screening of blood seems to have had a very limited role.

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Effects of fundholding on prescribing habits

Results of similar study in Mersey were different

EDITOR,—In their study into the effects of fundholding on prescribing Sarah Stewart-Brown and colleagues found that although fundholders initially contained prescribing costs more effectively than non-fundholders, this effect was not maintained and was even reversed.¹

Our studies of prescribing in fundholding practices show that similar patterns of cost containment occurred in the first year of fundholding in the first three waves² but that the effect was not maintained.³ Stewart-Brown and colleagues suggest several possible explanations: these include deliberate inflation of prescribing costs in the pre-fundholding year to increase the budget for the next year (on the basis of our data² we thought it unlikely that such an approach was widespread, but it might be a factor in some practices); that all reasonable savings were achieved early on; and that the comparator group of non-fundholders was also trying to contain costs as a result of new prescribing incentive schemes, minimising differences between the groups. We favour this last explanation and in support of this show a dramatic rise in the rate of generic prescribing among all non-fundholders in Mersey region in 1993-4 (fig 1). We believe that this was the result of incentive schemes and a local requirement that the rate of generic prescribing among prospective fourth wave fundholders should be 50%.

Stewart-Brown and colleagues point out an apparent reversal of the pattern of cost containment between fundholders and non-fundholders by the end of the study. We found no such reversal in our study of almost an entire population of fundholders and non-fundholders in Mersey,³ and we suggest that it is the result of the small number of practices studied, as the authors considered. The fact that two of the five non-fundholding practices were

studied in a year in which they were preparing for fundholding may also be important. We question the authors' assertion that their "results are highly significant" because of the large numbers of prescriptions studied, since their unit of study was the practice, not the prescription. We consider it inappropriate to report the mean difference and parametric 95% confidence interval when n is 3 or 5, as this makes interpretation of the results difficult and even the existence of any (statistically or practically) significant difference between the different types of practice studied uncertain. We agree with the primary conclusion of the authors' paper—that the rate of increase in prescribing costs after the first fundholding year is similar to that among non-fundholding practices—but disagree that a reversal in cost containment patterns occurs later.

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- 1 Stewart-Brown S, Surender R, Bradlow J, Coulter A, Doll H. The effects of fundholding in general practice on prescribing habits three years after introduction of the scheme. *BMJ* 1995;311:1543-7. (9 December.)
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Generic prescriptions are defined differently for dispensing practices

EDITOR,—Sarah Stewart-Brown and colleagues compare the rate of generic prescribing between dispensing and non-dispensing practices in their paper on fundholding and prescribing.¹ Are they aware that the Prescription Pricing Authority (which provided the data for the study) defines a generic prescription differently for dispensing practices? Few doctors are aware of this fact, which is not mentioned in the paper and may well explain the observed differences in the rate of generic prescribing. Any comparison of generic prescribing between dispensing and non-dispensing practices is therefore invalid, as are comparisons between areas with different proportions of dispensing practices.

If this was purely an academic matter it would be of minor importance. However, budget setting for districts and practices, and prescribing incentive schemes, include rates of generic prescribing in their criteria. This discriminates against dispensing practices and hence rural areas.

The fact that even researchers in health economics seem to be unaware of this important peculiarity prompts me to publicise it in the hope of reform.

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Authors' reply

EDITOR,—R Wilson and T Walley present some valuable data on rates of generic prescribing in the Mersey region. Their figures differ from ours only in that, in 1990, the rate of generic prescribing among non-fundholders in Mersey was much lower than that among non-fundholders in Oxford. The trends that we observed in our study mirror those observed throughout the Oxford region (T Jones, medical adviser to Oxfordshire Health,

personal communication), suggesting that our study practices were typical of the region. These data confirm what we already know: that there are some regional differences in prescribing practice. It is possibly more remarkable that data from fundholding practices in the two regions are so similar.

The rate of generic prescribing is only one of several factors that determine prescribing costs. Our argument that trends in prescribing costs had reversed between 1990-1 and 1993-4 was based on data which Wilson and Walley do not present.

We think that it is unhelpful for Wilson and Walley to use spurious statistical arguments and selective quotation from our paper to argue that their findings are more valid than ours. Both of our studies are valid, and instead of arguing about who is "more right" we would surely do better by trying to learn from the differences we observed.

