A Prescription for Improvement
Towards More Rational Prescribing in General Practice
District Auditors were first appointed in the 1840s to inspect the accounts of authorities administering the poor law. Auditors ensured that safeguards were in place against fraud and corruption and that local rates were being used for the purposes intended.

The founding principles remain as relevant today as they were 150 years ago. Public funds need to be used wisely, as well as in accordance with the law. The task of today's auditors is to assess expenditure not just for its probity and regularity but for value for money as well.

The Audit Commission was established in 1983 to appoint and regulate the external auditors of local authorities in England and Wales. In 1990 its responsibilities were extended to include the National Health Service. For more information on the work of the Commission, please contact Andrew Foster, Controller, The Audit Commission for Local Authorities and the National Health Service in England and Wales, 1 Vincent Square, London. SW1P 2PN, Tel: 071 828 1212.
A Prescription for Improvement
Towards more Rational Prescribing in General Practice
Preface

The Audit Commission became responsible in 1990 for the external audit of National Health Service (NHS) bodies in England and Wales, including family health services authorities (FHSAs) and district health authorities (DHAs). The Commission's auditors are required to examine arrangements made by these authorities for securing economy, efficiency and effectiveness in areas of expenditure for which they are responsible. FHSAs responsibilities include oversight of primary care delivered by general medical practitioners (GPs) and their staff and of dispensing by community pharmacists. Prescribing by GPs is the largest item in their budgets.

Two of the reports published by the Commission in 1993, *Practices make perfect: the role of the FHSA (Ref.1)* and *Their Health, Your Business: the new role of the DHA (Ref.2)*, looked at recent structural changes in the way patient care, including prescribing, is commissioned. They pointed the way towards more co-ordination between purchasing of primary and secondary care. The former report recommended development of the internal management of FHSAs. It pointed to ways in which FHSAs were promoting the development of GP practices and strengthening their infrastructure. FHSAs should now, it said, tailor these efforts more to local circumstances. They should set priorities which reflect assessed needs and give added prominence to the development of quality assurance frameworks and monitoring of practice performance.

This report takes forward those recommendations, focusing on GP prescribing. It recognises that this can not be considered in isolation from other GP activities and services, or from prescribing and dispensing in other sectors of health care. All have faced major new pressures, demands and opportunities in recent years.

This report is based on a detailed study at 10 FHSAs and interviews with doctors and staff at 54 GP practices. Findings were confirmed and developed during pilot audits at nine further FHSAs. Many other organisations and individuals gave views and information. Practice in other countries, in particular the Netherlands, was also examined. The Audit Commission is most grateful to all who contributed (a list is appended), especially to members of our Advisory Group, and to the Prescription Pricing Authority for provision of data.

This study was carried out by Ian Jones and Sara Griffiths, with medical advice from Professor Philip Reilly and under the direction of Ken Sneath. Philip Blake and Christine Hogg compiled and edited the associated audit guide. Patrick Graydon, John Russell and Brian Coverley assisted with the preparation and analysis of data. Dr Frans Van Andel and Geoffrey Jenkins undertook supporting studies.
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Summary

The thrust of this report is that more rational prescribing by general practitioners will lead both to better quality care for patients and to major economies in drug expenditure. Ten per cent of all NHS expenditure, £3.6 billion in England & Wales during 1992/93, is spent on drugs prescribed by GPs. Expenditure grew last year by 14%. Some of this growth reflects the pressures of changing demands: more elderly patients, more treatment in the community, more screening for chronic disease, as well as clinical and pharmaceutical advances. Less desirable pressures include ‘cost-shifting’ by hospitals who transfer prescribing costs to non-cash limited community budgets.

GPs in the UK have a very good record in prescribing compared to family doctors in many other developed countries. A number of the practices studied stand out as being economical, scientific in their choice of drugs and as appearing to tailor their prescribing to meet the specific needs of individual patients, reserving more unusual (and often costly) drugs for the minority who really need them. Although much of the variation between prescribers can be explained by factors such as the age of their patients, there remain wide unexplained differences. Some of these suggest that there is still considerable scope for improvement.

