Repeat Prescribing by General Medical Practitioners in England
This report has been prepared under Section 6 of the National Audit Act 1983 for presentation to the House of Commons in accordance with Section 9 of the Act.

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Summary and conclusions

1 The Department of Health define a repeat prescription as "a prescription issued without a consultation". Repeat prescriptions can be convenient for patients and efficient for general practitioners. But there are also risks: general practitioners may not be monitoring the condition of their patients as frequently as would be desirable; and there is an increased risk of drug wastage.

2 About 400 million prescriptions were issued in England in 1992-93, at a cost of some £2.6 billion. The Department of Health do not know the number and cost of repeat prescriptions, but recent research indicates that the majority - perhaps two thirds - of items are prescribed on a repeat basis.

3 The National Audit Office examined the role of the Department of Health in relation to repeat prescribing: the action taken, or planned, by regional health authorities and family health services authorities to review and promote effective repeat prescribing; and the availability of reliable and relevant information on repeat prescribing.

The role of the Department of Health

4 The National Health Service Management Executive - part of the Department of Health - attach great importance to improving the quality and cost-effectiveness of prescribing by general practitioners. In 1992, the Management Executive set health authorities objectives relating to the effectiveness and cost of prescribing; and, in their guidance to regions on their corporate contracts with family health services authorities for 1993-94, emphasised that repeat prescribing was a high priority area which they all should address (paragraphs 2.3 and 2.4).

5 Repeat dispensing is the repetition of supplies of medication from a single prescription. A specialised form of repeat dispensing is already used for dispensing controlled drugs. In 1992, the Joint Working Party of the Department of Health and the pharmaceutical profession recommended that community pharmacists should be empowered to undertake repeat dispensing. The Joint Working Party concluded that repeat dispensing would improve patient convenience, safety, patient contact and prescriber convenience at no additional cost overall. The Department of Health are considering this recommendation (paragraphs 2.5 to 2.9).

Conclusion

6 The Management Executive have in recent years concentrated a great deal of effort on improving the efficiency and effectiveness of general practitioner prescribing. They have called for more specific action on repeat prescribing from health authorities in 1993-94. The National Audit Office found significant support for repeat dispensing in many of the authorities visited; and consider that the Department of Health should aim to take a decision as soon as possible on the Joint Working Party's recommendation.
Reviewing and promoting effective repeat prescribing

7 Medical and pharmaceutical advisers at 34 of the 90 family health services authorities had carried out, or proposed to carry out, examinations of repeat prescribing. Their reasons included the need to gain assurance on safety and quality of service, convenience to patients and review arrangements. Where advisers had completed their examinations, they had concluded that general practices could improve efficiency and effectiveness by setting, and complying with, appropriate controls on the availability of repeat prescriptions and on patient review (paragraphs 3.3 and 3.4).

8 At the time of the study, advisers in the remaining 56 family health services authorities had no plans to examine repeat prescribing. Some had doubts about the value of examining repeat prescribing in isolation, or had difficulties in devising a methodology, inadequate resources, or other priorities. Others preferred to leave the task to general practitioners or medical audit advisory groups (paragraphs 3.5 and 3.6).

9 Some family health services authority medical and pharmaceutical advisers were developing a range of measures to promote the safe and effective use of repeat prescribing by general practitioners. These measures included: producing or distributing guidelines for general practitioners; developing indicators for repeat prescribing, or for certain therapeutic groups; improving patient co-operation in taking medicines as directed; and involving community pharmacists in primary care teams (paragraphs 3.7 to 3.16).

10 Advisers in 39 family health services authorities told the National Audit Office they knew of general practices within their areas which had reviewed repeat prescribing. Findings common to many of the general practices' reviews were: review periods were not always defined; even when they were defined, some patients did not receive a review within that period; patients did not always comply with their prescriptions; patients might use the repeat prescribing facility to avoid consultations; and repeat prescriptions might not be discontinued when their therapeutic effect had ceased (paragraphs 3.17 and 3.18, Tables 3 and 4).

11 As a result of these reviews, general practitioners have taken action to increase control of patient review arrangements, minimise the risk of inaccuracies, and introduce standardised guidelines for treatment of therapeutic or client groups and specific lists of drugs to select from when issuing prescriptions (paragraph 3.19 and Table 5).

Conclusion

12 Many family health services authorities have examined, and promoted ways of improving, repeat prescribing. And many general practices have examined and improved their own repeat prescribing. But, at the time of the National Audit Office examination, the majority of family health services authorities had taken no specific initiatives on repeat prescribing, and had no plans to do so. The National Health Service Management Executive have assured the National Audit Office that the situation has improved since the Management Executive issued their advice to regions to include repeat prescribing in family health services.
authority corporate contracts. Those authorities - and general practices - which have yet to act may wish to consider the examples of action taken which are set out in this report.

Information on repeat prescribing

13 Advisers stated that they would welcome the availability of good quality information at practice level on repeat prescribing. But the system which generates information on prescribing for family health services authorities and general practitioners - Prescribing Analysis and Cost System (PACT) - does not differentiate between new and repeat prescriptions (paragraphs 4.1 to 4.3).

14 A number of authorities have carried out research into the scale of repeat prescribing. Some authorities found, however, that general practices in their areas were unable to provide reliable information on which to base such an estimate (paragraphs 4.6 to 4.10).

Conclusion

15 There is a lack of regularly produced and reliable information on new and repeat prescribing. Such information at practice level could help general practitioners and medical advisers to analyse the current pattern of prescribing, assess the need for change and monitor the impact of any changes made in prescribing policy. In the National Audit Office's view, the Department should consider the value and practicality of obtaining and disseminating such information through their Prescribing Analysis and Cost information system for family health services authorities and general practitioners.

General conclusion, and action required

16 The National Health Service Management Executive recognise the potential benefits to quality of patient care arising from properly monitored repeat prescribing systems, and are taking appropriate action. The National Audit Office consider that, in the light of those benefits and of the overall cost of prescribing, further action should be taken by the Department of Health, family health services authorities and general practitioners to secure safe and efficient repeat prescribing.

Action required by the Department of Health

The Department of Health should:

• aim to take a decision as soon as possible on the costs and benefits of repeat dispensing, as recommended in 1992 by the Joint Working Party of the Department of Health and the pharmaceutical profession;

• consider the value and practicality of providing, through the Prescribing Analysis and Cost System, regular information on repeat prescribing.

