2 CLINICAL PRESCRIBING SUPPORT SERVICES

Clinical prescribing support services are those that are "patient-centred" and involve the review, monitoring and overall management of prescribing for individual patients. This has traditionally been (and will continue to be) a key part of a GPs role, but the increasing complexity and variety of medicines available has led to increasing input from other health professionals.

Many patients who are taking medication, do so for chronic conditions. They usually receive their medication via repeat prescriptions generated by the surgery on request. Repeat prescriptions should ideally be reviewed on a regular basis with the patient, to ensure that each medicine is still required, is still effective, and is in the most appropriate dose and dosage form. In practice, it can be difficult to review prescriptions regularly due to time constraints, and as a result, various models of prescribing support have looked at alternative approaches to reviewing the medication of individual patients. Clearly, this process is important as part of the GP's ongoing review of a patient's overall clinical management.

2.1 MEDICATION REVIEW AND MONITORING DRUG THERAPY

Key points

- Polypharmacy results in an increased risk of side effects and adverse drug reactions.
- Full medication histories are time-consuming but essential for patients with complex pharmaceutical needs.
- Prescription review can be carried out from within, or external to, the GP surgery.
- Medication review clinics can be held within the surgery.
- Patients can be encouraged to bring all their medication to the clinic, for a fuller assessment of their medication history.
- Medication review can be undertaken in the domiciliary setting if required.
- Adverse drug reaction reporting can be co-ordinated across practices and PCGs.

Patients taking several different drugs are more likely to develop side effects to their medication or be at risk from drug interactions. Some of the medication may no longer be required or be effective, and side effects or drug interactions may be unnecessarily reducing the patient's quality of life.

In determining the optimum therapy for a patient it is important to know what medication the patient has taken in the past, how they responded to it and their adherence with their medication. Yet it can be time consuming to take a full history from a patient, especially if the patient's pharmaceutical needs are complex. A patient's medical records may not include a full record of their previous medication. The full picture may only be gleaned after asking many questions, especially as a patient's perception of medication may differ from that of the GP or pharmacist. For example, many people will declare that they are not on medication, when they are in fact taking the contraceptive pill. Similarly, many do not regard paracetamol or aspirin as "real medicines", yet this may be crucial when determining the optimum treatment regimen for a patient. A proforma for use when taking a medication history and/or preparing a pharmaceutical care plan can be found in appendix 4.

The aim of a repeat medication review service is to improve the quality of prescribing, improve the patient's health and avoid drug expenditure arising from inappropriate or unnecessary prescribing. When reviewing a patient's medication it is important to know about any non-prescription medicines that a patient is taking, as these may interact with, or duplicate, prescribed medication.

A patient medication review service needs to be planned carefully to ensure that the process runs smoothly, is aimed at the most appropriate patients, and produces the desired outcomes. It should form part of the review of the patient's overall clinical management plan.

The review services described below represent alternative ways of helping to ensure optimum medicines use.

Prescription Review

A prescription review service allows recommendations to the GP for changes to be made following an in-depth review of a patient's medication, often in preparation for the next consultation. The review of patient medication can be carried out from within the surgery, the local pharmacy or other settings as appropriate. A model framework for a prescription review service is included in appendix 5.

In Leicestershire, community pharmacists reviewed the repeat prescriptions of patients taking six drugs or more. They then met with the patients' GPs to discuss their recommendations.

Of the 254 patients in the study, 1,066 potential drug related problems were identified. The most common recommendations were: -

- is there a need for this drug to be taken?
- alterations in dose or dosage instructions
- is this drug the best choice?

GPs agreed with the pharmacists' recommendations in 75% of cases. At the end of the study the overall drug costs for the patients included in the review were lower than at the start.

Department of Health Project – see appendix 1, page 69

Similar projects were carried out in North West Anglia, the Isle of Wight and South Derbyshire (see appendix 1, pages 68 to 70) and Avon (see appendix 2, page 91)

Medication Review Clinics

An effective way to achieve improvements in repeat prescribing is to establish a repeat prescribing review clinic within the practice.

Selected patients are given an appointment to attend a medication review clinic within the practice and their medication discussed in depth. When undertaking medication review, it is helpful to use a proforma or checklist to provide a structure to the interview (see appendix 4).