Better quality patient care will often require modification of existing treatment regimes. One example is prescribing for asthma where greater concentration on preventive therapy would increase costs but would be better for patients and reduce hospital admissions. If all were to emulate the best in this area, then expenditure could rise by £75 million per annum. This is not the only condition for which good prescribing might cost more.

In other areas, major potential economies have been identified. As an indication, a saving of £425 million would be made if all doctors were to prescribe like fifty selected practices, from all around the country each of which has near average percentages of elderly patients. As well as demonstrating high quality prescribing, these practices are also able to be economical by:-

— less over prescribing (potentially bad for patients) of certain drugs: £275 million;
— reducing the prescription of drugs of limited clinical value: £45 million;
— the substitution of comparable but cheaper drugs: £25 million;
— more prescribing of generic alternatives to proprietary brands: £50 million;
— appropriate use of expensive preparations: £30 million.

It will take time and major behavioural change to achieve this level of saving. Even greater economy should eventually be possible without detriment to patient care by appropriate use of generic and other cheaper drugs.

GPs themselves have the prime responsibility for improving their performance by auditing their clinical practice. Family Health Service Authorities (FHSAs) are charged with keeping
total prescribing expenditure within budgetary allocations. They have little power to compel
doctors to prescribe in a particular way, but many have already had considerable success in working
alongside some GP practices to facilitate change. There need to be real incentives for all GPs to
improve their prescribing. Fund-holding practices are already showing what can be done. GPs
need more accessible information on their relative prescribing patterns and costs with pointers to
options for improvement.

The opportunities identified in this report could lead to better patient care and more
effective use of NHS resources. Such improvements are essential if the NHS is to continue to
afford new treatments of proven worth.

The Audit Commission has also published a synopsis of this report.
Background

INTRODUCTION

1. Drugs prescribed by general practitioners (GPs) cost the NHS £3.3 billion in England and £0.25 billion in Wales during 1992/93. This was about 10% of NHS expenditure and half of the total cost of family health services (Exhibit 1). It was substantially greater than GPs’ salaries and practice allowances. The drugs themselves cost 78% of this amount, dispensing fees 16%, the balance being allowances for on-cost, containers, oxygen therapy and VAT where applicable. Ninety-one percent of drugs were dispensed by pharmacists, 7% by dispensing doctors and 2% were items such as injections which were ‘personally’ administered at GP surgeries. The total cost of drugs prescribed by GPs is four times that of drugs prescribed by hospitals (Exhibit 2, overleaf) although, as discussed below, decisions made by hospital doctors exert considerable indirect influence on GP prescribing costs. Unlike hospital drug budgets, most GP prescribing expenditure is not cash limited¹, although the Department of Health expects FHSAs to contain it within budgetary allocations.

Exhibit 1
EXPENDITURE ON FAMILY HEALTH SERVICES: Non-cash limited gross expenditure - England and Wales 1992/93
Over fifty per cent of this expenditure was on drugs.

* Includes GP fund-holders’ expenditure on drugs and payments to dispensing doctors. The breakdown of pharmaceutical expenditure between fees and costs of drugs and appliances includes an appropriate allocation of on-cost, container allowance, oxygen therapy and VAT.

Source: Department of Health / Welsh Office.

¹ GP fund-holders work within a cash limited budget, but fund-holdings practices have access to a contingency fund and freedom to vire between prescribing and other budget heads.
Exhibit 2

NHS EXPENDITURE ON DRUGS: 1991 AT MANUFACTURERS' PRICES
The total cost of drugs prescribed by GPs is over four times that of drugs prescribed by hospital doctors.

BENEFITS AND RISKS
2. In recent years there have been great technical and clinical advances in the availability and use of drugs. These developments have made a major contribution to reductions in premature death from, for example, infectious diseases. They have permitted more people to be treated in their own homes rather than in hospital with consequent advantage to patients and often an overall decrease in total health expenditure.

