on the increase, and there is no reason to doubt that consumption in North Derbyshire is in line with the national trend. During the last 5 years, the total amount of alcohol consumed in this country has risen by 9%, and government figures indicate that approximately 5 million men and 1 million women, are drinking more than the recommended limits. It is estimated that 1 million men and 1/4 million women are now drinking at dangerously high levels (ie more than 50 units a week for men, and 35 units a week for women).

7.4 The 1984 General Household survey showed, however, that heavy drinking is not uniform throughout the country. In Wales, and in the part of England covered by the Northern Regional Health Authority, 29% of men have been shown to be drinking more than 21 units per week. The comaprable figure for the East Midlands (which includes North Derbyshire) is 19% of men. In a survey of adults in Staveley, conducted in 1988, 18% of men reported having drunk more than the recommended amount of alcohol in the previous week, confirming the General Household Survey figures. Excessive drinking appears to be much less of a problem among women, with only 4% of Staveley women reporting having drunk more than 14 units in the week prior to the survey.

But there were important variations within these overall figures, although the reasons for these variations are by no means clear. For example, the highest level of excessive drinking was recorded amongst social class IIIm and IIIn men (21%), the lowest level (3%) amongst social class IIIm and IIIn women.





7.5 National figures show that heavy drinking is especially frequent amongst younger men, and this is in line with the Staveley finding that almost one third of men with a child under the age of 5 were drinking more than the recommended limit (with important implications for child health and welfare).

Drinking above recommended limit by parent status

	Men	Women
parent of child <5 years	32%	4%
parent of child 5-16 years	11%	4%
no child < 17 years	23%	4%

7.6 The Staveley survey also showed that many people recognise the harm that alcohol may be doing to their health, although not all of them feel willing or able to do something about it.

Percentage of drinkers who believe that alcohol is affecting their health

Total	I cannot do anything about it	I can do something about it	I will do something about it
27%	5%	20%	2%

7.7 At the same time as overall alcohol consumption in increasing nationally, there is concern that young people are turning to alcohol at an earlier age, and drinking in greater amounts. A 1988 survey amongst 1st and 4th year pupils in Staveley secondary schools, showed that almost all children had already tasted alcohol, and most expected to drink when they were older, these statistics illustrate how alcohol is not perceived as a health hazard as compared to smoking, Reference page 9. The oldest children in this survey were aged 15, 16% claimed to have drunk alcohol in pubs, and 5% reported having drunk more than 10 units of alcohol in the previous week.

Meeting the Challenge

7.8 In order to meet the challenge, North Derbyshire Health Authority is working with other local organisations and agencies (including social services, the police, and voluntary groups) to produce a comprehensive strategy on alcohol misuse. the Joint Planning Group (Services for alcohol Abuse) is compiling a draft document for submission to the Health Authority by the end of 1989. This document will deal with three main elements:

* providing effective treatment services for people with an alcohol problem;
* providing counselling and advice to help people cut down or give up drinking;
* preventing alcohol misuse in the first place.

7.9 Prevention is clearly better than cure, and therefore action on alcohol is an important part of North Derbyshire's Health Promotion Programme, 'Peak Health'. 'Peak Health' aims to reduce the number of people drinking more than the recommended amounts of alcohol by:

*providing information and advice about the health effects of excessive drinking;
*improving people's skills at handling pressure to drink from friends or advertisements;
*reducing the stresses which often cause people to turn to alcohol, showing people other ways of coping with stress, and working with appropriate agencies to try to remove local sources of stress such as pollution or vandalism.

The recommendations of the Joint Planning Group (Services for alcohol Abuse) are likely to have resource implications. These implications may include the provision of new resources in certain services, and changes in the distribution and use of existing resources in others. In view of the seriousness of the problem of alcohol misuse, it is essential that these recommendations are given careful and sympathetic consideration by the Health Authority.

Drugs

7.10 Although drug misuse represents a very much smaller threat to public health than do smoking or alcohol, for example, it nonetheless constitutes a significant, and potentially serious health problem. The effects of misusing substances ranging from 'hard drugs' (such as heroine and cocaine) through to solvents, can be considerable, and even fatal, for the individual concerned. Furthermore, there is a real cost to society as drug trafficking and the need to support a drug habit, frequently leads to crime. In recent years, the emergence of AIDS has given new significance to the problem of illegal drug injecting. the sharing of needles by illegal drug users represents one of the main routes of transmission for AIDS, and this high-risk behaviour constitutes one of the principal 'bridges' for the spread of AIDS from homsexual to heterosexual populations (particularly as many drug users rely on prostitution to help finance their addiction).