"Brown Bag" Reviews

It is estimated that each year, 480 tonnes of waste medicines, with a value of around £96 million are collected in England. These figures are derived from work carried out by Doop Services, who collect waste medicines from community pharmacies in 59 HAs across England. (Estimates based on figures from quarter ending January 1998)

Brown Bag Reviews are a variation on the theme of medication review clinics. In addition to being given an appointment to attend a medication review clinic, patients are asked to bring in all the medication they have at home. This facilitates the process of establishing what medication a patient is actually taking, identifies waste and can help to prevent further problems in the future by educating the patient about their medication.

In Devon FHSA, GP practices identified patients over 60 years of age taking five drugs or more. Each patient was sent an appointment to attend a medication review clinic run by a pharmacist, and a brown paper bag in which they were asked to bring along ***all*** their medication.

Waste medicines collected amounted to £6.40 per head.

When patients were asked why they did not take all their medication, they cited forgetfulness, and a dislike of taking tablets. Other findings included: -

- several patients were unsure why they were taking antidepressants and wished to stop taking them
- a simple change from captopril 2 x 25mg to captopril 1 x 50mg reduced the number of tablets the patient was taking and saved £72 per year
- some patients were unsure of how to read their diabetic testing strips
- one patient was using an excessive amount of nasal spray purchased over-the counter

Department of Health Project – see appendix 1, page 71

Domiciliary Medication Review

Often those patients who are unable to visit the surgery are in most need of significant input into their medication use. The medication review service can then be taken to the patient's home. Although more time-consuming, this gives the opportunity to review all the medication the patient has in their possession, identify areas of waste and counsel the patient about which medication they should and should not be taking.

In Rotherham, community pharmacists visited patients who had recently been discharged from hospital and who had been highlighted as being in need of post-discharge medication counselling. The aim of the project was to increase the patient's understanding of their medication, highlight and eliminate hoarding and wastage of medicines, and as a result reduce hospital readmissions due to medication-related problems.

- Over half of the patients visited had outdated medicines or medicines surplus to requirements.
- Medicines with a value of over £1,000 were removed from the home of one patient.
- One patient had transposed the contents of two tablet bottles, resulting in him taking blood pressure tablets three times daily rather than once daily. The intervention of the pharmacist prevented very low blood pressure with the possibility of dizziness on standing, resulting in falls and possible hospitalisation.
- A patient was confusing her diuretic tablets and her tablets for "dizziness". By labelling the tablets in red "for dizziness" and in blue for "water tablets" the patient was able to self-medicate without the need for further home help or carers.

Department of Health Project – see appendix 1, page 79

The Centre for Pharmacy Postgraduate Education (CPPE) has produced a distance learning package entitled "Visiting patients at home", which contains useful guidance on setting up a domiciliary visiting service. (For details of CPPE see appendix 6)

Adverse Drug Reactions

The Committee on Safety of Medicines (CSM) and the Medicines Control Agency (MCA) encourage doctors and hospital pharmacists to report suspected adverse drug reactions (ADR) using the yellow cards which can be found at the back of the BNF or on request from the MCA. The Yellow Card Scheme is an important means of monitoring drug safety in normal clinical practice, by increasing knowledge about known drug reactions and acting as an early warning system for the identification of

previously unrecognised adverse reactions. Such information leads to improved quality of patient care through the safer use of medicines.

The Scheme has accepted suspected adverse drug reaction reports from doctors, dentists and coroners for many years. It has now been extended to include all hospital pharmacists. For community pharmacists, demonstration schemes have been launched in four regions: Wales, West Midlands, Northern and Mersey. Community pharmacists are asked to focus on those areas where there is limited reporting by doctors such as over-the-counter medicines, including unlicensed herbal products. Information from the yellow card database or requests for yellow cards can be sough via a 24-hour Freephone service - the National Yellow Card Information Service at the MCA on 0800 731 6789.

In order to ease the reporting process the MCA has worked closely with two GP prescribing system suppliers (EMIS and AAH MEDITEL) to develop an electronic yellow card. The report is accessed from within the GP's computer system and allows most of the relevant information about the patient and their treatment to be automatically populated from the patient's records, hence minimising time consuming GP input.

Professional support at practice or PCG level could take on a co-ordinating role for the reporting of ADRs. Pharmacists have expertise complementary to that of the GP, enabling full and accurate completion of yellow cards.