Action required by the The National Health Service Management Executive

The National Health Service Management Executive should regularly monitor the performance of health authorities in relation to the targets set for repeat prescribing.
Action required by family health services authorities

Family health services authorities should consider:

- asking for greater detail of doctors’ systems for the issue of repeat prescriptions to patients, for example in the annual general practice reports;
- carrying out separate surveys of repeat prescribing practice;
- undertaking more detailed analysis of the repeat prescribing systems of a small number of general practices;
- facilitating the compilation and distribution of guidance on repeat prescribing;
- establishing quality markers;
- involving community pharmacists as a means of promoting the effective use of repeat prescribing.

Action required by general practitioners

General practitioners should adopt policies on repeat prescribing, and monitor compliance with them. Aspects to be monitored should include:

- the scale of their repeat prescribing;
- the appropriateness of their patient review periods;
- the frequency of their reference to patients’ notes;
- the repeat prescribing of specific drug groups;
- the provision of information to patients to encourage their compliance.

Medical audit also presents general practitioners with important opportunities for reviewing their repeat prescribing.
Part 1: Introduction and background

"... an efficient repeat prescribing system incorporating clinical feedback and regular monitoring (audit) is a sign of good quality practice".

Source: 'Repeat Prescribing in General Practice' Medical Advisers' Support Centre, 1992.

1.1 The Medicines Act 1968 confirmed the freedom of general medical practitioners to prescribe drugs. In England, general practitioners prescribe approximately 400 million items each year. The cost of the drugs prescribed was about £2.8 billion in 1992-93. That represents around nine per cent of National Health Service expenditure, and is the biggest single cost after staffing.

1.2 General practitioners are not required to see patients each time they prescribe a drug; they are free to decide when to review the patient's condition and the effectiveness of the treatment. The general practitioner may decide to repeat a prescription over a period with or without a further consultation each time. A consultation between a general practitioner and a patient may be face to face, or over the telephone, or the patient may have been seen by a practice nurse. The interval between reviews will be informed by the general practitioner's assessment of whether the patient is likely to comply with the medication, report any side effects and request, if necessary, a further consultation before the next review is due. For the purposes of this examination the National Audit Office have used the Department of Health's definition of a repeat prescription, which is: "a prescription issued without a consultation".

1.3 The total number of repeat prescriptions is unknown, because general practitioners are not required to identify them separately. Bodies consulted by the National Audit Office estimated, from research into the scale of repeat prescribing, that the majority - perhaps two thirds - of items are prescribed on a repeat basis.

1.4 In 1991, a survey for the National Health Service Management Executive (General Practitioner Computing 1991 Survey) found that 57 per cent of all practices issued computer generated repeat prescriptions. These systems provide patients with a copy of the item(s) which have been prescribed and may indicate a required review date. Patients can then return that record to the practice when they wish to request a repeat.

1.5 The other 43 per cent of practices used manual systems. In these practices general practitioners or practice staff might prepare the repeat prescriptions, although general practitioners sign them. Some practices give their patients a booklet or card which records all repeat prescriptions received and is updated with each successive repeat.

Study objectives and methodology

1.6 Systematic review of repeat prescribing systems enables general practitioners to gain assurance as to the overall quality and cost effectiveness of repeat prescribing; and can identify measures to minimise the risks associated with it. There are a number of ways in which general practitioners may seek to improve the quality of their repeat prescribing. These include seeking advice from medical and pharmaceutical advisers, carrying out peer group review within medical audit advisory groups, and undertaking further professional training at post graduate centres. This National Audit Office examination focused on work undertaken with, and by, family health services authorities and regional health authorities. The National Audit Office examined:

- the role of the Department of Health;

- action taken, or planned, by regional health authorities and family health services authorities to review and promote effective repeat prescribing; and

- the availability of reliable and relevant information on repeat prescribing.
1.7 The National Audit Office:

- surveyed by questionnaire (in July 1992) all 90 family health services authorities in England to identify which were specifically reviewing these areas, and the nature of any work undertaken or planned;
- requested seven regional health authorities to provide the information they held separately on repeat prescribing;
- visited 13 family health services authorities and two regional health authorities which were actively addressing the use of repeat prescribing by general practitioners, or which had significant plans to do so (Appendix 1);
- consulted the bodies listed at Appendix 2.

1.8 The National Audit Office employed professional advisers to help them with aspects of the examination: Dr Jane Richards and Dr Gareth Emrys Jones, respectively Chairman of the Prescribing Subcommittee and Chairman of the Rural Practice Subcommittee of the General Medical Services Committee of the British Medical Association.

Benefits of repeat prescribing

1.9 The facility to issue repeat prescriptions without a consultation has important advantages. For a patient, it provides a convenient mechanism for receiving long-term medication, by removing the need to see the general practitioner every month or so for a new prescription. Reducing the number of consultations can lessen anxiety and can also help to reduce the impact of a long-term disease on the patient’s daily life. For general practitioners, the aggregate time saving may be considerable. One general practitioner has estimated that a practice of five partners would need a sixth doctor if they were to see every patient each time they issued a prescription (Drury, Journal of the Royal College of General Practitioners, 32, 42-45). Well controlled repeat prescribing, with medium term prescription durations, also has benefits over single prescriptions of very long duration, where review arrangements can be inadequate and greater wastage of drugs occurs.

Risks of repeat prescribing

1.10 Repeat prescribing presents certain risks to the quality of patient care if review arrangements by the general practitioner, or another health professional - such as a hospital consultant - are inadequate. Risks include general practitioners not being able to detect promptly changes in the patient’s medical condition, or the development of side effects. Treatment might continue beyond its therapeutic value, or prove less effective than expected. General practitioners will also be less able to check that patients are taking the drugs as directed.

1.11 Patient health may be adversely affected by the side effects of long term drug treatment; or by the interaction of multiple drug treatments. Firm quantifiable evidence on the prevalence of this is not available. However, the Medical Adviser of West Sussex Family Health Services Authority considered that up to 30 per cent of admissions to geriatric wards may be associated with this cause. Drugs which carry risks of adverse side effects include drugs commonly prescribed for controlling the pain of degenerative diseases, such as osteo-arthritis. These may cause peptic ulceration, especially in the elderly. The White Paper, “The Health of the Nation” also recognised the particular problems of dependency and severe difficulties with withdrawal associated with long-term treatment with benzodiazepines (a group of drugs commonly prescribed for anxiety and sleeping disorders).

