

# Investigation into the effectiveness of the Dudley prescribing efficiency scheme

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**AIM** • To investigate the effectiveness of a community pharmacist prescription intervention scheme.

**DESIGN** • Prescribing intervention study.

**SUBJECTS AND SETTINGS** • 26 (45%) community pharmacists across the 2 PCGs within Dudley Health Authority. 17 GP practices with 52 prescribers.

**RESULTS** • 797 interventions were reported to prescribers in 41 practices. In the 17 practices where interventions and practice responses were able to be studied

in detail, the potential annual savings amounted to £17,387. Follow up of the practice response showed that the vast majority of the interventions were both accepted and acted upon. 95% of the savings arose from dose optimisation interventions and 50.1% of the total arose from statin prescribing.

**CONCLUSIONS** • This intervention scheme proved effective and suggests potential savings of £12m or about 0.15% of total prescribing costs if extrapolated to the 36,000 GPs across the UK. It also suggests that PCTs should review efficiency of prescribing of statins locally.

During 2001 discussions took place between the Dudley Health Authority pharmaceutical adviser, primary care group prescribing advisers and the secretary to the local pharmaceutical committee, to devise a scheme in which interested community pharmacists could make an initial contribution to medicines management.

The scheme centred on recognition by pharmacists of inefficient prescribing practice by general practitioners and feedback of this information to the prescriber. Inefficient prescribing for the purposes of the pilot was defined by applying one of the following criteria.

**Dosage efficiency optimisation** Dosage efficiency optimisation might arise, for example, when two lower strength tablets are prescribed when cost-effectiveness, and probably compliance, would be better achieved using a single, higher dose formulation. A full list of such products was provided as a checklist for pharmacists.

**Prescription length optimisation** Prescription length optimisation involves instances where unequal course lengths are prescribed. (It specifically excludes mixtures of 28 or 30 day alternative sized monthly packs provided by various companies.) In addition it involves identifying repeat prescriptions for items that have been recently dispensed and which therefore do not require further supply. It was hoped that this might mitigate repeat over ordering, particularly in residential care establishments.

**Generic optimisation** Prescription items where appropriate generic substitution would lead to cost savings are identified.

The potential benefits of the scheme for the practices and the PCGs were seen as cost savings, improvements in repeat prescribing, possibly better compliance, assistance

towards the practice prescribing incentive schemes and reduction in waste. For community pharmacists it enabled a first contribution towards medicines management and improved patient care together with establishing or developing communication with GPs, practices and advisers. Community pharmacists clearly required no further training. PCGs hoped that this small start would provide a foundation for further developments in medicines management and support the development of the planned national repeat dispensing system and other local initiatives.

A similar community pharmacist intervention scheme was recently reported in Rugby.<sup>1</sup> This study also included interventions on both dose reduction for proton pump inhibitors and therapeutic substitution in line with the PCG preferred prescribing list. The study found that dosage optimisation was the most successful component of the scheme.

## METHOD

**Actions required by community pharmacists** Pharmacists were required to record the patient and GP name and the potential intervention on a preprinted reporting form and to send this to the appropriate practice manager or senior receptionist at the end of each month. Alternatively, the pharmacist could discuss the interventions with the GP directly if this was the preferred method of communication.

The community pharmacist was also expected to inform all patients of the proposed action, indicating a likely change to the next repeat prescription.

Pharmacists also completed a preprinted monitoring sheet with similar details to send to the respective PCG advisers so that they could evaluate whether the practice had accepted the advice, the savings could be calculated and the community pharmacists could be paid.

**Actions required by prescribers** Prescribers were asked to consider each intervention and adopt the advice unless there was good reason for not doing so. GP practices were also asked to incorporate the changes into their repeat prescribing system so that all further repeats would be corrected.

**Fees and funding** Since the project involved additional work by pharmacists and their staff, a fee of £5 was negotiated with the LPC for each initial intervention. This meant that each community pharmacy needed to retain a copy of each intervention report form or to record the advice on the patients' medication record, since subsequent reports for the same items for these patients would not receive payment. It was projected that the savings achieved would be greater than the fees paid to participating pharmacies.

The scheme was discussed with all interested parties, approved by the PCG prescribing subcommittees and supported by the local medical committee, the LPC and the local pharmacy development group. It was launched as a three-month pilot scheme and all practices and community pharmacies in the HA were invited to participate.

Detailed cost savings were calculated for 17 practices from which full lists of interventions were recovered. The large majority of dose optimisations arose from medicines in patient packs of 28 tablets (four weeks), so the monthly saving achieved by converting

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to higher dose formulations was multiplied by 13 to estimate annual (52 weeks) savings.

Using a selection of techniques, including visits to practices, follow up with practice managers and examination of subsequent PACT data, it was clear that the vast majority of interventions were accepted and acted upon. Thus the potential savings identified, in the 17 practices fully studied, were essentially achieved.

## RESULTS

The reports from all community pharmacies and from the 17 practices studied in detail were analysed and costed and the main results are shown in Table 1. There were an encouraging 797 interventions reported to 41 GP practices by the 26 participating community pharmacies. In the 17 practices made up of 52 GPs, potential annual savings of more than £17,000 were identified.

