Invitation to attend a health check in a general practice setting: comparison of attenders and non-attenders

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SUMMARY. A sample of 1570 men and women aged 20–45 years registered with an inner-city Cardiff practice were offered the opportunity by their general practitioner to have a health check at the surgery. The demographic characteristics, attitudes, beliefs and preventive health behaviour and past contact with the practice were compared for a sample of 259 non-attenders and 216 attenders. The results showed that attenders were generally better educated, better motivated to look after their health, had fewer ties and commitments, performed more health-approved practices, had had more recent contact with their own practice and accepted the legitimacy of a general practitioner's interest in his patients' lifestyle. Offering cohorts of patients additional screening services is unlikely to be efficient or effective since it is the low-risk people already known to the doctor who are most likely to attend. The onus lies on primary health care to provide services in a way which permits appropriate screening of the high-risk groups as they attend for other reasons.

Introduction

WITHIN the primary care field increasing emphasis is being laid on the importance of all aspects of prevention, including counselling people about potential risk factors and encouraging them to lead healthier lives. Exactly how this can best be done is the subject of current debate. One possibility is to adapt screening procedures more typically employed in the public health field. This study describes an attempt to reach all social class groups and both sexes for a general health check and differs from other previously reported UK studies which have usually focused on some specific disease or problem.[1-5] There is some evidence that a significant proportion of the British public would welcome the opportunity to have a regular physical check[6] and an initiative undertaken in an inner-city practice in Cardiff by two of the authors (K.H. and J.F.) provided the opportunity to assess the response to an offer of a health-oriented rather than disease-oriented check up. A detailed survey of the beliefs, attitudes and reported behaviour of non-attenders was carried out by the other authors (R.P. and N.S.) as part of an on-going research project designed to test specific hypotheses about preventive health behaviour. By ensuring that the same data was collected by the practice team for the attenders, it was possible to make a detailed comparison between attenders and non-attenders.

The aim of this paper, therefore, is to describe the major differences between those who did and did not attend for a general health check-up in terms of their demographic characteristics, attitudes and beliefs, preventive health behaviour and past utilization of services. The implications of the findings for health promotion in the primary care setting are discussed.

Method

The population sample was drawn from the age–sex register of a Cardiff practice staffed by three general practitioners and consisted of 1826 men and women who were aged between 20 and 45 years in January 1984. Further details of the sampling process can be found in the full report of the study.[7] Of these, 256 patients were excluded because they were known to have left the practice after the original sample had been drawn or because the doctors felt they would be unable to respond for health reasons. A letter signed by the general practitioner (K.H.) was sent to the remaining 1570 patients, inviting them to complete a quiz and attend for a general health check at the surgery. Although the motivation for initiating the project was concern about coronary heart disease, this was not mentioned in the letter which simply offered an opportunity to come into the surgery 'for about 30 minutes to talk confidentially to one of our health promotion workers and have some simple tests'. Every opportunity was made to ensure attendance. Appointments were offered from Monday to Saturday from before 09.00 hours and until after 19.00 hours; an appointment form and stamped addressed envelope were included with the invitation; a reminder letter was sent out if no reply had been received within three weeks; and second appointments were given to those who failed to turn up the first time.

After the health check by J.F. or one of the lay health workers recruited to the project, the interviewer completed a questionnaire with a sample of the attenders. A range of sociodemographic characteristics were recorded, including level of education, religious commitment, employment status, numbers of dependants, numbers of close friends and relatives and extent of contact with them. The questionnaire included the three multi-dimensional health locus of control scales[8] which measure the extent to which individuals perceive their health to be determined by their own behaviour ('internal locus of control') or influenced by factors over which they have little control. The scales consist of six belief statements in a Likert format ranging from strongly disagree (1) to strongly agree (6). The range is 6–36 and high scores on the three scales indicate a strong belief that one's health is determined by personal behaviour, powerful others or chance factors, respectively. Another scale measuring the amount of control individuals believe they exert in other areas of life in general ('belief in personal control') was also included. This consists of three items and is similarly scored. To assess the value placed on health, the respondents were asked to select one of three statements that best reflected how they felt about their health. Attitudes to health promotion in a primary care setting were explored using the questions developed by Wallace and Haines.[9] Information was also

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recorded about various aspects of prevention, such as drinking, smoking, weight, exercise, dental checks or cervical smears.