3. However, there is a price to be paid for these advances which is not purely financial. Use of any drug presents risks as well as benefits. Despite clinical trials, the nature and full extent of such risks may not be apparent until the drug has been used extensively in general practice for some years. The group of sleeping pills and tranquillisers known as 'benzodiazepines' are one example of yesterday's wonder drugs that have become today's problem. A current example is inappropriate or excessive prescribing of many of the anti-inflammatory drugs for rheumatism that can cause gastric ulcers. It has been estimated that between 3% and 5% of all hospital beds in the UK are occupied by people suffering wholly or largely from adverse drug reactions (Refs.3,4). It is therefore vital that every effort is made to ensure that prescribed drugs are appropriate to each individual patient.

INTERNATIONAL COMPARISONS
4. GPs in England and Wales have a good record compared to doctors in other developed countries. Fewer drugs are still prescribed in England and Wales than in most European countries. In 1989 the average French person received 38, the Italian 20, the German 12 and the British 7.6 prescriptions (Ref.5). In contrast, in the Netherlands, which has a system of free prescriptions and primary health care that is similar to the UK, patients were prescribed 6.9 items on average by their family doctors or at clinics; although there too, numbers of prescriptions are rising rapidly. The average British doctor is also said to be more conservative in what (s)he prescribes. Twenty-eight percent of Italian drug expenditure during 1991 was on medicines introduced within the previous five years, 17% of German, 13% of French, but only 9% of UK expenditure. Total
per capita expenditure on all types of medicines in Britain was about 23% below the Western European average (Exhibit 3) and over 40% less than in the USA. There is no conclusive evidence that the higher drug expenditure in these countries leads to better health. The Netherlands, where the organisation of primary care has many similarities to England and Wales, is most frequently used for comparison in this report.

Exhibit 3

INTERNATIONAL COMPARISONS: PHARMACEUTICAL EXPENDITURE PER PERSON

Total per capita expenditure on all medicines in Britain was about 23% below the average in Western Europe.

Note: This exhibit includes all drugs, not only those prescribed by family doctors. It takes no account of differences in drug prices (see exhibit 4) or availability, morbidity or demography.

Source: Office of Health Economics. (Data from pharmaceutical industry associations).

CONTROLLING DRUG PRICES.

5. Drug prices paid by the NHS are regulated through the Pharmaceutical Price Regulation Scheme (PPRS). This has three broad aims: ensuring that drugs are purchased by the NHS at reasonable prices, promoting a strong UK pharmaceutical industry and encouraging efficient development and production of medicines. It allows each of the major proprietary pharmaceutical companies a target rate of return. Within this constraint, companies are free to set their own list prices for new products. The aims of promoting a strong, efficient British pharmaceutical industry and securing good value for the NHS do not always sit easily together.

6. Many other countries have introduced 'internal referencing' pricing systems, whereby drug prices or reimbursement levels are limited by those of comparable doses of alternative medicines that could be used to treat the same condition. The Netherlands, for example, classifies drugs into 'clusters' according to:-

— their chemical mode of action,
— range of 'indications' (uses),
— clinically relevant properties and side effects,
— method of administration,
— the age groups for which they are intended.

Patients who insist on more expensive drugs or brands may opt to pay the difference in price. The prices of many medicines have been reduced since the scheme was introduced although a few have been withdrawn from the market.

7. Nevertheless, drug prices charged by manufacturers are still, in general, considerably lower in Britain than in the USA, Netherlands or Germany, although about 30% higher than in France (Exhibit 4). Re-negotiation of the PPRS in 1993 secured a further average reduction of 2.5%. The single European market is narrowing price differentials between European countries and drugs are increasingly marketed with world-wide sales and profit potential in mind. International comparisons are complicated by fluctuations in exchange rates and purchasing power, differences in product availability, strengths, formats and pack sizes. Wholesale and retail margins also vary as do the rates of VAT levied. Britain has the lowest average mark-ups of any Western European country; at 45%, these are less than half of those in Germany and the Netherlands. All developed countries are currently experiencing rapid rises in drug expenditure; all are exploring ways both of controlling drug prices and of eliminating wasteful prescribing.

Exhibit 4
INTERNATIONAL COMPARISON OF DRUG PRICES
Drug prices are typically lower in Britain than in the USA, Netherlands or Germany, although about 30% more than in France.

