Case against targeting long term non-attenders in general practice for a health check

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SUMMARY. A study was undertaken to describe the consequences of implementing that part of the 1990 contract for general practitioners which requires them to offer health checks to all patients aged 16-74 years not seen within the previous three years. A random sample of 679 patients who had not attended for three years and 379 patients who had attended in this period were identified from 30 practice lists (including eight inner city practices) in five family health services authority areas. All patients were sent an invitation to a health check by their own practice and an attempt was made by the research team to conduct a home interview. The results showed that a considerable proportion of nonattenders were not in a position to take advantage of such an invitation; 17% of those at inner city practices were known to have received the invitation, 68% in practices elsewhere. Interviewed non-attenders (76% of those known to have received their invitation) had sociodemographic characteristics similar to the comparison group of interviewed attenders, although women aged 55-74 years were over-represented. At interview, non-attenders reported relatively less use of accident and emergency services and preventive health care and scored significantly better on all six dimensions of the perceived health status measure. Overall, 3% of all identified non-attenders in the inner city practices and 13% elsewhere accepted the invitation to a health check. Low levels of morbidity were found at health checks for those who had and who had not attended their general practitioners in the previous three years. Targeting all identified three-year non-attenders aged 16-74 years for an invitation to a health check was found to be an inefficient way of promoting good health or identifying patients at risk.

Keywords: periodic health examination; infrequent attenders; appointment non-attendance; patient compliance.

Introduction

HE appropriateness of screening in general practice as a I means of preventive health care was endorsed by the government white paper Promoting better health. 1 It was encouraged for certain target groups, such as children and elderly people and for target conditions, such as coronary heart disease. It was also

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applied to long term non-attenders or non-utilizers of general practitioner services, an idea later incorporated as one of the terms of service in the 1990 contract for general practitioners, by which a consultation for health advice was to be offered to adults in the 16-74 years age group who had not been seen by their general practitioner in the previous three years.²

This policy makes two important assumptions: first, that these non-attenders would take advantage of such health checks and secondly, that those who did take it up would benefit. These assumptions need to be tested for the resource implications of implementing the policy to be understood and if general practitioners are to plan the facilities to deal with the estimated numbers of patients likely to be involved. Finally, an assessment of the outcome of such health checks is required in order to gauge the likely benefit from targeting such non-attenders.

A study was therefore undertaken to examine the characteristics patients who had not seen their general practitioner in the previous three years. The outcome of such health checks was also investigated.

Method

The study was conducted between May 1990 and March 1991. Thirty two practices, selected at random from five family health services authorities were included. There were two urban family health services authorities, Sheffield and Barnsley (12 practices); two mainly rural, Derbyshire and Lincolnshire (12 practices); and one inner city family health services authority, Manchester (eight practices).

Patient selection

Starting at a randomly-chosen record, a series of 200 consecutive records for patients aged 16-74 years was drawn in each practice and used to estimate the rate of three-year non-attendance (no record of a contact with a practice doctor in the previous three years). Up to 800 records were searched beyond this point where necessary in order to identify a sample of approximately 40 patients in each of the inner city practices whose notes showed no evidence of attendance in the past three years and 18 similar patients in each of the other practices ('non-attenders') for invitation to a health check. Using random numbers, approximately 12 patients in the 16-74 years age group for whom there was a record of a general practitioner consultation in the previous three years were also selected from the sampled records in each practice for invitation to a health check ('attender controls'). Sampled patients found not to be listed on available family health services authority registers were excluded. General practitioners were given the opportunity to review the sample and exclude patients for personal or medical reasons.

At least three attempts were made to contact both the attending and non-attending patients at the address held by the practice, and whether the patients were contactable via this address was recorded. Forwarding addresses were followed up if they were within the normal boundaries of the practice population.

