

# Influences on prescribing in non-fundholding general practices

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## SUMMARY

**Background.** *The experience from general practice fundholding suggests that financial incentives may influence prescribing; guidelines and hospital prescribing are two other suggested influences.*

**Aim.** *A study was undertaken to establish general practitioners' attitudes to a financial prescribing incentive scheme, the presence and use of guidelines, and the influence of prescribing initiated within secondary care.*

**Method.** *A postal questionnaire survey of non-fundholding general practices in the former Northern Region was conducted.*

**Results.** *Practices' thinking and subsequent decisions about the incentive prescribing scheme were most often influenced by discussions within the practice (45%). Those practices that achieved their savings under the incentive scheme were less likely than those not achieving savings to feel that the target was not achievable, the time scale was unacceptable, and that the philosophy behind the scheme was unacceptable. Forty-five per cent of practices received advice from neither a medical nor a pharmaceutical adviser; 27% of practices received advice from both, 12% from a medical adviser only and 16% from a pharmaceutical adviser only. Of the practices that tried to make their target savings, 91% intended to increase generic prescribing; fewer than one-third of practices mentioned any other measure. Prescribing guidelines were reported by a minority of practices, although reported rates of use were high when these were present. Clinical guidelines for three conditions, asthma, diabetes and hypertension, were present in more than 50% of practices; 25% of practices had no clinical guidelines. Hospital prescribing was reported as 'always' or 'usually' influencing prescribing for diabetes by 57% of respondents, ischaemic heart disease by 55%, peptic ulceration by 49%, asthma by 42% and hypertension by 39%.*

**Conclusions.** *General practitioner prescribing is influenced by a complex web of factors, with no single factor pre-eminent. To understand this area further, there is a need to take each of these areas and ascertain the match between doctors' perceptions and actual practice.*

**Keywords:** *prescribing; financial incentive; survey; influences on prescribing.*

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## Introduction

ONE feature of the financial framework for UK primary care prescribing introduced in 1991<sup>1</sup> has been that, in practices that elected to be fundholders, growth in prescribing expenditure has been less than that in practices that remained non-fundholders.<sup>2</sup> One possible reason for this lower rate of rise in prescribing costs is the ability of fundholding practices to retain savings, an option not open to non-fundholders. The effects of fundholding on prescribing have been examined in a limited way;<sup>2,3</sup> these studies suggest that the financial incentives involved in fundholding may be one way of modifying prescribing and controlling expenditure on prescribed drugs.

In early June 1993, the former Northern Regional Health Authority (NRHA) introduced an incentive scheme that offered non-fundholding practices the possibility of a payment to be spent on approved practice developments. In return for a practice-specific percentage saving in prescribing costs, practices were offered minimum incentive payments of £1000 for practices with fewer than 4000 patients and £2000 for larger practices; the maximum payment was £2500 per principal. Practices making savings were eligible for the payment whether or not they had specifically tried to qualify under the scheme. Discretionary payments were made available to practices that failed to achieve their target but whose prescribing costs were below average and who demonstrated evidence of rational prescribing as judged against a set of quality criteria.<sup>4</sup> As part of the scheme, the NRHA produced, in consultation with their family health services authority (FHSA) medical and pharmaceutical advisers, an information pack that was sent to all general practitioners (GPs). Various ways in which savings could be made were suggested, and advice was offered on generic prescribing and therapeutic substitutions in specific areas.

An incentive scheme clearly represented one possible influence on primary care prescribing patterns, although it is unlikely ever to be acting in isolation from other influences. Hospital-initiated prescribing, particularly of high unit cost drugs subsequently continued in primary care, can also influence primary care prescribing. Similarly, general practice prescribing patterns are already subject to the influence of guidelines in the form of prescribing policies or disease management guidelines.

The aim of this study was to establish GPs' attitudes to the prescribing incentive scheme, and to document the presence and use of guidelines and the influence of hospital prescribing.

## Method

A postal questionnaire, with a reply-paid envelope, was sent to all non-fundholding practices in the former Northern Region. The covering letter was addressed to the first-named principal on the FHSA list; it was suggested that the questionnaire be completed by the individual felt to be the most appropriate by the practice. Reminder questionnaires were sent to non-responders at 3 and 6 weeks.

The questionnaire covered a number of areas: the influences on a practice's decision on whether or not to try and achieve its target saving under the incentive prescribing scheme (this included the influence of medical and pharmaceutical advisers); the presence and use of guidelines within the practice; and the perceived influence of hospital prescribing.

Analysis was with the statistical package SPSSx.<sup>5</sup> The chi-squared test was used to test the significance of associations.

## Results

Out of 448 questionnaires, posted 348 (78%) were returned. Twenty-five were not usable, leaving 323, a usable response rate of 72%. Item non-response varied between questions.

Ninety-six per cent of practices were aware of the incentive scheme. A total of 167 (53% of 314) respondents reported that they tried to achieve their target savings; 35% of these succeeded compared with 10% of practices that reported not attempting to do this ( $\chi^2$  26.02,  $P < 0.001$ ).