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Note: The lines indicate the ranges within which the average of manufacturers' prices in these countries for a basket of common drug preparations fall relative to UK list prices, dependant on the assumptions made.

Source: Audit Commission from studies by Department of Health economists.

PRESSURES ON PRESCRIBING EXPENDITURE

8. NHS expenditure on drugs prescribed by GPs rose by 14% in the year to 31 March 1993. After allowing for general inflation, it has risen in 'real' terms by 52% over the past decade (Exhibit 5), although it has remained at around 10% of total health expenditure. Both the average 'real' cost per prescription and the number of prescriptions written have increased, by 16.7% and 30% respectively during this period.
Exhibit 5
**GROWTH IN PRESCRIBING EXPENDITURE**
Both the number of drugs prescribed per patient and their 'real' average cost* have increased significantly in recent years.

[Chart showing growth in prescribing expenditure]

* When calculating trends in the average net ingredient cost (NIC) per prescribed item* allowance has been made for general inflation using the Treasury's 'adjusted GDP deflator'.

Source: Audit Commission. (Data from Office of Health Economics / Department of Health / Welsh Office).

9. A number of pressures on prescribing expenditure have contributed to these rising costs and volumes of items:

- **Demographic change** – GPs are treating growing numbers of very elderly patients. The elderly require more medicines every year than younger patients; the national guidelines for indicative prescribing assume, for instance, that the average woman over 75 years of age receives twelve times the value of drugs as a young man (Ref.6, Exhibit 6). GPs' attitudes on what medical interventions are appropriate for older patients are also changing. Demography alone would explain only a 5% rise in expenditure over the last decade had the per-capita drug consumption of each age group remained constant. There has been a marked rise both in the numbers and in the unit costs of items prescribed for the elderly. They now receive 43% of all prescribed medicines compared to 36% in 1982.

- **More treatment in the community** – Conditions that would have required hospital admission a few years ago are now treated by GPs. They manage almost 90% of acute asthma for example.

- **Continuing clinical and pharmaceutical development** – Significant new drugs recently introduced in general practice include the ulcer healing drug *omeprazole* (Losec®), drugs such as *pravastatin* (Lipostat®) and *simvastatin* (Zocor®) for lowering cholesterol levels in the blood, novel antidepressants such as *fluoxetine* (Prozac®) and *sertraline* (Lustral®), *ondansetron* (Zofran®) for controlling nausea and vomiting amongst patients receiving chemotherapy or radiotherapy, *sumatriptan* (Imigran®) for migraine. As with all new drugs, experience of use over several years will be needed before they conclusively prove their clinical worth.

- **The impact of the GP contract** – GPs have been encouraged to improve screening for chronic diseases and risk factors. Clinics for the subsequent management of these conditions
DEMOGRAPHIC PRESSURE ON PRESCRIBING EXPENDITURE

The average expenditure on drugs for elderly patients is up to 12 times greater than for younger patients.

Source: Prescribing Research Unit, Leeds.

have been funded. Many believe that this has contributed to the rise in prescription of lipid lowering drugs for treatment of high cholesterol levels.

— More informed patients — Hormone replacement therapy (HRT) is an example of a treatment which, while often beneficial, has mushroomed in cost following publicity in popular magazines. The pharmaceutical industry funds campaigns to improve patient awareness of health issues and treatment options. There has been greater demand for preventive treatment such as 'flu jabs'. In contrast, patients in some parts of the country are questioning more often the relative advantages and risks of drug treatment.

10. Not all of the influences driving up the costs of GP prescribing have been beneficial. Less desirable pressures include:

— Social and economic — There is some evidence (Ref.7) that job loss and continuing unemployment lead to more frequent GP consultations and higher prescription rates. As more patients are entitled to free prescriptions, this may also have led to an increase in prescriptions at the expense of non-prescription ‘over the counter’ (OTC) medicines.