1.12 The Association of Community Health Councils for England and Wales and The Patients’ Association emphasised the importance of the correct balance between adequate frequency of review and patient convenience. Community Health Council surveys in West Birmingham and Oxfordshire found wide variations in procedures for obtaining repeat prescriptions; some were designed to meet the needs of a busy surgery, while others were tailored to suit the circumstances of individual patients.

Drug wastage

1.13 There is a risk with all prescribing that it may lead to drug wastage. But repeat prescribing, by its nature, carries a higher risk than acute prescribing. This risk may arise from the way
in which repeat prescriptions are prepared for people who are taking more than one course of medication; through drugs being left unused when a doctor prescribes a change of medication; or through patients' failure to use the items as prescribed.

1.14 Many patients are prescribed more than one drug at a time. In 1993, research workers in the Pharmacy Department of the University of Manchester published a report "Improving the cost effectiveness of repeat prescribing" funded by the Department of Health. They found that 22 per cent of all repeat prescriptions examined in their survey were for more than one item; and that 20 per cent of those multiple item prescription forms did not have a common number of days treatment for all items. This can lead to waste, mainly because patients tend to request a complete repeat when they have used up one of the items only.

1.15 Fourteen per cent by value of the drugs on multiple item prescriptions in the survey appeared to be excess to requirements when compared with the shortest duration item. The research workers estimated that, on a projection from their survey, up to £60 million worth of drugs dispensed in England each year may not be fully used. This problem does not have a simple solution. One way to help minimise waste would be - where possible - to prescribe a common number of days treatment for each item. But this would not improve the situation where dispensing is done using drug manufacturers' special containers or calendar packs, since these contain varying numbers of tablets, such as 28, 30 or 50 days supply. The use of these packs for dispensing medication is growing and is likely to become the norm in the near future.

1.16 South East Thames Regional Pharmaceutical Adviser told the National Audit Office that there had been many occasions when a patient's treatment had been altered, other than at a normal review, and the information on the new drug or dose had not been input to the practice's repeat prescribing system. The result was that subsequent repeat prescriptions were generated for the wrong drug or dose. This lapse is particularly likely to happen following a home visit by the general practitioner, or when a hospital consultant had changed the prescription. Within the region, a "change of prescription" form has been introduced on a local basis - it is currently being used in Bromley and Camberwell - to overcome this problem. The hospital doctor reviewing the patient's treatment and condition uses this form to notify the patient's practice each time a prescription is changed so that the practice may update the repeat prescription record.
Part 2: The role of the Department of Health

2.1 The National Health Service Management Executive aim to improve the quality and cost effectiveness of prescribing by general practitioners. The National Audit Office examined how they performed that role in relation to repeat prescribing.

2.2 The Management Executive expect health authorities to ensure that the management resources they devote to prescribing reflect the level of expenditure incurred. The Chief Executive of the Management Executive wrote to regional general managers and family health services authorities' general managers on 7 August 1992 setting out the following objectives:

- promote effective prescribing by general practitioners;
- monitor the setting of indicative prescribing amounts - financial benchmarks for spending of non-fundholding general practices on drugs (see glossary) - by family health services authorities;
- examine performance achieved against those amounts.

2.3 The Management Executive have established a multi-disciplinary task force led by the Performance Management Directorate (Primary Care) to review with regional health authorities the policies and performance of their family health services authorities and general practitioners in the field of prescribing. The purpose of the group is to ensure that available information is analysed and used effectively as the basis of policies which will cut out waste and encourage cost-effective prescribing.

2.4 The Management Executive’s guidance to regions on their corporate contracts with family health services authorities for 1993-94 required them to set targets for achievement by March 1994 for improving the efficiency and value for money of general practitioner prescribing. The detailed choice of targets was left to local discretion, but the guidance emphasised that repeat prescribing was a high priority area which all regions should be addressing. Illustrative examples of possible targets included developing systems for regular review of repeat prescribing and the development of prescribing policies for specific drugs.

Repeat Dispensing

2.5 The Joint Working Party of the Department of Health and the pharmaceutical profession recommended in 1992 that pharmacists should be enabled to provide repeat supplies of medication under the authority of the prescriber within the National Health Service. Repeat dispensing, which is a procedure for dispensing a prescription in parts rather than in total, is already practised in many countries and there is also a scheme in Scotland. It is also practised, in a specialised form called instalment dispensing, throughout the United Kingdom for dispensing controlled drugs for the treatment of people with drug addiction. Repeat dispensing is permitted by the Medicines Act 1968, and is commonplace in the relatively small private prescription sector in the United Kingdom. The report noted that the advantages of repeat dispensing were patient convenience, safety, patient contact and prescriber convenience.

2.6 In the view of the Joint Working Party, prescribers' clinical control of their patients would be adequately safeguarded if repeat dispensing were only available where authorised by, and for a period determined by, the prescribing doctor.

2.7 The Joint Working Party noted the cost implications of enabling repeat dispensing, that is, pharmacists would expect to be paid a fee for each dispensing. However, the Joint Working Party considered there would be off-setting savings in reduced wastage and savings in prescribers' time.

2.8 The Joint Working Party recommended that the necessary changes to the National Health Service (General Medical and Pharmaceutical Services) Regulations should be introduced.
following consultation with the relevant professional bodies on detailed arrangements for allowing pharmacists to dispense repeat supplies to National Health Service patients on long term medication. The Joint Working Party envisaged that repeat dispensing would normally take place in the context of locally agreed protocols. The Department of Health are considering these recommendations.

2.9 The Patients' Association noted that a system of repeat dispensing could be a useful option for patients who use the same community pharmacy on a regular basis. The National Audit Office found that there was significant support for repeat dispensing in most of the authorities visited. Repeat dispensing was considered able to provide a convenient service to patients and able to lead to reduced drug wastage. Dorset Family Health Services Authority is planning a pilot project on repeat dispensing and has approached the Prescription Pricing Authority for help in planning the project.
Part 3: Reviewing and promoting effective repeat prescribing

Action taken by family health services authorities

3.1 The National Health Service Management Executive expect family health services authorities to promote effective prescribing by general practitioners. This expectation includes influencing the prescribing behaviour of general practitioners to secure safe and efficient repeat prescribing. The National Audit Office conducted a survey of family health services authorities to establish whether they had reviewed repeat prescribing by general practitioners; and to ask whether general practitioners had carried out their own reviews. They followed up the survey by visiting 13 family health services authorities and two regional health authorities to obtain further information on their plans, action and findings.