Interview

All patients who were contacted were invited to take part in a home interview. The interview took approximately 20 minutes and comprised three parts. The first part was an interview schedule relating to sociodemographic details, health service use, attitudes to health and health checks, and health related behaviour. The second part was a self-completed perceived health status profile, devised from the medical outcomes survey instrument, short form 20 (MOSI SF-20).^{3,4} This instrument covers six dimensions of health: physical function, social function, role function, mental health, health perceptions and pain. The wording of the American instrument was amended in line with its previous use in the United Kingdom, in order to assist with comprehension of some of the questions.⁵ (The third part was a self-completed schedule of questions relating to the concept of health locus of control, but this part will not be reported here.⁶)

To allow time for the home interview to take place prior to surgery attendance, invitations to a health check were sent out by each practice with an appointment time (or an indiction that an appointment could be made) for approximately two weeks ahead.

Health checks

An additional sample of non-attenders was drawn from each practice using the same method as for the other non-attenders. These 679 non-attender controls were each sent an invitation to a health check but were not interviewed, to ensure that the interview was not influencing the patients' decision to accept the invitation to a health check, which would affect the response rates observed.

The precise content of the health check itself was decided by each practice, as was the format for appointments. It was anticipated however, that health checks would include measurements of height and weight (for body mass index), and blood pressure, simple urine analysis, and enquire about lifestyle (smoking, alcohol, exercise and diet). A data collection form was designed to record these aspects as well as any outcomes of the consultation with respect to actions taken immediately, or referrals for future action, either within the practice or to a specialist in the National Health Service. These forms were left in the notes of all patients to whom invitations were sent, and completed by the practice nurse or doctor at the time of the health check. Completed and blank forms were collected approximately six weeks after the invitations were sent out.

In order to describe the likely effect of the new requirement to send invitations to a health check to all patients not seen for three or more years, the study was designed to interfere as little as possible with the manner in which individual practices chose to implement the policy. The proportion of patients for whom health check data were received was therefore entirely dependent on practice behaviour and patient response. The results are presented using a pragmatic approach in terms of the original 'intention to treat' (that is, intention to screen in this study). There is no reason to believe that the non-attender patients for whom

health check data are available are not representative of those patients who would meet both the criteria for non-attenders, and who would come forward for a health check if invited.

Analysis

Differences in proportions of attenders compared with non-attenders for various characteristics were tested using chi square. Differences in scores for perceived health status between groups were tested using analysis of variance.

Results

Some general practitioners were reluctant to take on any additional commitments at a time of upheaval owing to the introduction of the new contract. In total, 49 practices were approached in order to yield 32 who agreed to take part. One of these 32 withdrew from the study at a stage too late to be replaced, and another had already started inviting patients for a health check in a way which made the method used in this study unworkable. One of these practices was in Lincolnshire family health services authority and the other in Manchester. This left 30 cooperating practices.

In the initial sample of 6000 records (200 in each practice), 9.7% of all patients with a known date of last attendance had no record of a general practitioner consultation in the previous three years. The median proportion of patients in the 30 practices who had not seen their general practitioner in the previous three years, including all those where the date of last attendance was not known, was 10% (interquartile range 8–15%).

Eight of the 30 practices (seven in inner city Manchester and one in central Sheffield) received deprivation payments for 50% or more of their patients. Among these eight 'inner city' practices, the median proportion of three-year non-attenders among 16–74 year olds was 23% compared with 9% for the other 22 practices. Their different pattern of attendance suggested that data from these 'inner city' practices should be analysed and reported separately, where appropriate.

Availability of three year non-attenders and attenders

A total of 716 non-attenders and 379 attender controls were identified. However, 37 non-attenders were found not be registered with a family health services authority and were therefore excluded, leaving 679. Of the 679 apparent non-attenders, only 310 proved to be contactable while of the 379 attenders, 320 proved contactable (Table 1).

The majority of non-attenders registered with practices in inner city areas were not contactable (Table 2). The contactability of non-attenders was directly related to the time elapsing since

Table 1. Outcome of efforts to contact and invite for interview patients who had, and who had not, attended their doctor in the past three years, and those attending a health check.