The point that Ted Willis makes is important. He is right that we were unaware of the different ways in which generic rates used to be calculated for dispensing and non-dispensing practices. Changes in the presentation of PACT (prescribing analysis and cost) data in June 1994 enabled medical advisers to learn that earlier data on generic rates had been calculated on the basis of rates of generic prescriptions in non-dispensing practices and rates of generic dispensing in dispensing practices. The difference is of the order of 2-5% for dispensing practices. This means that the generic rate in dispensing practices in our paper is likely to underestimate the true rate by this amount. Adjusting for this difference reduces but does not eliminate the gap that we observed in generic rates between the different types of practice and does not affect the validity of the other prescribing data.

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Prescribing by general practitioner fundholders

Longer study shows that costs rise again after initial savings

EDITOR,—Two interesting papers have examined the effects of general practitioner fundholding on prescribing costs.^{1,2} Robert P H Wilson and colleagues conclude that fundholding affects prescribing costs,¹ but they examined only the first year after practices joined the scheme. Bradlow and Coulter, in their study of general practitioners' prescribing in Oxford, also found that fundholders' costs initially rose less steeply than non-fundholders',³ but further follow up of the practices showed that the fundholders were unable to sustain this advantage two years later.²

We have examined aggregated prescribing budgets for fundholders and non-fundholders in Nottingham and have found a pattern remarkably similar to that reported from Oxford by Sarah Stewart-Brown and colleagues³ (fig 1). Fundholders initially made savings, but their costs are now higher, and rising more rapidly, than those of non-fundholders. In compiling our figures we did not account for possible confounding variables,

Fig 1—Rates of generic prescribing among fundholding and non-fundholding practices, 1990-4

Fig 1—Non-inclusive drug costs per prescriber unit for quarter ending September, 1991-4. Figures in parentheses are differences between fundholders and non-fundholders

such as deprivation indices and the proportion of training and singlehanded practices. Our figures have the advantage, however, that they are based on an entire district. Uptake of fundholding in this district has remained low; indeed, no practice in Nottingham joined the sixth wave as standard fundholders.

We would endorse the conclusion that the differences in prescribing costs between fundholders and non-fundholders three years after the introduction of the scheme are small compared with the overall increase in prescribing costs.

Sarah Stewart-Brown and colleagues suggest that the effect of marketing pressure from the pharmaceutical industry is probably the most powerful influence on inflation in drug costs. We would suggest that the increased rate of prescribing of selective serotonin reuptake inhibitors and proton pump inhibitors has been led, at least in part, by our consultant colleagues. It should be recognised that not all prescribing is primary care led. In Nottingham we have proposed that the prescribing and purchasing budgets of non-fundholders should be linked at district level and that it should be possible to move funds between budgets. Knowing that rising drug costs would reduce the funds available to purchase their services, trust hospitals and their clinicians should then be motivated to work in concert with their primary care colleagues to encourage rational cost effective prescribing and end the unedifying spectacle of "cost dumping." This mechanism would exert a greater effect on overall prescribing costs than fundholding.

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- 1 Wilson RPH, Buchan I, Williams R. Alterations in prescribing by general practitioner fundholders: an observational study. *BMJ* 1995;311:1347-50. (18 November.)
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Other factors probably explain differences in prescribing

EDITOR,—Robert P H Wilson and colleagues conclude that fundholding alters practice prescribing patterns and reduces the rate of increase in prescribing costs compared with those of non-fundholders.¹ Though this may be the case in the former Mersey region, a similar study in Avon (of 156 general practitioners) has not reached the same conclusion. Using the same methods, colleagues and I found that, before the introduction of

fundholding, fundholders spent on average less per weighted capitation (prescribing unit) than non-fundholders. The margin in spend between fundholders and non-fundholders has subsequently continued.

Comparison of 1991-2 with 1992-3 showed a large increase in the average spend of fundholding general practitioners. This was due to the relatively high prescribing costs of the second wave fundholders, which have continued to stay high. In Avon, at present, second wave fundholders have the highest drug costs of any group, including non-fundholders.