To obtain the same information from the non-attenders the interviewers attempted to make direct contact, since it was felt that it was inappropriate to write when the majority had already ignored a written invitation. The interviewers were briefed to make it clear that they were from the Department of General Practice and not from the respondent's practice, that they respected the individual's choice not to attend, that all the information would be strictly confidential, and that the purpose of the interview was to get a better understanding of any difficulties the patient may have had and his/her views about such invitations for health checks. The interviews were conducted in the respondents' homes using a semi-structured schedule and lasted between 35 minutes and one hour.

Information from the practice records was used to compare how long the attenders and non-attenders had been registered, how many contacts they had made with the practice and how far they lived from the practice.

Statistical analysis was undertaken using the Minitab computing programme, chi-square being used for testing the significance of differences observed for discrete variables and one-way analysis of variance for continuous variables.

Results

Of the 1570 patients sent an invitation 549 attended the health check and 216 (39%) of them completed detailed questionnaires. The only significant difference between this sample and the other 333 attenders in terms of the sociodemographic variables listed on Table 1 was their greater experience of further education ($P<0.01$).

A survey of the 1021 non-attenders revealed that 532 had not actually received the invitation; 431 were found to have moved when the interviewer called and another 101 letters were returned by the Post Office. Therefore only 1038 of the 1570 patients sent letters could be assumed to have received an invitation, making the attendance rate 53% and the non-attendance rate 47%.

Of the 489 non-attenders who probably received a letter, 259 (53%) were interviewed; 94 refused to be interviewed and 135 could not be contacted after three attempts (these patients too may not have received invitations, thus reducing the denominator still further).

Sociodemographic characteristics

As shown in Table 1 the two samples were broadly similar in age and sex distribution and in marital status. Attenders were significantly more likely to be of higher social class, to have had more education, to attend church regularly, to be in paid employment, to have no children under five years old, to have no dependants, 'close' friends or relatives and to have fewer than six contacts per month with friends and relatives than non-attenders.

Attitudes and beliefs

Table 2 shows that non-attenders were significantly more likely to believe that 'powerful others', that is usually health professionals, controlled their health ($P<0.01$) and that their health was affected by luck, chance and factors beyond their personal control and understanding (belief in chance) ($P<0.01$). They were also more likely to score lower on a more general measure of how far they believed that they could influence what happens in their lives (belief in personal control) ($P<0.01$).

Table 3 shows that attenders were more likely than non-attenders to say that they valued health; 70% as against 48% ($P<0.001$) choosing the statement 'My health is important to me'. They were also more likely to accept the legitimacy of family doctors' concern for people's smoking and fitness problems.

Table 1. Comparison of the sociodemographic characteristics of attenders and non-attenders.

	Number (%) of respondents	
	Attenders ($n=216$)	Non-attenders ($n=259$)
Age (years)		
20–24	54 (*25*)	51 (*20*)
25–29	56 (*26*)	85 (*33*)
30–34	35 (*16*)	44 (*17*)
35–39	36 (*17*)	29 (*11*)
40–45	35 (*16*)	50 (*19*)
Marital status		
Married	124 (*57*)	169 (*65*)
Other	92 (*43*)	90 (*35*)
Sex		
Female	115 (*53*)	107 (*41*)
Male	101 (*47*)	152 (*59*)
*Social class of head of household***		
1 and 2	15 (*7*)	13 (*5*)
3 non-manual	82 (*38*)	41 (*16*)
3 manual	52 (*24*)	91 (*35*)
4	24 (*11*)	47 (*18*)
5	43 (*20*)	67 (*26*)
Formal education		
Left school as soon as possible**	133 (*62*)	197 (*76*)
Had further education/training**	112 (*52*)	99 (*38*)
*Religious commitment***		
Attend church rarely/never	168 (*78*)	230 (*89*)
Attend regularly	48 (*22*)	29 (*11*)
*Employment status****		
In paid employment	149 (*69*)	138 (*53*)
Dependants		
No children under 5 years***	169 (*78*)	159 (*61*)
No dependants (excluding spouse)***	130 (*60*)	82 (*32*)
Perception of support		
No 'close' friends***	60 (*28*)	36 (*14*)
6 or more 'close' friends***	14 (*6*)	72 (*28*)
No 'close' relatives***	47 (*22*)	45 (*17*)
6 or more 'close' relatives***	17 (*8*)	78 (*30*)
Extent of contact with friends/ relatives		
6+ contacts per month***	44 (*20*)	124 (*48*)