Reviews of repeat prescribing systems

3.2 General practitioners’ Terms of Service, paragraph 50 (Schedule B), require them to provide information in their annual report to family health services authorities on their arrangements for the issue of repeat prescriptions to patients. In their responses to the National Audit Office survey, some family health services authorities provided brief outlines of further action they were taking to examine repeat prescribing. The National Audit Office visited authorities which were actively addressing the use of repeat prescribing systems, to expand on the outline information provided.

3.3 Medical and pharmaceutical advisers are a key element in meeting the Management Executive’s aim of improving prescribing by general practitioners. A medical adviser is a doctor appointed by a family health services authority to provide practical help and guidance to general practices on primary healthcare services and on prescribing. Each family health services authority now has a medical adviser, and they usually have direct experience of working in general practice. A pharmaceutical adviser is a pharmacist appointed by a family health services authority to influence and report on pharmaceutical issues, including prescribing at general practice level. Not every family health services authority has appointed a pharmaceutical adviser. Advisers in 34 of the 90 family health services authorities were planning further action to examine repeat prescribing. The reasons they gave indicated that they wished to gain assurance on safety and quality of service, convenience to patients and review arrangements. Specifically, they wished to determine:

- the strengths and weaknesses of the repeat prescribing systems currently operated by practices within their authorities in terms of convenience and quality of service to patients;
- the impact of repeat prescribing on the high and growing expenditure on drugs;
- the potential waste of repeat prescribed drugs, through patients not complying with their prescriptions, and through inflexible repeat prescribing systems;
- the extent to which general practitioners set review periods.

They carried out, or proposed to carry out, their examination of repeat prescribing by:

- adding more detailed questions to the annual general practice report or compiling a separate questionnaire; or
- undertaking a pilot study of a small number of practices to examine their systems in greater depth.

Examples of these two main approaches are given in Appendix 3.
In those family health services authorities which had already reviewed repeat prescribing systems, advisers found substantial diversity in all aspects of the systems. These aspects included: the extent to which general practitioners referred to patients' notes when approving repeat prescriptions, compliance with safeguards included in computerised systems, the intervals between consultations and acceptance of requests by telephone. Advisers considered that local flexibility was an essential feature of practices' repeat prescribing systems. But general practices could improve efficiency and effectiveness by setting, and complying with, appropriate controls on the availability of repeat prescriptions and on patient review.

At the time of the study advisers in 56 of the 90 family health services authorities had no plans to examine repeat prescribing systems beyond the information provided in general practices' annual reports because they:

- had doubts about the value of examining these systems in isolation from an overall examination of quality and cost effectiveness of prescribing;
- had difficulties in devising a methodology for an additional examination;
- had insufficient resources to carry out an additional examination; or
- had other competing priorities they wished to address first, such as promoting rational prescribing.

In some cases, advisers stated that they preferred to leave the examination of repeat prescribing systems to general practitioners themselves, or pointed out that the local medical audit advisory group was already examining repeat prescribing systems.

### Promoting effective repeat prescribing

Advisers in the authorities visited by the National Audit Office are developing a range of measures to promote the safe and effective use of repeat prescribing by general practitioners. These include distributing guidance, establishing quality markers, helping to improve patient compliance and involving community pharmacists.

Many advisers supported the distribution of guidance to general practices, but stressed that they would take such action only to help general practitioners to make their own changes and to agree their own guidance. The advisers recognised that they would need to consult their local medical committee, local pharmaceutical committee and medical audit advisory group to agree the content and design of such documents.

Some advisers have produced treatment guidelines - which include effective repeat prescribing arrangements - for particular client groups, such as asthma patients. Others have also produced guidelines which address directly repeat prescribing for all client groups.

The Medical Adviser of West Sussex Family Health Services Authority has produced a "Prescriber's Guide to Long Term Medication and Repeat Prescribing". This provides general advice on repeat prescribing arrangements, review, practice organisation and audit. An extract is at Table 1. The West Sussex Medical Audit Advisory Group has produced a "Repeat Prescribing Audit Pack". The aim of the pack is to ensure the safe and effective use of drugs obtained on repeat prescription. It suggests appropriate audit methodologies for specific drug groups. The Medical Audit Advisory Group has also produced audit packs on the management of hypertension and asthma which have been distributed to all general practices.

The Medical Advisers' Support Centre has produced a document which sets out a model approach to repeat prescribing. To determine whether the system is well run, the document recommends adherence to 10 requirements (listed at Table 2), plus regular audit within the practice.

### Establishing quality markers

Medical and pharmaceutical advisers in a number of authorities had identified a need to develop quality markers for repeat prescribing. A quality marker is a locally agreed indicator of optimal prescribing pattern for a given client group or drug group, against which a practice's actual prescribing pattern could be compared. Quality markers are locally reached by consensus amongst general practitioners; these markers apply to all types of prescribing but
### Table 1: Ten points to cover during a review of a patient receiving a repeat prescription

1. Re-examine original and continuing requirement for drug and dose.
2. Check that the patient is taking the drug regularly by the correct route, in the correct dose and at the right times. If it is to be taken "as required", check that the patient knows when and how to take it.
3. Make sure that the patient understands the purpose of each drug and check whether the patient wishes to continue taking it.
4. Make sure that the patient is not taking any other drugs you do not already know of.
5. Record in notes the complete list of drugs currently being taken with dosage, and include over the counter drugs.
6. Enquire specifically for side effects and alcohol intake.
7. Arrange time of next review - depending upon the drug prescribed and the patient's condition.
8. Repeat review whenever a new drug is added or dose changed. Make sure the patient is clear about whether a new drug is to be taken "as well as" or "instead of" any others.
9. Write the monitoring plan in notes.
10. Give the patient a written copy of:
   - name of drug
   - strength of tablet
   - daily dose
   - date first prescribed
   - when to take it
   - how long for
   - what it is for
   - likely side effects
   - under what circumstances to see the doctor again
   - date of next appointment

**Source:** West Sussex Family Health Services Authority

are particularly relevant to repeat prescribing. If a practice found significant variation, it could then consider how to improve the quality of its prescribing.

### Table 2: Ten Requirements of a Good Repeat Prescribing System

1. Patients requiring a repeat prescription should be able to get one within 24 hours.
2. Prescriptions must be prepared with meticulous accuracy and attention to avoiding error.
3. There must be a recall system within the system, clear to staff, doctors and patients and flexible according to clinical need.
4. There must be a clear clinical record of what drugs the patient is currently taking and when the supply was last obtained.
5. The system used in the practice should be cost effective, efficient and user friendly.
6. There must be a built in quality assurance mechanism within the system.
7. There should be a means of checking patient's compliance.
8. All prescriptions should be reviewed and signed by a doctor who knows the patient and who has direct access to the patient's clinical record.
9. The system should be flexible to meet the needs of patients and the surgery.
10. Drugs prescribed within the system must be ordered by a doctor and reviewed on a regular basis.

