

COST-EFFECTIVENESS IS IMPROVED by dose optimisation

The project described here shows that giving patients the most appropriate strength of their prescribed medicines reduces the number of tablets they have to take and can decrease prescribing costs

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Angus Local Health Care Co-operative (LHCC) is an operational unit of Tayside Primary Care NHS Trust that serves a patient population of approximately 73,350. In 1999, the LHCC received finance from Tayside Health Board to encourage community pharmacists involvement in local prescribing projects and a dose optimisation project was proposed. Dose optimisation was favoured as an initial project because:

Dose optimisation can improve the cost-effectiveness of prescribing by altering the strength of a patient's medicine. For example, changing two simvastatin 20mg tablets at night to one simvastatin 40mg tablet at night saves £386/year per patient. This concept had been previously highlighted in Tayside in a local prescribing bulletin.

All community pharmacies within the LHCC could be invited to participate. Community pharmacists were in an ideal position to identify and counsel patients

The experiences of the Angus LHCC practice pharmacists suggested that patients were amenable to such changes, because they reduce the number of tablets that patients have to take. In addition it saves the National Health Service money.

The aims of the proposed project were to investigate the value of dose optimisation and to increase awareness of the concept throughout the LHCC.

Method

All community pharmacists working within the LHCC were invited to attend an evening meeting with representatives of the prescribing working group (PWG) to launch the project. Community pharmacists who were unable to attend the meeting were given the opportunity to register their interest. Practice representatives on the PWG were responsible for publicising the project within their practices and an informative project memo was circulated by the LHCC. In addition, an approved list of

drugs considered suitable for dose optimisation intervention was drawn up.

Community pharmacists who agreed to be involved in the project identified patients whose medicines were suitable for dose optimisation when such patients or their representatives presented with repeat prescriptions. The pharmacist:

Clarified the dose of medicine being taken

Confirmed that the patient's current drug dose was stable and not under titration

Explained the proposed change and provided a patient information leaflet to supplement verbal information

Informed patients that their practice repeat prescription record would be changed for their next prescription

If a patient's representative was unable to confirm the current dose or agree to a proposed change, the pharmacist waited to discuss the change with the patient. If the patient's general medical practice used repeat prescription reorder forms or cards,

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Table 1: Details of dose optimisations made

Drugs	Number of dose optimisations	Saving/year	Saving/year/dose optimisation
On approved list	45	£6,685	£149
Not on approved list	6	£135	£23
Totals/*average	51	£6,820	*£134

the community pharmacist amended these and signed and dated the alteration. A nominated person at each practice received written details of the dose optimisation on a standard form from the community pharmacies, so that the relevant computerised repeat medication records could be amended. The LHCC office was sent written confirmation of all amendments (without the patient's details) by the community pharmacists and by the practices, so that payment of the pharmacists could be calculated and arranged.

The project was initially designed to run for three months but there was a disappointing initial response from local community pharmacists, so it was decided to extend the project indefinitely. In addition, pharmacists were encouraged to submit drugs not on the initial approved list. The project ended on 17 January 2001. The savings made per year for drugs on the approved list were calculated using the Monthly Index of Medical Specialities (MIMS), February 2000. For those drugs not on the approved list, the MIMS or the Scottish Drug Tariff in operation at the time of the dose optimisation was used.

Results

Drugs on the approved list accounted for 88 per cent of dose optimisations made. The average saving/year/dose optimisation was 6.6 times higher for drugs on the approved list compared with those not on it (Table 1). The total payment made to the community pharmacies was £1,704, so there was a four-fold return on expenditure overall. Eight out of the 15 community pharmacies within the LHCC participated in the project, and made between two and nine dose optimisations. Nine out of the 12 LHCC general practices received notification of dose optimisations (the range was one to 13).

The drugs approved for dose optimisation were classified into five groups (Table 2).

The most frequently made dose optimisations were for angiotensin converting enzyme inhibitors and statins. Statins produced the greatest saving/year (£3,776) and the greatest saving/year/dose optimisation (£236).

Discussion

Over nine and a half months, the saving to the LHCC was equivalent to £6,820/year, which we thought was good considering only 53 per cent of local community pharmacies participated. However, this was a potential rather than an actual saving, because some of the doses might have been changed back again or some drugs discontinued in the year following dose optimisation. It is also possible that some of the dose optimisations would have been identified within the practices anyway. Price changes and the availability of some of the drugs on the approved list as generics could also have affected potential savings. On a more positive note, some of the dose optimisations are likely to produce savings well beyond the first year. The potential four-fold return on expenditure was excellent, although it does not include the professional and administrative time required to set up and run the project.

Fewer community pharmacies participated than was expected and the reasons for this should be investigated before we set up future projects. Fewer dose optimisations were made than we expected, which could have been because there were few to be made, payment of the pharmacists might not have been sufficient or the community pharmacists might have been unable to participate.

More dose optimisations and greater cost savings were made from the approved list of drugs than those not on the list. This suggests that preparing an approved list is useful, although it can reduce flexibility. Allowing additional dose optimisations helped to increase the number of dose optimisations made but for some there was a low cost saving/year. Dose optimisations benefited patients by reducing the number of tablets they had to take but the administrative and financial costs of implementing optimisations with a low cost saving/year make such interventions less attractive.

Conclusion

Dose optimisation undertaken by community pharmacists can deliver an improvement in the cost-effectiveness of prescribing and could be of benefit to patients. This is a straight forward project, which, with good participation, can produce worthwhile savings.

Table 2: Number and cost saving of dose optimisations for each class of drug

Class of drug	Number of dose optimisations made	Saving/year
Angiotensin converting enzyme inhibitors	16	£1,237
Antidepressants	9	£512
Proton pump inhibitors	1	£29
Other cardiovascular drugs	9	£1,266
Statins	16	£3,776
Totals	51	£6,820