The type and number of interventions are shown in Table 2. The dose optimisation interventions were most significant in terms of cost savings, representing some 95 per cent of the total, as shown in Table 3. There were few generic optimisation reports reflecting the already high level (76 per cent) of generic prescribing across the two PCGs.

The drug groups where more cost effective prescribing, together with the expectation of better patient compliance were identified, and are shown in Table 4. This illustrates the effect of "flat pricing" of statins above the 20mg dose for each product, and represents 50 per cent of total savings, an important finding because the use of these medicines is rapidly increasing as the coronary heart disease NSF is being implemented. Useful savings were also demonstrated for calcium channel blockers and angiotensin II receptor antagonists, by prescribing single higher, rather than multiple lower, dosage units.

## DISCUSSION AND CONCLUSIONS

This pilot study shows how community pharmacists can readily contribute to more cost-effective prescribing by working with neighbouring GPs. Further, since the dosage optimisation interventions mean fewer tablets or other dosage units need to be taken, better compliance might be expected. Such interventions must represent only minimal assistance since "Pharmacy in the future — implementing the NHS Plan" envisages substantially greater contributions in this area. For example, the development of repeat dispensing coupled with the opportunity for pharmacists to confirm that the medicines still meet patients' needs, are being taken as prescribed and are not causing problems. Such review at the time of collecting the next instalment of medicines is expected to increase concordance and lead to better patient care and outcomes.

The 583 prescription length optimisations reported (Table 2) proved disappointing since many represented combinations of repeat prescribing together with short-term treatments. Also some of these were for patients who were being stabilised on new

**TABLE 1: MAIN RESULTS FROM THE 3 MONTH PILOT STUDY**

	Beacon & Castle PCG	Dudley South PCG	Total
Number of community pharmacies	20	37	57
Number of participating pharmacies	15	11	26 (45%)
Number of GP practices	24	36	60
Number of GP practices which received reports	17	24	41 (68%)
Number of interventions reported	296	501	797
Payments to community pharmacies	£1,480	£2,505	£3,985
Savings identified	£7,275 in 9 practices	£10,112 in 8 practices	£17,387 in 17 practices

**TABLE 2: TYPE AND NUMBER OF INTERVENTIONS REPORTED TO 41 GP PRACTICES**

Type of intervention	Beacon & Castle PCG	Dudley South PCG	Total
Dose optimisation	48	121	169
Generic optimisation	5	40	45
Course length optimisation	243	340	583
<i>Total</i>	<i>296</i>	<i>501</i>	<i>797</i>

**TABLE 3: POTENTIAL COST SAVINGS IDENTIFIED BY TYPE OF INTERVENTION IN 17 GP PRACTICES**

Type of intervention	Beacon & Castle PCG	Dudley South PCG	Total
Dose optimisation	£6,946	£9,624	£16,570
Generic optimisation	£329	£488	£817
<i>Total</i>	<i>£7,275</i>	<i>£10,112</i>	<i>£17,387</i>

**TABLE 4: GROUPS OF MEDICINES WITH HIGHEST LEVELS OF SAVINGS THROUGH DOSAGE OPTIMISATION**

Type of medicine	Total potential annual savings (both PCGs)
Statins	£8,412
Calcium channel blockers	£1,508
Angiotensin II receptor antagonists	£434

medication, particularly ACE inhibitors or beta-blockers in heart failure so longer term prescribing was inappropriate. In retrospect it might have been preferable for pharmacists to check these prescriptions against their patient medication records, but such procedures were not included in the protocol. It was, in any case, difficult or impossible to evaluate the scope for savings for such prescribing and, in practice, it is much more effective to encourage GPs to implement better repeat prescribing systems, or preferably to assist them to achieve this discipline through the attachment of practice pharmacists.

The £17,000 saving shown (Table 3) in this small pilot among 52 prescribers in the 17 practices studied in detail, if extrapolated to the 162 GPs working in the two PCGs, would achieve annual savings of £55,000. It is, however, recognised that such extrapolations are subject to wide variance, since prescribing practices are so variable among GPs. Alternatively, if the sample were representative of prescribers across the UK as a whole, extrapolation to the 36,000 GPs working in the NHS would give annual potential savings in the order of £12m. Primary care prescribing expenditure for 2001–02 is estimated at around £8bn, so this

seemingly large sum represents only 0.15 per cent of total annual costs.

The finding that inefficient prescribing of statins accounted for 50 per cent of potential savings (Table 4) is an important one, suggesting all PCTs and their advisers should make an initial investigation into local prescribing of this group of medicines. This seems particularly important viewed against the rapid increase in statin use across the UK.

This small pilot was judged successful and both new PCTs intend to implement the scheme, at least for dosage optimisation, for another three months during 2002–03.

**ACKNOWLEDGEMENTS** We gratefully acknowledge the contributions of all community pharmacy and GP practice staff, which made the pilot a success.

*This paper was accepted for publication on 7 February 2003.*

## REFERENCES

1. Galloway C. Involving pharmacists in medicines management. *Prescriber* 2002;13:16–21.