	No. of patients		
	Non-attenders (attending health check) ($n = 679$)	Attenders (attending health check) (n = 379)	
Not contactable	- M H		
At or via practice-held address	295 (1)	32 (3)	
No information or patient left practice area	74 (4)	27 (4)	
Contactable	310	320	
Not contacted at GP's request	24	20	
Approached for interview	286	300	
Unavailable or refused interview	70 (11)	52 (7)	
Interviewed	216	248 (98)	
Reported seeing GP in last 12 months at interview	19 (5)	_	
Interviewed and would be eligible for health check	197 (42)	_	

n = number of patients identified from practice records and on family health services authority register.

Table 2. Outcome of efforts to contact and invite for interview patients who had not attended their general practitioner in the past three years, by practice location.

	% of patients	
	Inner city (n = 294)	Elsewhere (<i>n</i> = 385)
Known to have received		
invitation and/or to be available for health check	16.7	67.8
Not known at or via	10.7	07.0
practice held address	74.1	20.0
No information available	4.4	8.3
Known to have moved outside practice area	4.8	3.9

n = number of patients in group.

their last recorded consultation. For example, 118 out of 199 patients who had not seen their doctor in the last eight years (59.3%) were not able to be contacted, compared with 54 out of 199 patients who had not seen their doctor in the last three years (27.1%). Patients whose date of last consultation was not known owing to missing or incomplete notes were the least likely to be contactable (60 out of 80 patients, 75.0%). There were more men non-attenders than women (Table 3). The age distribution of non-attenders differed between the sexes; women non-attenders who could be contacted were found to be concentrated in the older age groups (55 years and over).

Characteristics of contactable non-attenders and attenders Interviews were conducted with 75.5% of the 286 contactable non-attenders approached and with 82.7% of the 300 contactable attenders (Table 1). At interview, 19 of the 216 non-attenders reported having consulted their doctor in the previous 12 months so were excluded from the results of those interviewed. Among the remaining 197, 26.9% reported some other form of contact with the practice in the previous 12 months, commonly to escort a relative or to pick up a repeat prescription for their own use, without seeing a doctor.

The median age of the 122 men attenders interviewed was 43 years, similar to that of the 131 men non-attenders (41 years) and the 126 women attenders (40 years). In contrast, the median age of the 66 women non-attenders interviewed was 60 years. There was little difference between the attenders and non-attenders interviewed regarding socioeconomic characteristics such as employment, housing tenure and education. Alcohol consump-

Table 3. Age and sex distribution of total number of patients who had not seen their doctor for three years, and of those who could be contacted.

		% of non-attenders*			
Age (years)	w	Women		Men	
	Total (n = 207)	Contactable (n = 110)	Total (n = 452)	Contactable (n = 197)	
16–24	15.0	10.9	17.7	17.3	
25-34	17.9	10.9	27.4	17.8	
35-44	14.5	17.3	19.5	19.8	
4554	14.0	10.0	15.5	19.8	
55-64	15.9	20.9	10.6	12.7	
65–74	22.7	29.1	9.3	12.7	

n = total number of patients in group. aNo recorded age for 20 patients.

tion 'on most days' was reported by 17.3% of 197 non-attenders and 10.5% of 248 attenders. Similar proportions of each group reported taking regular exercise (22.8% and 24.2%, respectively). Similar proportions used tobacco products (35.0% and 35.5%, respectively).

Compared with attenders, non-attenders reported less use of accident and emergency services and community pharmacists at interview (Table 4). They also reported significantly less use of preventive health care services. Women who had not attended the general practitioner reported significantly lower levels of uptake for cervical smears and mammograms. The non-attenders who reported having had a health check were those who had a health check at work, and this had therefore not been reported in the general practitioners' notes.