The respondents were asked what had influenced their practice's thinking and subsequent decision on whether or not to try to achieve their target savings (Table 1). Table 2 shows those factors that differed statistically significantly between practices that achieved their target savings and those that did not.

Forty per cent of 315 practices reported receiving advice about the incentive scheme from a medical adviser and 43% of 313 practices received advice from a pharmaceutical adviser; 45% of practices received advice from neither. Twenty-seven per cent of practices received advice from both a medical adviser and a pharmaceutical adviser, 12% from a medical adviser only and 16% from a pharmaceutical adviser only. The proportion of practices receiving advice from medical advisers or pharmaceutical advisers differed significantly between the nine FHSAs. The proportion receiving advice from a medical adviser ranged from 12 to 86% ( $\chi^2$  30.78,  $P < 0.001$ ). For pharmaceutical advisers, the range was from 23 to 74% ( $\chi^2$  18.85,  $P < 0.05$ ). Eighty-six per cent of the 124 practices advised by medical advisers were visited and 34% were provided with written materials; 81% of the 135 practices advised by pharmaceutical advisers were visited and 30% provided were with written materials. Sixty-seven per cent of practices advised by a medical adviser reported the advice they received as helpful or very helpful, and only 4% reported the advice as unhelpful or very unhelpful. Corresponding figures for the pharmaceutical advisers were 71 and 5%. Sixty per cent of the 124 practices that received advice

from the medical adviser felt that it influenced their decision on whether or not to try and achieve their target. The corresponding figure for the pharmaceutical advisers was 66% of 135 practices.

The areas of prescribing in which practices that tried to achieve their target saving attempted to make savings are shown in Table 3. These were not significantly different between practices that did or did not achieve their target savings.

Questions about the presence and use of practice guidelines were asked both for prescribing and for the broader management of clinical conditions. Ninety-eight practices (31%) reported that they had a written or computerized prescribing policy or formulary. Categorized by British National Formulary chapters, only one was reported by over 90% of these 98 practices (Cardiovascular), five were reported by 80–90% (Gastrointestinal, Respiratory Infections, Musculoskeletal and Joint Disease, Central Nervous System), and five by 60–80% (Obstetrics, Gynaecology and Urinary-tract Disorders, Endocrine, Skin, Eye, and Ear, Nose and Oropharynx).

Out of the 98 practices that had prescribing policies or practice formularies, 85% reported that the practice always or usually used it. Specific questions covered guidelines for three areas of prescribing: benzodiazepine prescribing, antibiotic prescribing and non-steroidal anti-inflammatory drug prescribing. Although a minority of 242 respondents reported having guidelines in these areas (12, 10 and 10%, respectively), 87, 89 and 89% of these practices respectively reported always or usually using them.

When clinical management protocols/guidelines in specified areas were considered (Table 4), the only significant difference was that practices that achieved their target were more likely to have guidelines for the management of ischaemic heart disease than practices that did not achieve (56 versus 38%,  $\chi^2$  5.1,  $P < 0.05$ ). Guidelines for only three areas, asthma, diabetes and hypertension, were present in over 50% of practices, and 25% of practices reported having no guidelines at all. As with prescribing guidelines, reported frequency of use was high and was not significantly different between practices that did or did not achieve.

Practices were asked to indicate, for 13 specified clinical areas, how often they felt primary care prescribing was influenced by hospital prescribing. In only five areas did 20% or fewer respondents feel that hospitals had an important ('always' or 'usually') influence on prescribing (Table 5).

**Table 1.** Percentage of practices endorsing a factor as having influenced the practice's thinking and subsequent decision (323 practices).

Factor	Percentage
Informal discussions with practice colleagues	45
Formal discussions at a practice meeting	35
Local professional opinion	17
Financial incentive was not sufficient	16
National professional opinion	12
Informal discussions with colleagues outside the practice	11
Disagreement within the practice about the scheme	4

**Table 2.** Percentage of practices endorsing a factor as having influenced the practice's thinking and subsequent decision: factors reported as differentially influencing those practices that achieved their target saving and those that did not.

Factor	Per cent of those practices that achieved ( $n = 75$ )	Per cent of those practices that did not achieve ( $n = 248$ )	$\chi^2$	$P$ -value
Target for 1993–1994 not achievable	4	44	39.35	<0.001
Scheme more trouble than it was worth	9	28	9.76	<0.01
Time-scale was unacceptable	5	21	8.90	<0.01
Philosophy behind scheme unacceptable	11	26	6.61	<0.01
Size of payment	57	43	4.96	<0.05

## Discussion

This study has surveyed GP attitudes towards a financial incentive scheme aimed at influencing prescribing and has established the extent and influence of two other factors that could influence all GP prescribing: guidelines and hospital prescribing.