**Source:** Medical Advisers' Support Centre

**Taking medicines as directed**

3.14 If patients do not follow their doctor's advice on the use of the drugs prescribed, there is a danger of reduced benefit from the course of treatment. Patients may take excessive dosages and experience an increase in side effects, or, conversely, unused medicines may accumulate in patients' homes. Some of the authorities were addressing this problem. The Sowerby Foundation research (Appendix 4) will examine aspects of non-co-operation, including patients' failure to take regularly or at all, or to obtain, repeat prescribed drugs. Bromley Family Health Services Authority considers patient education an important factor in securing their co-operation; and aims to address that need. And the guidance for general practitioners on repeat prescribing prepared by West Sussex Family Health Services Authority states that during their consultations with patients, general practitioners should enquire whether patients are taking the drug regularly by the correct route, in the correct dose and at the right times (Table 1).
Involving community pharmacists

3.15 Advisers recognised the value of involving community pharmacists in a primary care team, as a means of promoting the effective use of repeat prescribing. They considered that community pharmacists could provide valuable information on prescribing patterns, and support, to general practitioners. They were researching how to involve community pharmacists and how to secure the co-operation of general practices to establish such teams. One of the objectives of the pilot study on repeat prescribing planned by City and East London Family Health Services Authority was to investigate the role of community pharmacists and encourage closer links with general practices. Advisers noted that community pharmacists could assist in providing patient education to encourage compliance. Many community pharmacies hold patient medication records; advisers considered that these records could be used effectively in this area.

3.16 A further benefit of involving community pharmacies is that they act as a depository during campaigns to persuade the general public to dispose of unwanted medicines. Barnet Family Health Services Authority had introduced a form for community pharmacies to record what has been returned, when and why. The Authority will analyse the results to help identify the degree to which returned medicines were issued by repeat prescription, and where patients have failed to comply with their prescriptions.

General Practitioners' Reviews

3.17 General practitioners' own reviews of repeat prescribing systems are most important, since they are likely to be carried out by motivated practices, and therefore to lead to action to improve systems.

3.18 In 30 family health services authorities, the medical or pharmaceutical adviser knew of general practices within the authority which had reviewed their repeat prescribing systems. Table 3 shows an example of general practitioner reviews carried out in one authority, Shropshire. In some authorities, these reviews were being carried out through the local medical audit advisory groups. These groups have been established within each family health services authority to undertake peer review and self audit by general practitioners and group practices. Common findings arising from general practitioners' review are shown in Table 4.

Table 3: General practice findings - Shropshire

In response to the National Audit Office's enquiry, the Medical Adviser of Shropshire Family Health Services Authority sent a questionnaire to general practices in Shropshire, asking them to provide details of any analysis of repeat prescribing. Details given in response included:

- two practices had analysed the scale of repeat prescribing, one had reviewed the number of different drugs prescribed and in what quantities. The partners decided to increase their level of generic prescribing and have tighter controls on quantities. They also introduced more frequent review arrangements for hypertension, diabetes and hypothyroid treatments;
- a number of practices had taken the opportunity to rationalise repeat prescribing when computerising. Changes introduced included issuing repeat prescriptions for hypnotics, tranquilisers and anti-depressants only in exceptional circumstances. One practice introduced a patient hold record of drugs prescribed. Another limited repeat prescription durations to one month, other than for the oral contraceptive;
- some practices examined specific drug areas. One practice placed all patients prescribed a particular drug - Temazepam - commonly prescribed for sleeping disorders - on three month review intervals. Another practice concentrated on reducing its prescribing of all preparations in the benzodiazepine group. One practice had tried to limit the number of different ulcer healing drugs it prescribed.

Table 4: Other General Practice Findings

Findings common to many of the reviews reported by other family health services authorities included:

- review periods are not always defined;
- even when defined, some patients do not receive a review within that period;
- patients do not always comply with their prescriptions;
- patients may use the repeat prescribing facility to avoid consultations;
- repeat prescriptions may not be being discontinued when their therapeutic effect has ceased.

General practitioners' action on findings

3.19 General practitioners found that introducing standardised guidelines for treatment of therapeutic or client groups, and practice formularies - specified lists of drugs to select from when issuing a prescription - can complement controls on repeat prescribing.
systems. Other action taken was intended to give greater control of patient review arrangements or to minimise the risk of inaccuracies in repeat prescriptions. In some cases, such as more frequent review, this action could reduce the convenience to patients of repeat prescribing. Examples are given in Table 5.

Table 5: Examples of general practitioners' action to improve repeat prescribing are:

- issue prescriptions only after a consultation;
- increase the frequency of consultations;
- search all the patients' records to identify each patient receiving repeat medication. Invite for a consultation all patients who have received repeat prescriptions over a long period without a review;
- regularly review the continued appropriateness of each patient's repeat prescription and check for adverse drug combinations;
- provide patients with more information on their medication and on the importance of compliance with the prescription and attending for review;
- change the method by which repeat prescriptions may be requested by patients. For example, some general practitioners have ceased to accept requests by telephone as the patient may not describe accurately the medicine required or the request over the telephone may not be recorded properly in the patient's notes.

3.20 In 1987, a large practice in Lincolnshire audited its prescribing of benzodiazepines. The practice aimed to identify patients who had been taking the drugs long term. They then ran a campaign to help their patients withdraw from the drugs. A review in 1992 showed that one-third of the patients had stopped taking benzodiazepines, and all had been offered help with withdrawal. (Source: "Mimms Magazine" - a magazine on prescribing for the medical professions - 25 August 1992).
Part 4: Information on repeat prescribing

4.1 The Prescription Pricing Authority provides family health services authorities and general practitioners with information on all National Health Service prescribing. The National Audit Office examined whether specific information on repeat prescribing was available.

4.2 The scale of repeat prescribing is not known, because general practitioners' Terms of Service do not require them to differentiate between new and repeat items on prescription forms. The National Audit Office recognise that there would be little value in aggregate data on the number of repeat prescription items. But, in their view, information which distinguishes between repeat and all other prescribing at general practitioner level would be a useful tool for general practitioners and medical advisers in analysing the current pattern of prescribing, in assessing the need for change and in monitoring the impact of any changes made in prescribing policy. This information would, of course, need to be put alongside other information on prescribing practice so as to lead to meaningful conclusions.