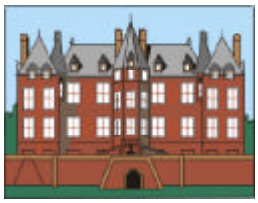
Another element of this service might involve the development and implementation of a response to drug alerts received by health care professionals from the CSM. Handling of queries from the public which inevitably follow media reporting of drug alerts could also be co-ordinated by one professional on the premises with the knowledge required to respond to such queries.

2.2 NURSING AND RESIDENTIAL HOMES

Key points

- Polypharmacy can be a particular problem in nursing homes, but can be reduced to a minimum through medication review.
- Setting up manageable and efficient systems for reordering of repeat prescriptions results in the elimination of wasteful and time-consuming practices.
- Agreeing a list of "domestic remedies" can avoid repeat prescribing for minor ailments.
- Important support services include acting as a contact within the practice for nursing and residential home staff with queries, making regular visits to maintain systems and implementing changes once they are agreed.

Nursing and residential homes often have specific problems when it comes to prescribing. Residents of nursing homes in particular are often taking many drugs and can require significant quantities of dressings. When reviewing nursing or residential home prescribing, particular attention should be paid to the following:



- overuse of antipsychotics such as thioridazine
- overuse of other sedatives and hypnotics, such as temazepam, nitrazepam, chloral hydrate and zopiclone
- excessive use of catheterisation
- use of commercial sip feeds as an 'easy' alternative to liquidised or pureed food
- use of one patient's medication for other patients
- inappropriate timing of drug administration e.g. at a time of day to suit the home's schedule

In Northamptonshire, community pharmacists audited prescribing for nursing and residential home patients. Cost savings of nearly £26,000 were identified from a review of 418 prescriptions. Examples of identified cost savings included:

- greater use of senna as a laxative, rather than the more expensive co-danthramer
- a patient using 22 oxygen cylinders per month was changed to an oxygen concentrator, saving £1,800 per year
- a reduction in the use of commercial sip feeds and the provision of "real" food, liquidised where necessary, saving £8,000 per year
- one patient was still receiving oxybutynin for incontinence, despite having a catheter in situ

Department of Health Project – see appendix 1, page 72

A similar project has been carried out in Sefton (see appendix 1, page 72)

Many community pharmacists provide advice on the safe keeping and correct administration of drugs to nursing and residential homes and receive payment for this service from the HA. Generally it is the pharmacist who dispenses for patients in the home who also provides the advice, although not all homes have an agreement with a community pharmacist to provide such advice and support.

The community pharmacist will therefore have established mechanisms for liaising with the home and the surgery, ensuring smooth arrangements for dispensing and resolution of associated queries.

GPs often find that one of the most useful services available to them is an overhaul of all prescribing for their nursing and residential homes. This can involve:

- a review of supply of medicines in the home and arrangements for the removal of unwanted items
- a review of each patient's medication, and along with the matron, making recommendations for change
- agreeing a list of "domestic remedies" which the home keeps for the use of its residents, avoiding repeat prescribing of "as required" simple analgesics, for example
- aligning quantities of medication on the practice computer to facilitate ordering on a regular cycle (e.g. 28 days)
- acting as a point of contact for nursing and residential home staff who have queries about medication
- visiting the home regularly to maintain both systems and changes once they are implemented

The ordering of medication by nursing and residential homes can create an inordinate amount of work for the home, GPs and their practice staff, as well as the community pharmacist. Implementing efficient systems of medication supply can generate significant savings, reduce workload and eliminate a large amount of wastage especially where GP practices have significant numbers of patients in nursing homes. When setting up a system, the following pointers might be helpful:

- a senior nurse at the nursing home should be responsible for ordering medication
- the nursing home should order prescriptions from the surgery on a regular cycle e.g. a 28-day period
- a stock take of all medication should be carried out prior to placing an order, and only medication that will be required before the next routine supply should be ordered
- one member of staff at the surgery should be responsible for generating prescriptions for nursing homes
- when the prescriptions are produced, they should be sent to the nursing home for checking by the senior nurse
- any amendments to the prescriptions should be notified to the surgery, (for example, items not required) and new prescriptions should be generated where necessary
- the prescriptions should then be sent to the pharmacy for dispensing

It is important that any service to a nursing home involves liaison with the Health Authority Nursing Home Inspection Team, which may take advice from the HA adviser on prescribing and pharmaceutical matters. Close liaison will also be important with the community pharmacist already providing dispensing and/or advisory services.