There has been no significant difference in the rate of increase in the average drug spend per prescribing unit for successive fundholding waves compared with that for non-fundholders. Unlike the authors of the paper, we not only have observed prescribing costs for successive fundholding waves for the year before and the year after practices became fundholders but have followed each wave through to 1995. Our conclusions are supported by Coulter and Bradlow, who found that fundholders were unable to sustain a lesser rate of increase in costs over two years.²

Similar work performed by the Audit Office showed that the difference in increases in prescribing costs between fundholders and non-fundholders was not significant.³ I suggest that other factors explain the differences in prescribing costs between general practitioners in Merseyside and that fundholding is a confounding variable.

Fundholders, like non-fundholders, are not a homogeneous group. Within each group there are variations in prescribing that cannot be explained in simplistic terms of fundholding versus non-fundholding. Within fundholding and non-fundholding groups there are both cost effective prescribers and prescribers who are not cost effective, and generalised comparisons must be viewed with great caution.

Variations in prescribing may involve many factors, such as patient deprivation and morbidity rates; prescribers' sex, age, year of qualification, postgraduate education and degrees, and areas of clinical interest; and the nature and size of the partnership. These factors merit further consideration.

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Direct access magnetic resonance imaging of the knee for GPs

Magnetic resonance imaging should be used selectively

EDITOR,—As a result of R Watura and colleagues' paper on direct access magnetic resonance imaging of the knee, use of such imaging may increase inappropriately.¹ We would be interested to know what the clinical indications for scanning the knee were for the orthopaedic surgeons and the general practitioners. What were the rates of arthroscopy in the two groups, and how accurate were the findings of the scan compared with the arthroscopic findings? Magnetic resonance imaging is sensitive and specific for meniscal and ligamentous lesions but less effective in defects of articular cartilage.^{2,3}

We believe that magnetic resonance imaging of the knee should be used selectively. Patients who

have obvious clinical symptoms and signs of a meniscal tear do not need such imaging before having an arthroscopy. Imaging may, however, be useful to avoid a diagnostic arthroscopy.

We recently studied the selective use of medical resonance imaging of the knee. Our six criteria for scanning the knee were:

History—A good history of a mechanical problem of the knee but little abnormal on examination.

In children—If symptoms persisted after conservative treatment and physical examination led to doubt about the diagnosis.

Previous arthroscopy—Persistent symptoms after an arthroscopy.

Reconstructive surgery—Patients who had had reconstructive procedures and developed a complication—for example, rupture of a graft.

Lumps, cysts, and swellings around the knee—To assess any intra-articular disease.

To avoid arthroscopy—Patients who had had conservative treatment with little or no improvement but in whom it was thought that results of an arthroscopy would be normal.

When these criteria were used 100 scans were carried out over two years; 37 patients went on to have an arthroscopy. This represented only 10% of all patients seen in the knee clinic. In 90% a diagnosis could be made accurately from an adequate history and competent clinical examination. If medical resonance imaging had not been available then all 100 patients would probably have had an arthroscopy. This would have meant a 16% increase in the number of arthroscopies listed each year.

The selective use of medical resonance imaging helped us to avoid unnecessary operations, plan surgical procedures, and save money. These benefits would be lost if demand for inappropriate scans increased. We do not believe that magnetic resonance imaging should be used as a blanket test; it would be a shame if such imaging replaced the need for accurate clinical skills.

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- 1 Watura R, Lloyd DCF, Chawda S. Magnetic resonance imaging of the knee: direct access for general practitioners. *BMJ* 1995;311:1614. (16 December.)
- 2 Heron CW, Calvert PT. Three dimensional gradient ECHO MR imaging of the knee: comparison with arthroscopy in 100 patients. *Radiology* 1992;183:839-44.
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Patients should be seen by an experienced orthopaedic surgeon

EDITOR,—R Watura and colleagues' recommendations regarding direct access to magnetic resonance imaging of the knee for general practitioners merit further discussion.¹ The appropriate use of such imaging for knee problems is the subject of considerable research. In selected patients magnetic resonance imaging can help with management decisions and an expensive, invasive arthroscopy can be avoided.^{2,4} It is less certain whether recommending direct access magnetic resonance imaging to avoid an orthopaedic consultation is appropriate.

Watura and colleagues found "similar pick up rates for meniscal and ligamentous injury between patients referred by general practitioners and those from orthopaedic teams." Given that patients referred by general practitioners may have clinically obvious lesions whereas those referred by orthopaedic specialists tend to present difficult problems, this observed similarity may be misleading. The authors do not give statistics on diagnostic performance or the proportions of patients with