4.3 In their survey of family health services authorities and regional health authorities, the National Audit Office asked whether medical and pharmaceutical advisers considered that such information would be valuable; and requested information on research into the scale of repeat prescribing. Advisers stated that they would welcome the availability of good quality information on repeat prescribing and a facility for general practices to identify separately all items on a prescription as repeat or new at the time the prescription is generated.

Enhancement of PACT

4.4 Community pharmacists and dispensing doctors pass every dispensed National Health Service prescription in England to the Prescription Pricing Authority. The Prescription Pricing Authority enters details of these prescriptions on its database and make payment to pharmacists and doctors through schedules issued to family health services authorities. In 1988 the database was used to produce a paper based information system for general practitioners and family health services authorities known as prescribing analysis and cost system (PACT). PACT consists of three levels. Level one analyses cost, number of items and average cost per item for the six main therapeutic groups and is issued to all general practitioners and family health services authorities. Level two contains more detailed information on costs within the six leading therapeutic groups and is sent automatically to those whose prescribing crosses certain thresholds and on request to those who want it. Level three is a complete record and is only available on request.

4.5 Because of its bulk and complexity, printed PACT data have proved inconvenient for family health services authorities, regions and the Department of Health to use and analyse effectively. In 1992 therefore, 'PACTLINE' was introduced for all family health services authorities, regions and at national level. PACTLINE consists of the electronic transmission of data from the Prescription Pricing Authority to the user, who is able to analyse it with a specially designed software package. PACT and PACTLINE are key tools in the analysis of prescribing, and are to be developed further. The Department of Health and the Prescription Pricing Authority’s current plans include:

- PACT for general practitioners - consideration is being given to developing a quarterly analysis of prescribing combining features of both levels 1 and 2 in the current system. Each issue could include such things as the top 20 drugs prescribed by the practice and include family health services authorities comparisons, trend analysis, and a quarterly ‘feature’ article examining a particular aspect of prescribing;

- PACTLINE - the Department and the Prescription Pricing Authority are looking at the feasibility of electronic access to the entire Prescription Pricing Authority database by family health services authorities, Regions and Department of
Health. This may involve a data interrogation system and standard data sets.

**Initiatives to identify the scale of repeat prescribing**

**Northern Regional Health Authority project**

4.6 In its response to the National Audit Office survey, Northern Regional Health Authority highlighted the work of its Regional Drugs and Therapeutics Centre with the Sowerby Foundation for Primary Care Informatics Research of the University of Newcastle-upon-Tyne. Although the primary objective of their work was to examine the influences of patient age and sex profiles on practices' prescribing patterns, it also identified all first time, and repeat, items prescribed during the year, although their definition of "repeat" varied slightly from that provided by the Department.

4.7 The study found that 66.4 per cent of all prescription items during the year were repeat items. Collectively, the cost of repeat items accounted for 79 per cent of the total cost of prescription items. Further details of the study are given in Case Study 1 (Appendix 4).

**Other initiatives**

4.8 The Prescription Pricing Authority is currently co-operating with North Western Regional Health Authority on a scheme to identify areas where the cost effectiveness of repeat prescribing might be improved. This project is detailed in Case Study 2 (Appendix 5).

4.9 Other authorities have carried out reviews. North Yorkshire Family Health Services Authority's research indicated that 57 per cent of all items prescribed were repeats. And work carried out by Lancashire, Lincolnshire, and Shropshire Family Health Services Authorities suggested that between 16 and 20 per cent of all patients receive repeat prescriptions. Again, the definitions of repeat prescribing differed slightly from that of the Department.

4.10 Other authorities had found that many general practitioners had no figures on which to base a judgement on the scale of repeat prescribing. For example, when the Pharmaceutical Adviser of Camden and Islington Family Health Services Authority asked general practitioners to estimate the number of repeat prescriptions issued between 1 April 1991 and 31 March 1992, they were unable to provide reliable information. Some computerised practices, however, are able to identify repeat items on each patient's medical record. They are also able to estimate an aggregate of repeat items prescribed through their computer systems. Lambeth, Southwark and Lewisham Family Health Services Authority's attempts to estimate the scale of repeat prescribing will focus on selected practices to extract this information.
### Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>anxiolytic</td>
<td>drug which relieves anxiety</td>
</tr>
<tr>
<td>benzodiazepines</td>
<td>a group of drugs commonly prescribed for anxiety and sleeping disorders</td>
</tr>
<tr>
<td>British National Formulary</td>
<td>a comprehensive list of drugs and their preparations, by pharmacological groups with extensive explanatory notes and guidance to their use</td>
</tr>
<tr>
<td>cardiovascular</td>
<td>relating to the heart and circulatory system</td>
</tr>
<tr>
<td>endocrine</td>
<td>the functions, secretions (hormones) and disorders of the endocrine glands. Major endocrine glands include the pituitary, adrenal, thyroid and parathyroid glands, and the gonads</td>
</tr>
<tr>
<td>fundholding general practice</td>
<td>the doctors within a fundholding general practice are allocated a fund by the regional health authority for practice staff costs, hospital services and prescribing</td>
</tr>
<tr>
<td>general practice report</td>
<td>a standard report which each general practice completes each year and sends to its family health services authority. It covers outline information on prescribing arrangements and other services provided by the practice</td>
</tr>
<tr>
<td>hypertension</td>
<td>raised blood pressure</td>
</tr>
<tr>
<td>hypnotic</td>
<td>drug which relieves sleeping disorders</td>
</tr>
<tr>
<td>immunosuppression</td>
<td>inhibition of the normal immune response of resisting infection by the production of antibodies</td>
</tr>
<tr>
<td>indicative prescribing amount</td>
<td>a financial benchmark which represents the best estimate that can be made of the amount a non fundholding general practice should spend on drugs during the year. Fundholding practices have a definite budget for the drugs they prescribe which is determined in the same way as an indicative prescribing amount</td>
</tr>
<tr>
<td>inflammatory disease</td>
<td>inflammation to any part of the body such as joints and muscles</td>
</tr>
<tr>
<td>medical adviser</td>
<td>a doctor appointed by a family health services authority to provide practical help and guidance to general practices on primary healthcare services and on prescribing. Medical advisers usually have direct experience of working in general practice</td>
</tr>
<tr>
<td>medical audit advisory group</td>
<td>a group, within each family health services authority, which advises on and encourages peer review and has the remit of ensuring that all general practices do some form of audit</td>
</tr>
<tr>
<td>Mimms magazine</td>
<td>a magazine on prescribing for members of the medical professions</td>
</tr>
<tr>
<td>non steroidal anti inflammatory drugs</td>
<td>a group of drugs commonly prescribed for pain and inflammation of the joints and muscles</td>
</tr>
</tbody>
</table>
**PACT**