2.3 DISEASE MANAGEMENT CLINICS

Key points

- In-house clinics can improve continuity of care and patient convenience, and may have financial benefits.
- Anticoagulant clinics, pain clinics, migraine clinics and others have been run successfully in various parts of the country.

Nurses have been running clinics within GP practices for a number of years; for example asthma clinics, baby clinics etc. Hospital out-patient clinics can be very crowded and time-consuming for patients who attend them. In-house clinics at the surgery can be a more viable option, with significant benefits for patients and the GP practice, including:

- reduced travel and waiting times for patients
- the patient sees the same person each time, raising confidence in their care
- elimination of errors caused by inadequate or delayed reporting procedures between the hospital and the practice
- financial benefits – the cost of running an in-house clinic is often cheaper than the cost of hospital clinic appointments

More experienced pharmacists are now also running clinics within the surgery, often in collaboration with nurses. These may be medication review clinics as described before, or specific disease-management clinics, such as migraine, hypertension and pain clinics. In-house anticoagulant clinics have been successfully set up in several parts of the country. These clinics divert workload away from the GP, and patients benefit from the expertise of other healthcare professionals who can provide longer consultations than are possible during a busy GP surgery.

Protocols for surgery clinics need to be carefully written to ensure that all foreseeable eventualities are covered and that lines of responsibility are clear. However, they will vary depending on the aim of the clinic. Such clinics need to be part of the wider clinical management of the patient, and regular review of the plan and the patient by the GP must be a part of such protocols. An example of what to include in a protocol is given in appendix 5.

The Northgate Medical Centre employs a full-time practice pharmacist, Marion Bradley, who runs the anticoagulant clinic at the surgery.

Patients are initially referred to the clinic by their GP. Investment in near-patient testing equipment means that an INR reading is available in about three minutes following a fingerprick test. Doses are then adjusted accordingly and the pharmacist undertakes any counselling required regarding dosage changes, interactions with other drugs etc. The portability of the equipment means that the pharmacist can also provide a domiciliary service to frail or housebound patients.

The Downfield practice in Dundee has instituted a pain clinic run by one of its practice pharmacists, John Hamley. This followed the observation that many patients were taking chronic analgesics and NSAIDs.

The clinic specialises in the treatment of neurogenic pain using tricyclic antidepressants, anticonvulsants or a TENS machine. The clinic is run weekly by the practice pharmacist and a nurse and follows an agreed protocol.

Patients find the clinic convenient and they can be seen within a week compared with a three-month wait for the hospital clinic.

2.4 MANAGING INFORMATION ON DRUGS

Key points

- An information management service includes filtration of incoming information for that which is impartial, relevant and easy to absorb, and the provision of specific information on request.
- Liaison with the pharmaceutical industry could be co-ordinated according to practice/PCG requirements.
- Provision of information to patients in the form of information leaflets is a service which can reinforce verbal messages and improve adherence with drug regimens.
- Existing drug information services can support GP prescribing in a variety of ways.

GPs are inundated with information on drugs. This ranges from peer-reviewed journals such as the British Medical Journal or Lancet, publications such as the British National Formulary, Drug and Therapeutics Bulletin and MeReC bulletins, right through to unsolicited material sponsored or produced by the pharmaceutical industry. It is not surprising, therefore, that many GPs feel overwhelmed by the amount of information available on prescribing.

An information management service involves collection, evaluation and retrieval of data for dissemination in support of members of the primary healthcare team, as required. Such a service, to a practice or PCG, will develop a storage and supply system so that essential information is readily available. Only information that is relevant and easy to absorb need be presented. Such information is available from a range of sources, including:

- the BNF that contains authoritative guidance on the prescribing of drugs available in the UK
- the Drug and Therapeutics Bulletin that is published by the Consumers' Association. It provides critical impartial reviews of medical and other treatments.
- MeReC bulletins from the National Prescribing Centre that provide independent, evaluated information and advice on medicines and their use in treatment. They concentrate on reviews of newer medicines, ongoing reviews of key drug groups or treatment areas and, occasionally, wider policy issues such as generic prescribing.
- Effective Health Care that is published by the NHS Centre for

Reviews and Dissemination, based at the University of York. It summarises systematic reviews undertaken or commissioned by the Centre. Effectiveness Matters summarises the results of systematic reviews in a shorter and more journalistic style, and has a primary care focus.