With respect to perceived health status, the non-attenders interviewed had significantly higher scores, denoting better perceived health, on each of the six dimensions (differences in mean scores, adjusted for sex using analysis of variance, P<0.01 for each dimension) (Table 5). These differences applied to both men and women. The scores on the pain health dimension were comparatively low for all groups of patients. The 197 non-attenders and 248 attenders differed in their health beliefs, the former being significantly less likely to agree with the statement 'my health is important to me' (42.6% versus 60.9%, $\chi^2 = 13.95$, 1 df, P<0.001). On attitudes to health checks themselves, 26.4% of non-attenders said they were 'not at all interested' in health checks, compared with 10.9% of attenders. Of attenders 15.7% agreed with the statement that 'general health screening is a waste of time unless you have symptoms' compared with 35.0% of non-attenders ($\chi^2 = 21.21$, 1 df, P < 0.001).

Uptake and outcome of health checks

Sixty three (8.8%) of the original sample of 716 apparent nonattenders accepted an invitation to a health check. A similar proportion (53, 7.8%) of the sample of 679 non-attender controls, from whom no interview had been sought, accepted. The two samples were merged for analysis of health check data, giving a total of 116 acceptances. Among the sample of 379 attenders 112 (29.6%) accepted an invitation to a health check (37.3% of those known to be contactable who were approached for an interview). Nine of the 294 non-attenders identified from inner city practices attended for a health check (3.1%) compared with 12.7% of the 385 non-attenders from practices elsewhere. Among the 49 nonattenders in inner city practices known to be contactable who were sent an invitation, 12.2% attended for a health check com-

Table 4. Reported use of services and uptake of preventive health care interventions among attenders and non-attenders.

	% of patients		
	Attenders	Non-attenders	
All patients (n = 248/197)			
Visited casualty department ^a	16.9	11.2	
Consulted pharmacista	14.1	10.2	
Visited dentist ^a	47.6	34.5 **	
Had influenza immunizationa	6.5	1.0 *	
Had general health checkb	23.0	12.7 **	
Had tetanus immunization ^c	54.0	40.6 **	
Women (n = 126/66)			
Had mammogram ^b	15.1	3.0 *	
Had cervical smeard	75.4	17.5 e**	

n= number of attenders/non-attenders. In last year. In last 3 years. In last 10 years. In last 5 years. Excludes three women who had had a hysterectomy. Chi square test: *P<0.05; **P<0.01.

Table 5. Mean perceived health status scores for attenders and non-attenders, by sex.

Health dimension	Mean score (standard deviation)			
	Men		Women	
	Attenders (n = 122)	Non-attenders (n = 131)	Attenders (n = 126)	Non-attenders (n = 66)
Physical function	89 (21.6)	97 (9.1)	81 (26.4)	90 (16.1)
Role function	88 (30.3)	98 (12.5)	82 (36.1)	95 (21.4)
Social function	94 (18.7)	97 (13.9)	90 (25.2)	99 (9.7)
Mental health	80 (16.9)	86 (11.7)	74 (18.1)	84 (13.9)
Health perceptions	72 (22.7)	85 (16.9)	70 (24.2)	82 (16.5)
Pain	66 (34.4)	86 (23.4)	54 (33.6)	78 (31.0)

n = number of patients in group. ^aMaximum score 100 = best health.

pared with 19.8% of the 237 in practices elsewhere. Five nonattenders who were not contactable attended for a health check (Table 1).

Data from the interviews showed that non-attenders who chose to take up the invitation had similar mean scores on all six dimensions of the perceived health status profile to those who did not come for a health check. Those who reported a health problem at interview were slightly more likely to accept (25.0% of 48) than those who did not (20.1% of 149).

Clinical findings, actions taken and advice given at the health check were similar for both groups of patients, with the exception of an increased likelihood of raised blood pressure among non-attenders (Table 6). Similar proportions of non-attenders and attenders were advised to return to the practice for a variety of reasons. All except one of the 11 non-attender patients whose diastolic blood pressure was originally at or above 100 mmHg were followed up periodically, and two of these cases were referred for specialist investigation or advice. Two other patients were also referred outside the practice for special investigations. Five of the 11 women attenders who did not report a hysterectomy or a cervical smear in the past five years had a cervical smear at the health check, compared with three of the 12 similarly eligible women non-attenders.