"Prescribing Analysis and Cost" is data produced by the Prescription Pricing Authority Information Services. It is an information system for general practitioners which returns their prescribing data to them. It is presented in three levels. Level 1 is sent automatically to all general practitioners. Level 2 is sent automatically to those whose prescribing crosses certain thresholds and on request to those who want it. Level 3 is sent only on request. This is a catalogue of all drugs and appliances prescribed in the period covered.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>(patient) compliance</td>
<td>taking a medicine in full accordance with the directions of the prescription</td>
</tr>
<tr>
<td>peptic ulceration</td>
<td>ulcers of the lining of the digestive tract</td>
</tr>
<tr>
<td>pharmaceutical adviser</td>
<td>a pharmacist appointed by a family health services authority to influence and report on pharmaceutical issues, including prescribing at general practice level</td>
</tr>
<tr>
<td>practice formulary</td>
<td>a general practice's specified list of drugs to select from when issuing a prescription</td>
</tr>
<tr>
<td>Prescription Pricing Authority</td>
<td>a special health authority employing 1,800 staff. Its main function is the pricing, on the behalf of family health services authorities, of prescriptions for drugs, medicines and appliances for subsequent payment by the appropriate family health services authorities. It produces PACT data as part of its Information Services</td>
</tr>
<tr>
<td>protocol</td>
<td>standardised guidelines for treatment</td>
</tr>
<tr>
<td>quality marker</td>
<td>a locally agreed indicator of optimal prescribing pattern for a given client group or drug group, against which a practice's actual prescribing pattern may be compared</td>
</tr>
<tr>
<td>repeat dispensing</td>
<td>a procedure for dispensing a prescription in parts rather than in total</td>
</tr>
<tr>
<td>repeat prescription</td>
<td>a prescription issued without a consultation</td>
</tr>
<tr>
<td>repeat prescribing system</td>
<td>a system operated by a general practice which defines how repeated prescriptions may be requested, generated, approved and issued. It also may define patient review arrangements</td>
</tr>
<tr>
<td>Sowerby Foundation for Primary Care Informatics Research</td>
<td>part of the Department of Primary Health Care of the University of Newcastle Upon Tyne. Its aims are primary health care research, providing education on computerised consultation tools and facilitating the use of medical computer systems</td>
</tr>
</tbody>
</table>
Appendix 1
Family health services authorities visited by the National Audit Office:

Barking and Havering
Bedfordshire
Bolton
Bromley
Camden and Islington
City and East London
Dorset
Essex
Lambeth, Southwark and Lewisham
Norfolk
Shropshire
Warwickshire
West Sussex

Three family health services authorities provided the National Audit Office with details of locally generated analysis of the level of repeat prescribing:

Enfield and Haringey
Lancashire
North Yorkshire

Regional Health Authorities visited by the National Audit Office:

North Western
Northern

Five regional health authorities also provided the National Audit Office with information on general practitioner repeat prescribing:

East Anglian
Mersey
South East Thames
Tract
West Midlands
Appendix 2
Bodies consulted by the National Audit Office

Association of Community Health Councils for England and Wales
British Medical Association
Patients' Association
Pharmaceutical Services Negotiating Committee
Prescribing Research Unit
Royal College of General Practitioners
Appendix 3
Family health services authorities’ approaches to examination of repeat prescribing systems

Examples of surveys on repeat prescribing by family health services authorities

Bedfordshire and Norfolk Family Health Services Authorities intend to include questions on repeat prescribing in general practices’ annual reports covering:

- prescription duration;
- period between patient reviews;
- systems for checking the accuracy and continued appropriateness of repeat prescriptions.

Bromley Family Health Services Authority intends to issue a separate questionnaire to a sample of general practices with questions on:

- practice organisation;
- analysis/audit of repeat prescribing;
- patient education and compliance;
- the effect of hospital initiated prescribing;
- special arrangements for repeat prescribing for residential and nursing homes.

Lambeth, Southwark and Lewisham Family Health Services Authority is preparing a similar questionnaire. Dorset Family Health Services Authority has already issued a questionnaire.

The Medical Adviser of Barking and Havering Family Health Services Authority completes an evaluation form during each practice visit. He will analyse the completed forms to obtain comparative information on repeat prescribing systems and practice organisation.

Examples of pilot studies of repeat prescribing

The Medical Adviser of Norfolk Family Health Services Authority, with the help of a pharmacist seconded from the district health authority, studied three practices which had outlying prescribing costs. They then extended this study to cover all fundholding general practices. The study included a detailed analysis of prescribing analysis and cost data in consultation with the practices involved. The Medical Adviser considers that the study should encourage practices to develop their own prescribing protocols, but has not yet been able to draw any conclusions from the work completed.

The Pharmaceutical Adviser of City and East London Family Health Services Authority is reviewing the repeat prescribing systems of three practices with the help of three community pharmacists. The pharmacists will describe and evaluate systems in use and suggest improvements to lead to system designs better suited to the needs of patients and practices. The Authority would like to establish basic criteria or standards against which practices could measure their performance.
Appendix 4
Repeating prescribing
Case study 1
Region: Northern

Action taken

The Northern Regional Drugs and Therapeutics Centre has worked with the Sowerby Foundation for Primary Care Informatics Research (Department of Primary Health Care, University of Newcastle upon Tyne) on a one-year pilot study on two group practices in Gateshead and Newcastle. Findings of the study are detailed in Figure 1.

Figure 1: Sowerby Foundation for Primary Care Informatics Research: Findings of pilot study "An investigation into the quality of general practice repeat prescribing"

Repeat items issued as a percentage of each British National Formulary (BNF) Drug Group and as a percentage of the total of all new and repeat prescribing, by number and cost, in two general practices.