- Prescribers' Journal that reviews topics as they relate to medicines, with a particular slant on how they should be used in clinical practice
- regional and local drug information centres that produce regular bulletins covering topical prescribing issues, including drug comparisons and abbreviated new product assessments
- regional drug information centres that produce independent reviews of new products that have just been marketed. Production of these assessments is soon to be a joint venture with the National Prescribing Centre.
- HAs that often produce their own prescribing newsletters highlighting local prescribing issues
- local drug information pharmacists that can be a valuable resource for resolving specific drug queries (see BNF for initial contact points)
- the National Institute for Clinical Excellence (NICE) that will bring together work currently undertaken in a range of organisations in order to produce and disseminate clinical guidelines, audit methodologies and information on good practice

PCGs could consider purchasing drug information services from local or regional drug information centres. Similarly, drug information queries could be co-ordinated across PCGs, to help ensure that work is not replicated. This may be a central co-ordination role to be undertaken by a nominated individual or group across the locality. Regional drug information centres may also be well placed to perform this task.

Liaison with the Industry

The pharmaceutical industry spends £570 million per year and employs nearly 6000 representatives to promote their products. A coordinated approach to linking with the industry can bring efficiency benefits to both practices and the drug companies. A nominated person could take on the role of supporting effective links with the pharmaceutical industry on behalf of the practice or PCG.

Information Leaflets

Some patients remember very little of what their GP has told them during a consultation. It is often helpful to back up any verbal advice or instructions with written information. Pharmaceutical manufacturers now enclose product specific information leaflets with most medicines.

On occasions other types of patient information leaflets may be of value and are available from a variety sources. Occasionally a practice may wish to develop its own in-house leaflets on specific issues such as:

- advice on how to treat minor ailments without making an appointment to see the GP
- leaflets about the treatment of head lice
- advice on the need or otherwise for antibiotics when treating colds and 'flu'

The Centre for Health Information Quality offers a range of free support services to those developing patient information to ensure it is of good quality, evidence-based and addresses the consumers' needs. Callers will be put in touch with colleagues working on similar projects elsewhere in the country, given details of useful guides, tools and literature, and sent support materials produced by the Centre. (For contact details see appendix 6)

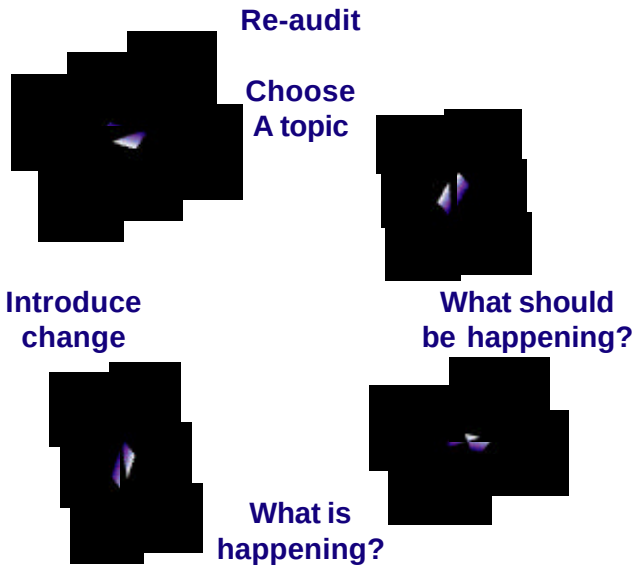
A prescribing support service could organise an adequate supply of useful patient information leaflets, and collate information on other sources of patient advice. Many pharmacy computer systems now produce patient information leaflets and GP computer systems are developing along similar lines. Some systems increasingly allow customisation of small leaflets to meet local or patient specific issues. Again this process could be part of such a support service.

2.5 AUDIT

Key points

- Many areas within prescribing are suitable for audit, such as repeat prescribing or the use of statins.
- A prescribing support service could include undertaking specific audits within a practice/PCG, potentially resulting in improvements in patient care.

Prescribing audit is an important part of clinical audit. Having identified a standard to achieve, audit helps to identify areas of practice which fall short of this. Audit encourages a practice to work through a cycle by setting an agreed standard, reviewing current practice, implementing change and reviewing progress against the standard set.