Practices' thinking about the incentive scheme was not influenced by any one factor above all others; although discussions within the practice were mentioned most frequently, and up to

**Table 3.** Strategies used by the 167 practices that tried to achieve their target savings.

Area	Percentage of practices
Increasing generic prescribing	91
Number of days for which medication issued	31
Specific therapeutic substitutions as in NRHA pack	26
Greater use of over-the-counter medicines	25

**Table 4.** Percentage of practices having guidelines for the management of specified conditions and the frequency of use by those practices that had them (242 respondents).

Condition/area	Percentage	Frequency of use (%)			
		Always	Usually	Sometimes	Rarely or never
Asthma	89	27	65	8	0
Diabetes	87	33	59	7	1
Hypertension	72	25	63	11	1
Ischaemic heart disease	43	31	61	7	2
Pregnancy	25	38	55	3	4
Contraception	24	34	60	4	2
Thyroid disease	20	24	67	7	2
Epilepsy	14	18	66	13	3
Depression	8	26	48	17	8

**Table 5.** Frequency of influence of hospital prescribing.

Therapeutic area (number of respondents)	Frequency of influence on practice prescribing (%)			
	Always	Usually	Sometimes	Rarely or never
Schizophrenia (305)	30	51	16	3
Diabetes (306)	16	41	38	5
Ischaemic heart disease (307)	10	45	43	3
Peptic ulceration (305)	6	43	45	6
Asthma (307)	7	35	42	16
Hypertension (303)	7	32	49	12
Hypothyroidism (295)	11	24	23	42
Depression (304)	6	28	53	14
Acne (297)	2	18	43	37
Acute infections (297)	3	15	33	49
Osteoarthritis (299)	2	13	42	43
Constipation (289)	1	13	36	51
Contraception (295)	1	12	23	64

three times as frequently as discussions or opinions from outside the practice, they were still mentioned by fewer than half of respondents. This balance between factors internal and external to the practice is in accordance with the social influence theory,<sup>6</sup> which suggests that powerful influences act on individuals from within their close working environment — in this instance, the practice. When the factors that differentially affected achieving and non-achieving practices were considered, the responses suggested that achieving practices were less negative about the target saving being attainable and the scheme's acceptability, both practically and philosophically. The impact of medical and pharmaceutical advisers has not previously been formally assessed, so with 55% of practices receiving advice from an adviser and

over two-thirds of these practices feeling that the advice influenced their decisions on the incentive scheme, advisers would seem to have an important role in influencing practices' behaviour. The conclusion is that no one factor stood out above any other as the overriding influence on practices' thinking and that combinations of factors, each exerting a differing influence, were at play. This is in accordance with the picture found by Oxman and colleagues<sup>7</sup> when they reviewed the literature on the effect of 10 behaviour change strategies. They concluded that there was evidence of moderate effectiveness associated with most interventions but that no single behavioural change strategy was effective in all circumstances.

Having decided to try to achieve their target saving, the strategy most often chosen by practices was that of increasing generic prescribing; over 90% of practices chose to do this and fewer than one-third chose any other strategy. These stated intentions are corroborated by analysis of prescribing patterns before and after the introduction of the incentive scheme, which showed a rise in generic prescribing rates but smaller changes in any of the specific therapeutic substitutions suggested in the information pack distributed to practices. In theory, the rate of generic prescribing is relatively easy to change, but as the total cost reflects both volume and item cost, there is not unlimited scope for cost reduction. As branded drugs with high prescribing rates, such as ranitidine, lose their patent protection, further savings will accrue only if a culture of generic prescribing can be established. Were a scheme such as this to operate for a number of years, then practices would have to look to areas other than increased generic prescribing to make savings; this may produce a conflict between considerations of quality of care and those of cost alone. These decisions could be informed by broadly based clinical management guidelines, or markers of prescribing quality.<sup>4</sup> A minority of practices reported having guidelines for prescribing, although when present, they covered many of the chapters in the BNF and had high reported rates of use. The presence of clinical guidelines was again patchy; one-quarter of practices had none, and only three, asthma, diabetes and hypertension, were common. Although reported use was again high, their infrequent presence precludes them from having a large effect. Given the proven ability of guidelines to change clinical practice,<sup>8</sup> there is clearly still much unrealized potential to use them as a vehicle to improve patient care in general practice.

For conditions commonly managed in primary care, the reported influence of hospital prescribing was surprisingly high. Although at present data to support the feeling of respondents are few,<sup>9</sup> this is an important area in which to gather further objective data. If hospital prescribing is the influence that GPs feel it to be, then there will be a limit to how much change in primary care prescribing can be brought about by primary-care-based strategies, such as incentive schemes. To address this would need a substantial increase in the control of secondary care prescribing.

The results of this study suggest a complex web of factors potentially influencing general practice prescribing, with no single factor pre-eminent. To understand this area further, it is important to take each of these potential influences and ascertain the match between perceptions and practice. With that additional knowledge, the important step of designing appropriate behaviour change strategies to improve the quality of care can be taken.

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