The outcome of the health checks for the 116 general practitioner non-attenders suggests that those patients who came forward for a health check as a result of an invitation sent to all identified three-year non-attenders did not have health needs which differed greatly from those of the practice population as a whole.

Discussion

Since health checks were conceived, the emphasis of inviting non-attenders appears to have shifted from reassurance that non-utilizers are a healthy group¹ to being a means of identifying risk factors in a population with asymptomatic morbidity.⁷ Either way, the assumptions are based on a population about which little is known, and the first issue which needs to be examined is whether such non-attenders form a homogeneous group which can be identified and contacted in order to implement an effective intervention.

Based on nationally representative data, it has been shown that the estimate that 90% of patients for whom a doctor holds notes consult within a three year period is correct; 10% do not consult.⁸

This study has shown that three year non-attendance was associated with unavailability, owing mainly to change of address with no forwarding information, an effect most marked in inner city areas where more than three quarters of those identified as non-attenders were not contactable. Such patients will not receive their invitation to a health check. The need for more

Table 6. Findings, actions taken and reasons given for recommending return visit to practice at health check among attenders and non-attenders.

	% of patients		
	Attenders (n = 112)	Non-attenders (n = 116)	
Findings			
Body mass index >30	12.5	<i>7.8</i>	
Proteinuria	<i>3.6</i>	0.9	
Glycosuria	0.9	<i>3.5</i>	
Diastolic BP 95-99 mmHg	4.5	4.3	
Diastolic BP 100+ mmHg	3.6	9.5	
Actions taken			
Tetanus immunization	23.2	30.2	
Influenza immunization	1.8	2.6	
Lifestyle advice	59.8	62.1	
Return visit recommended			
Tetanus immunization	<i>8.9</i>	23.3	
Influenza immunization	<i>6.3</i>	1.7	
Cervical smear	2.7	4.3	
BP check	10.7	15.5	
Cholesterol measurement	5.4	3.5	
To see GP for other reason	6.3	6.0	
Other ^a	11.6	8.6	

n= number of patients in group. BP = blood pressure. *For example, ear syringing, smoking advice, weight check.

accurate practice list maintenance since the introduction of the new contract for general practitioners may have resulted in the elimination of such patients from the practice list. This would reduce the clerical task involved, but would not benefit the patients themselves if it is their mobility which both makes them low utilizers and uncontactable. In contrast, the requirement under the new contract to offer a health check to all newly registered patients may be of benefit to this group.

Other non-attenders were contactable, but did not necessarily choose to accept the invitation for a health check. Men in this group were more evenly distributed across the age ranges compared with the women who were predominantly in the 55–74 years age group. In socioeconomic terms, non-attenders did not differ from patients who did attend, and in health risk factor terms they also resembled the attenders. One effect of their infrequent attendance at general practice was that, within this relatively small group there was scope for increasing substantially the numbers receiving cervical smears, mammography and tetanus immunization within the recommended time periods.

The culture of health checks for asymptomatic patients is growing among the population in general, but there is still a strongly held set of beliefs, evident among the non-attenders interviewed, that it is only appropriate to go to the doctor if one is ill. The use of a perceived health status measure showed that in all dimensions of health, ranging from general health perceptions to mental health and pain, non-attenders scored significantly higher (that is, they reported better health) than their attender counterparts. These higher levels of perceived health, coupled with restrictive beliefs regarding the appropriateness of doctor contact, suggest that the population of non-attenders is likely to contain a high proportion of people who will not respond to an invitation to a general health check. As a percentage of all identified apparent non-attenders, the response rate to the invitations of just 3% in inner city practices and 13% elsewhere is similar to the uptake reported in two individual practices. 9,10