The Local Drug Scene

7.11 It is virtually impossible to accurately measure the incidence of local drug misuse, as individuals involved in illegal activity understandably endeavour to maintain secrecy. However, by compiling information from a variety of sources (police, schools, GP's, hospitals, community health workers, social services, probation service, voluntary groups, etc) an approximate picture of the local drugs scene can be put together. It is apparent that, whilst misuse of drugs (from hard drugs to solvents) is by no means absent in North Derbyshire, the problem in this district is small in comparison with that which exists in the neighbouring cities of Derby, Nottingham, Sheffield and Manchester.

Appendix 5.1

Extract from Report to Trent Regional Health Authority, December, 1990. Beales J G. North Derbyshire Health Authority

Smoking

positive health objective: to maximise the proportion of people who are non-smokers, and who are able to live and work in a smoke-free environment

target group objectives:

1. expectant parents

(i) to maximise the proportion of pregnant women who do not smoke during their pregnancy

baseline data: 76% of pregnant women do not smoke (source: Buxton midwifery records)

target: to increase to 90% the proportion of pregnant women who do not smoke

(ii) to minimise the prevalence of passive smoking among pregnant women (and among mothers and babies in the immediate post-natal period)

baseline data: (to be compiled from midwifery returns)

target: (to be set when baseline data available)

2. families with a pre-school child

(i) to maximise the proportion of parents who do not smoke

baseline data: parent of child < 5 years 37% smoke

(Source: Staveley survey)

target: to reduce prevalence of smoking to 20% (HEA: LAYH target)

(ii) to minimise the prevalence of passive smoking among parents and young children (both within and outside the home)

baseline data: % of parents with child < 5 years who:

smoke	live with smoker	spend some of day with smoker
37	32	46

(Source: Staveley survey)

target: to reduce the prevalence of passive smoking by 50%

3. <u>children aged 5-11</u>

(i) to maximise the proportion of children who develop a negative attitude towards smoking during these important formative years

baseline data: 1st year secondary school pupils who say they definitely/probably won't smoke when aged 20

boys	girls
96%	93%

(Source: Staveley schools survey)

target: to eliminate difference between boys and girls, and raise overall figure towards 100%.

(ii) to minimise the prevalence of passive smoking among children

baseline data: 65% of 1st year secondary school pupils live in same house as a smoker

(Source: Staveley schools survey)

target: to reduce the prevalence of passive smoking by 50%

4. <u>children aged 12-17</u>

(i) to maximise the proportion of children who remain non-smokers

baseline data: Secondary school pupils who smoke

4th year*		5th year**	
boys	girls	boys	girls
10%	16%	22%	24%

(Sources: * Staveley schools survey
** N Derbyshire figures; Nottingham University/TRHA Survey 1989)

target: to reduce prevalence of smoking by one third by 1995 (HEA: LAYH target)

(ii) to minimise the prevalence of passive smoking among children

baseline data: 62% of 4th year secondary school pupils live in same house as a smoker

(Source: Staveley schools survey)

target: to reduce the prevalence of passive smoking by 50%

5. <u>young people (18-24)</u>

(i) to maximise the proportion of young people who do not smoke

baseline data: % smokers

age	men		women	
	*	**	*	**
18-24	18	22	27	23

(Source: * Staveley/** Shirebrook surveys)

target: to reduce prevalence of smoking by one third

(ii) to minimise the prevalence of passive smoking among young people

baseline data:

	% live with smoker				% spend some of day with smoker			
	men		women		men		women	
	*	**	*	**	*	**	*	**
age 18-24	47	43	40	54	63	71	52	66

(Source: * Staveley/** Shirebrook surveys)

target: to reduce the prevalence of passive smoking by 50%

6/7/8 <u>adult men and women/elderly people</u>

(i) to maximise the proportion of adults who do not smoke (and to reduce difference in prevalence of smoking between social classes)

baseline data:

	% smokers			
age	men		women	
	*	**	*	**
25-44	37	36	33	39
45-64	30	40	30	23
>64	29	26	13	19

Social class

	*	*
I & II	11	19
IIIN & IIIM	32	28
IV & V	26	36

(Source: * Staveley/** Shirebrook surveys)

target: to reduce overall prevalence of smoking to 20% (principally by reducing differences between sexes and social classes) (HEA: LAYH target)

(ii) to minimise the prevalence of passive smoking among adults

baseline data:

	% live with smoker				% spend some of day with smoker			
	men		women		men		women	
age	*	**	*	**	*	**	*	**
25-44	29	36	42	32	61	54	50	42
45-64	23	36	26	36	47	42	34	36
>64	21	19	16	17	30	38	21	19

(Source: * Staveley/** Shirebrook surveys)

target: to reduce the prevalence of passive smoking by 50%