<table>
<thead>
<tr>
<th>BNF DRUG GROUP</th>
<th>Repeat items as a percentage of</th>
<th>Repeat items as a percentage of</th>
<th>Cost of repeat items as a percentage of</th>
<th>Cost of repeat items as a percentage of</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>each BNF drug group</td>
<td>each BNF drug group</td>
<td>in each BNF drug group</td>
<td>in each BNF drug group</td>
</tr>
<tr>
<td></td>
<td>which are repeat items</td>
<td>which are repeat items</td>
<td>each repeat item</td>
<td>each repeat item</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>all repeat items</td>
<td>all repeat items</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>92.9</td>
<td>22.3</td>
<td>96.0</td>
<td>22.7</td>
</tr>
<tr>
<td>Immunosuppression</td>
<td>88.1</td>
<td>0.2</td>
<td>95.3</td>
<td>5.0</td>
</tr>
<tr>
<td>Respiratory</td>
<td>79.7</td>
<td>12.1</td>
<td>90.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Central Nervous System</td>
<td>74.8</td>
<td>25.3</td>
<td>78.4</td>
<td>15.9</td>
</tr>
<tr>
<td>Endocrine</td>
<td>73.1</td>
<td>5.1</td>
<td>83.6</td>
<td>10.1</td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>71.4</td>
<td>11.0</td>
<td>81.9</td>
<td>20.0</td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td>84.1</td>
<td>4.9</td>
<td>74.9</td>
<td>8.8</td>
</tr>
<tr>
<td>Nutrition and Blood</td>
<td>83.4</td>
<td>7.3</td>
<td>73.7</td>
<td>9.4</td>
</tr>
<tr>
<td>Eye</td>
<td>53.1</td>
<td>2.1</td>
<td>64.0</td>
<td>0.5</td>
</tr>
<tr>
<td>Skin</td>
<td>44.4</td>
<td>3.3</td>
<td>50.8</td>
<td>3.0</td>
</tr>
<tr>
<td>Ear Nose Throat</td>
<td>37.5</td>
<td>1.1</td>
<td>40.7</td>
<td>0.5</td>
</tr>
<tr>
<td>Infection</td>
<td>22.0</td>
<td>2.8</td>
<td>30.0</td>
<td>1.7</td>
</tr>
<tr>
<td>Obstetrics and Gynaecology</td>
<td>19.1</td>
<td>0.8</td>
<td>25.4</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>66.4</strong></td>
<td><strong>100.0</strong></td>
<td><strong>79.8</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

**Source:** Sowerby Foundation for Primary Care Informatics Research

Figure 1 shows that repeat items represent 66.4% of all items prescribed, but account for 79% of the cost of all items prescribed in the two general practices studied over the period 1 April 1991 to 31 March 1992.

For example, for Cardiovascular drugs Column 1 shows that 92.9% of all cardiovascular items prescribed are repeat items. Column 2 shows that cardiovascular repeat items account for 22.3% of all repeat items prescribed. Column 3 shows that cardiovascular repeat items account for 96.0% of the cost of all cardiovascular items prescribed. Column 4 shows that cardiovascular repeat items account for 22.7% of the cost of all repeat items prescribed.

The terms 'British National Formulary', 'cardiovascular', 'immunosuppression' and 'endocrine' are defined in the glossary.
Action planned

Following the pilot study, the Department of Health are to fund the full study of 25 general practitioners with a list size of over 50,000 patients. The Centre propose to select a range of practices in urban and rural locations, including dispensing doctors, general practitioner fundholders and single handed general practitioners. The full study will examine the quality of, and drug wastage resulting from, repeat prescribing. Quality issues will include patient satisfaction and convenience, patient review arrangements and links with the hospital sector and community pharmacies. And drug wastage issues will include the degree of patient compliance and the consequences of varying durations on multiple item repeat prescriptions and original pack dispensing.

The Centre also propose to develop a computerised analysis system for prescribing in primary care. They intend to apply it to any complete computerised database of prescribing, either prescribing analysis and cost information (PACT) or practice computer systems. The Centre's objective is to enable the tool to give each practice an indication of the rationality and quality of prescribing within each therapeutic area. The system would automatically adjust for external pressure on prescribing, such as the patient age/sex distribution, deprivation, standardised mortality ratios and ethnicity of the practice population.

The Centre expect that this facility will save advisers considerable time when preparing for practice visits. It will also help general practitioners directly in assessing their prescribing. The analysis system will include long term conditions which are treated by drugs issued on repeat prescription. Assessing the treatment of long term conditions will include the percentage of generic drugs prescribed, the number of different drugs prescribed and the ratios between different kinds of drugs. The system will also allow analysis of the cost, volume and dosages of each drug prescribed for these conditions.
Appendix 5
Repeat prescribing
Case study 2
Region: North Western

Family Health Services Authority: Bolton

Action taken

North Western Region is carrying out a pilot study on repeat prescribing during 1992-93. The Region aims to work with a representative sample of general practitioners in Bolton Family Health Services Authority to help them identify areas where cost effectiveness of the repeat prescribing process might be improved. The Regional Pharmaceutical Adviser undertook the study because of concerns that current systems employed by general practitioners may create wastage of medicines, thereby reducing cost effectiveness as well as reducing safety in the home.

Methodology

A Study Management Group has been set up, consisting of the Regional Pharmaceutical Adviser, the Medical Adviser of Bolton Family Health Services Authority and representatives of the Department of Pharmacy at Manchester University. At the time of the National Audit Office visit, the Medical Adviser of Bolton Family Health Services Authority had selected six practices which were willing to participate in the pilot study and separately identify repeat prescriptions over a three month period. Following a review of Prescribing Analysis and Cost data, he had also identified the 20 most commonly repeat prescribed drugs. The Prescription Pricing Authority have agreed to provide photocopies of repeat prescriptions written for the chosen drugs in the pilot study practices over the three month data collection period. The Management Group have identified the following areas for analysis:

- variations in amounts per item prescribed on each prescription (inequivalence);
- variations in amounts of each item prescribed over the study period for each patient;
- frequency of repeat prescription writing for each patient over the study period;
- how variations in amounts per item prescribed affect the frequency of prescriptions written for each patient during the study period;
- percentage of repeat prescriptions presented at specific community pharmacies in the Family Health Services Authority;
- percentage of an individual patient’s prescriptions presented at a specific community pharmacy.

Where possible this information will be compared with each practice’s prescribing information, and with patient medication records held by community pharmacists, to ensure completeness and accuracy of data.
**Expected outcome**

North Western Regional Health Authority expect to have completed the study by April 1993. The Study Management Group will produce a confidential report which they will circulate to the main participants. The Group aim to publish a paper of the study's findings in a leading professional journal. The Regional Pharmaceutical Adviser expects the study to identify areas where cost effectiveness of the repeat prescribing process might be improved, to be researched on a larger scale across North Western Regional Health Authority in a subsequent study, subject to funding being available.