The costs and benefits of an intervention such as this may accrue to the practice, the individual patient, or to secondary referral services. While records have to be searched manually, as was the case in most practices in this study, there is a clerical time cost. This was estimated in a recent study of a single practice in Scotland at 0.02 hours per patient11 and in this present study between 12 and 16 hours per 2000 patients. However, a task on this scale should need to be done only once since, in future, computerized records or time-coded manual records would make it easier to identify those requiring invitations. The impact of these general health checks on clinical workload is likely to remain small, owing to the low rate of uptake. There was no evidence of a 'tidal wave of inappropriate demand for screening services' set to 'drown' the family doctor service.8

Certain benefits may arise from practices offering health checks: some procedures undertaken, such as tetanus immunization, attract fees. At the time of the study many practices had yet to organize their health promotion clinics, remunerated separately under the new contract. There is clearly scope for channelling non-attender patents who require follow up into such clinics.

For many non-attending patients, the costs and benefits of the exercise are non-existent since they will not receive their invitations. For those who do, the perception of likely benefit appears to be low. The level and type of intervention received by nonattenders who came for health checks was similar to that received by the comparison group of attenders. Nearly all the morbidity uncovered was managed within the practice concerned, suggesting that these health checks are unlikely to put undue pressure on secondary services.

The rationale behind most health promotion interventions advocated is usually to be found either in the composition of a target group whose health needs are perceived to be welldefined, for example elderly people or children, or in the content of the intervention itself, for example screening for cervical cancer. In the first instance the target group defines the content of the intervention, and in the second, the intervention defines the target group. The general nature of health checks advised for infrequent attenders means that, by definition they cannot be content-led interventions, and this study has shown that there is little evidence to suggest that it is possible to identify health needs specific to those non-attenders who would receive and act on an invitation to a health check. The targeting of this group of patients by invitation therefore appears to be an inefficient way of promoting good health or identifying patients at risk. Given the continuing uncertainty about the benefits of general health checks^{7,12} the study findings give considerable support to the recent decision to dispense with the requirement for practices to identify and invite for a health check people aged 16-74 years who have not been seen by a doctor for the last three years. 13

References

- Secretaries of State for Social Services, Wales, Northern Ireland and Scotland. Promoting better health: the government's programme for improving primary health care (Cm 249). London: HMSO, 1987. Department of Health. Terms of service for doctors in general
- practice. London: HMSO, 1989: paragraph 13c.
 Stewart AL, Hays RD, Ware, JE. The MOS short-form general health survey. Reliability and validity in a patient population. Med Care 1988; **26:** 724-735
- Anderson J, Sullivan F, Usherwood TP. The medical outcomes survey instrument (MOSI) — use of a new health status measure in Britain. Fam Pract 1990; 7: 205-218.
- Brazier JB, Harper R, Jones N, et al. Validating the SF-36 health survey questionnaire: a new outcome measure for primary care. BMJ 1992; **305:** 160-164.
- Wallston KA, Wallston BS, Devellis R. Development of the multidimensional health locus of control scales. Health Educ Monographs 1978; 6: 160-170.
- Noakes J. Patients not seen in three years: will invitations to health checks be of benefit? Br J Gen Pract 1991; 41: 335-338.
- Pill R, Stott N. Invitation to attend a health check in a general practice setting: the views of a cohort of non-attenders. J R Coll Gen Pract 1988; 38: 57-60.
- McCartney P, Cochrane G. General practice experience of patient recall. *BMJ* 1991; **302:** 116-117.
- Meldrum D. Three yearly health checks [letter]. BMJ 1991; 302:
- Thompson NF. Inviting infrequent attenders to attend for a health check: costs and benefits. Br J Gen Pract 1990; 40: 16-18. Scott T, Maynard A. Will the new GP contract lead to cost effective medical practice? Discussion paper 82. York: University of York, Centre for Health Economics, 1991.

 NHS Management Executive. GP contract health promotion
- package: guidance on implementation. FHSL (93) 3. London: Department of Health, 1993.

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