n = total number of respondents. **$P<0.01$, ***$P<0.001$.

Table 2. Locus of control: comparison of the scores of attenders and non-attenders.

	Mean score		
	Attenders ($n=216$)	Non-attenders ($n=259$)	Significance
Belief in personal control	11.66	10.83	$F=8.85$; $P<0.01$
Belief in internal control[a]	26.87	25.89	NS
Belief in powerful others	19.31	21.08	$F=14.47$; $P<0.01$
Belief in chance	17.76	20.68	$F=21.16$; $P<0.01$

NS = not significant. [a]This is specifically concerned with expectations about control over health.

Table 3. Value placed on health and attitudes to health promotion for attenders and non-attenders.

	Number (%) of respondents agreeing	
	Attenders ($n=216$)	Non-attenders ($n=259$)
'Health is important to me' ***	151 (70)	124 (48)
'I take my health for granted'	39 (18)	57 (22)
'I do not think about it much'	26 (12)	78 (30)
GPs should be interested in:		
Weight problems	203 (94)	230 (89)
Smoking*	194 (90)	205 (79)
Drinking problems	171 (79)	212 (82)
Fitness**	156 (72)	137 (53)

*$P<0.02$; **$P<0.01$; ***$P<0.001$.

Table 4. Preventive health behaviours reported by attenders and non-attenders.

	Number (%) of respondents	
	Attenders ($n=216$)	Non-attenders ($n=259$)
Ever have dental checks***	171 (79)	151 (58)
Have had a dental check within the last year***	112 (52)	80 (31)
Have had a cervical smear (women only)	84 (73)	126 (83)
Have taken initiatve to get a smear (women only)***	33 (29)	19 (13)
Drink less than 5 drinks at any one time	126 (58)	170 (66)
Have never smoked***	179 (83)	81 (31)
Regularly get 7–8 hours sleep**	162 (75)	158 (61)
Take regular physical leisure activity*	106 (49)	103 (40)
Are within approved range of weight for height (self-reports)	131 (61)	139 (54)

*$P<0.05$; **$P<0.01$; ***$P<0.001$.

Preventive health behaviour

Attenders were significantly more likely to report attending other types of routine check which involved taking some initiative, for example going to the dentist or asking for a cervical smear (Table 4). More of the attenders than non-attenders reported conforming to officially approved health prevention measures, significantly so in the case of not smoking, taking seven to eight hours regular sleep and taking regular physical activity.

Past utilization of services

There was no evidence to support the hypothesis that non-attenders were disadvantaged because of their distance from the surgery whether all attenders and non-attenders were considered or just the two samples interviewed. Over half of all attenders ($n=549$) and the non-attenders interviewed ($n=259$) lived within a one-mile radius of the surgery. According to their last address in the records the non-attenders we were unable to interview were significantly more likely to live within three miles than the other two groups ($P<0.001$). The two samples interviewed also did not differ greatly in the length of time they had been registered with the practice or the number of contacts (surgery visits or visits to the respondent's home) recorded within the last 12 months. However, non-attenders were significantly less likely to have attended the surgery during the last year; 28% had not been for over 12 months compared with 18% of the attenders ($\chi^2 = 9.67$; df = 1; $P<0.01$).

Influence of level of education

Because the sample of attenders were significantly better educated than the total group of attenders and education is significantly associated with many of the other sociodemographic factors used in the analysis, Table 5 presents those differences between attenders and non-attenders which still remained significant while controlling for level of education. The measures of perceived support and reported patterns of health behaviour remained important but many of the other factors apparently became less relevant as the level of education increased.