GP practices will have already developed links with their local Medical Audit Groups. In future, the concept of clinical governance will increase peer pressure at a local level to deliver high quality care. Each PCG will nominate someone to be in charge of clinical governance, and audit will play a key role in improving the quality of care for patients.

Many areas within prescribing can be identified as suitable for audit, for example:

- long-term use of oral steroids, lithium use, patients over 70 years of age on NSAIDs, warfarin etc.
- *H. pylori* eradication
- use of long-term ulcer-healing drugs
- benzodiazepines
- effective use of aspirin in the secondary prevention of cardiovascular and cerebrovascular disease
- repeat prescribing

All audits require careful planning, effective management and considerable professional time commitment. Prescribing support on audit within the practice or PCG could encourage the use of this important process.

A model framework for any prescribing audit is included in appendix 5.

2.6 EDUCATIONAL ASPECTS OF PRESCRIBING SUPPORT

Key points

- Continuing professional development is essential for all members of the primary health care team.
- Adequate education and training is key to the successful implementation of change.
- Educational outreach has been shown to be effective in modifying prescribing behaviour.

Continuing professional development is a process of lifelong learning which enables individual professionals to expand and fulfil their potential and be better equipped to meet the needs of patients and deliver the health outcomes and priorities of the NHS. Lifelong learning is an important part of the drive to improve the quality of health care. The pace of change in therapeutics and prescribing means that keeping up to date in these areas is a particular challenge. Provision of training is an important element of any prescribing support service.

Community pharmacists in Lancashire held a series of pharmacist-led seminars covering a range of topics. These included therapeutic updates, formulary development and repeat prescribing. As a result GPs felt that their service to patients improved and that savings could be made.

Department of Health Project, see appendix 1, page 78

In St Helens and Knowsley a primary care pharmacist provides support to a commissioning group of GP practices. The pharmacist has facilitated a number of clinical meetings for GPs and district nurses, with hospital clinicians and other specialists. These have led to quality improvements in several areas of prescribing.

See appendix 2, page 86

Continuing professional development is essential for all members of the primary health care team and an important part of the drive to improve the quality of health care. Specific local training programmes around the prescribing process for the primary health care team may include:

- therapeutics updates for practice nurses, GPs, district nurses, health visitors
- an introduction to HA finances as related to prescribing e.g. budget-setting, monitoring of financial performance
- how to make repeat prescribing systems more efficient and effective
- prescribing issues for nursing and residential home staff

Whenever a change is implemented within a practice, all members of the team should be fully involved in the process and, where necessary, undergo training so that they have ownership of, and are therefore able to maintain the changes. For example, if implementing repeat prescribing procedures, one member of the practice staff should be designated as the lead person. That person should be trained so that they can fully understand, implement and maintain the proposed system. Other staff should be trained so that they could maintain the system in the absence of the lead person. Training and education also increases the uptake of recommendations for change. This is key in ensuring the success of any intervention.

Educational Outreach

Educational outreach visits have been identified as an intervention that can improve prescribing. The term "outreach visit" is used to describe a personal visit by a trained person to a health provider in his or her own setting.

An educational outreach programme, IMPACT (independent monitoring of prescribing analyses, costs and trends) used specially trained community pharmacist facilitators on a part-time sessional basis to advise general practitioners on specific prescribing issues.

Over the last four years the Department of Medicines Management at Keele University has trained over 100 community pharmacists to work on IMPACT educational outreach projects on behalf of eleven HAs.

The original research project, run in two HAs, has now been fully evaluated. Nineteen drug specific messages across three intervention programmes were monitored in the quantitative analysis and participating GPs and pharmacists contributed to a qualitative study of the service.

Key findings were:

- sixteen out of the 19 messages produced a greater change in the desired direction compared with a matched control group of practices outside the participating HAs. Six of these changes reached statistical significance
- total costs taken out of prescribing for all intervention practices was £242,000. Messages focused on cost alone were the most difficult to deliver. Subsequent messages have focused on quality of prescribing or under-diagnosis.
- the IMPACT programme was appreciated by doctors, the support materials were highly rated and the IMPACT pharmacists well received

The IMPACT team have calculated that based on this pilot, every £1 invested on this type of intervention should yield over £2 in savings.