Discussion

The fact that non-attenders were more likely to be less educated and of lower social status parallels much previous research on preventive behaviour and the uptake of screening invitations in particular.[4,10,11] The differences in the number of dependants also accords with generally accepted wisdom.

The findings on social support and church attendance require more attention. Previous research has demonstrated significant, though not always consistent, relationships between features of the social network surrounding the individual and the likelihood of engaging in preventive health behaviours;[12-15] here it is striking that non-attendance is associated with greater perceived support from family and friends. Active religious commitment as opposed to nominal denominational allegiance has been shown

Table 5. Significance of differences between attenders and non-attenders, controlling for differences in education.

	Significance of differences between attenders and non-attenders		
	Left school as soon as possible/no further education ($n=144$, $N=82$)	Stayed at school or had some further education ($n=69$, $N=73$)	Stayed at school and had further education ($n=46$, $N=61$)
Sociodemographic variables			
Number of children under 5 years	*	NS	NS
Number of total dependants	**	**	NS
Number of friends perceived as 'close'	***	**	***
Number of relatives perceived as 'close'	***	**	**
Total monthly contact with friends and relatives	***	***	NS
Social class of head of household	***	NS	*
Attitudes and beliefs			
Agree that 'Health is important to me'	*	*	NS
Belief in personal control	**	NS	NS
Belief in powerful others	*	NS	NS
Belief in chance	**	NS	NS
Belief that GPs should be interested in fitness	NS	NS	*
Behaviour			
Have had a dental check within last year	*	**	**
Have taken initiative to get a cervical smear (women only)	***	***	**
Have never smoked	***	***	***
Get 7–8 hours sleep	NS	NS	**

*$P<0.05$, **$P<0.01$, ***$P<0.001$. n = number of non-attenders, N = number of attenders.

to be associated with fewer symptoms of poor mental and physical health,[16-18] and, among working class women, it has also been shown to be significantly associated with greater awareness of the importance of lifestyle choices for future health status.[19]

We have focused on understanding the complex of factors associated with non-attendance but one might equally well rephrase the original question to ask what sort of person comes when something as unfamiliar and unexpected as an invitation to attend for a general health check arrives at their home without prior warning? It is clear from this study that it is the better educated, who might be expected to be more in sympathy with current officially-approved ideas about health, lifestyle and behaviour. It is also those who have had more recent contact with their general practitioner and appear to accept that he or she has a wider preventive role and should be concerned with patients' lifestyle. The study also shows that they are the people who place a higher value on their health and reject the notion that outside forces control their health; who have fewer ties and commitments; who already carry out more approved health practices; and who are more likely to attend for other preventive procedures and check-ups.

In other words, those accepting an invitation to a health check are likely to be people already known to the doctor, who are well motivated, and not necessarily the people who are at high risk for diseases which merit screening or which are associated with inappropriate lifestyle choices. This finding is not new and reflects some of the unease already noticeable in general practice circles about the usefulness of cohort screening.[20-23]

In view of the fact that over 65% of people see their general practitioner at least once every year[24] and 90% every three years[25] our conclusion from this study must be that offering cohorts of patients additional screening services is unlikely to be efficient or effective because high risk people are known to attend their practitioners more than low risk people[23,26-29] yet those at low risk are more inclined to respond to a specific invitation for screening.

Primary care teams which can organize themselves to offer opportunistic screening and health promotion in an appropriate proportion of spontaneous patient contacts will be overcoming many of the problems we identified in our non-attenders, particularly in those circumstances where uptake of the screening offer is difficult. This approach does, however, have many implications for current practices and attitudes in some primary care teams where the ideal and the reality are often widely divergent. Indeed the onus is now on primary care teams to demonstrate that they are not wasting time and resources on low risk groups who respond to invitations for screening while there is neglect of those high risk groups who are already attending family doctors for acute problems yet fail to respond to invitations for additional screening appointments. A computer or card recall system can clearly help to generate efficiency of inefficiency depending on how it is utilized. The importance of keeping a broad perspective in a high proportion of patient contacts has never been greater.[20]

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