— Pharmaceutical industry ‘hard-sell’ — It has been alleged that some drug company personnel have misrepresented the quality of generic drugs to GPs and made claims about the superior efficacy or safety of new products that are not based on substantiated research. Many heavily promoted new drugs or novel formulations offer little advantage over the medicines that they seek to replace. Financial inducements, such as payments or free supplies for post-marketing trials and heavily discounted sales to hospitals as loss leaders, may be offered to increase market penetration.

— Hospital ‘cost-shifting’ — In recent years GP prescribing expenditure has been increased because of reductions in the quantity of drugs supplied by hospital pharmacies to outpatients,
accident and emergency patients or to those on discharge. GPs are also increasingly asked
to take over prescribing responsibility from consultants for patients receiving expensive
treatment for such conditions as infertility, stunted growth, malignancies, HIV and AIDS.
While this can sometimes be more convenient for patients and improve the standard of care,
at times decisions may be influenced by the incentive to transfer costs out of cash limited
hospital budgets. These hospital influences on GP prescribing are discussed in Chapter 2.

Many GPs interviewed are demoralised in the face of new pressures and responsibilities.
They claim that an important factor driving up their prescribing costs is that they no longer
have 'time to think'. This is explored further in Chapter 1.

LIMITING DEMAND

11. A number of measures have been introduced nationally over the past decade to reduce
wasteful prescribing and limit the rise in expenditure:

— Rising prescription charges — After adjustment for general inflation, 'real' prescription
charges rose by 80% between 1983 and 1993. This rise outstripped that in drug prices.
Non-exempt patients now pay a charge equal to 44% of the average net ingredient costs of
all prescriptions. The number of prescribed items which they each received on average fell
by 31% over the decade, although this figure conceals a tendency by some doctors to
prescribe larger quantities of drugs per item for patients whom they know to be liable to pay
charges. However, almost half of the population is currently exempt from prescription
charges by reason of age, maternity, medical condition or income; and this half includes the
patients who have the biggest requirement for prescribed medicines. Many other high users
purchase 'season tickets'. Consequently charges are paid on only 15% of prescriptions at the
time they are dispensed. Their potential for reducing wasteful prescribing is therefore very
limited.

— The 'Selected List' — Since 1985, doctors have been barred from prescribing on the NHS
more expensive brands of medicines within seven categories of symptomatic remedies.
This led to a one-off reduction in prescribing costs, but there is no evidence that it stemmed the
rate of increase in drug expenditure. Negotiations are currently in progress on further
extensions to the limited list into areas such as anti-inflammatory creams. There is also a
'black list' of drugs and borderline substances that GPs may not prescribe on the NHS.
Recent additions to this list have ranged from nicotine patches (for helping patients to stop
smoking) through gluten-free Christmas puddings and communion wafers to baked beans.

— Information for GPs on drugs and prescribing costs — The amount of advice to GPs on
good and economical prescribing practice was stepped up. Regular bulletins are prepared by
MeReC (the Medicines Resource Centre). These complement free copies of the British
National Formulary (published jointly by the BMA and RPS), the ABPI data sheet
compendium and the Drug and Therapeutics Bulletin (Consumers Association). Summary
PACT (Prescribing Analysis and Cost) data are sent to doctors quarterly by the Prescription
Pricing Authority (PPA). More detailed data are sent automatically to expensive prescribers
and any GP can request full details of what (s)he prescribed. Regional and district drugs

1 The Selected List is compiled with guidance from the Advisory Committee on NHS drugs whose remit is to ensure that drugs
to meet all real clinical needs can be provided as economically as possible under the NHS.
information services answer queries about specific drugs from GPs as well as from hospital doctors. Some of these centres are increasingly able, where resources permit, to provide cost-effectiveness information as well as the latest pharmaceutical and pharmacological advice.

— Indicative Prescribing Amounts (IPAs) / Target Budgets – Following the publication of *Improving Prescribing* (Ref.8), each practice was asked to keep its prescribing expenditure within an indicative budget set, after due consultation, by FHSAs (see paragraph 82). Monthly monitoring reports are sent to practices by the Prescription Pricing Authority showing spending in relation to these budgets. All FHSAs have appointed medical advisers to monitor and advise on IPAs and other prescribing matters and many also have pharmaceutical advisers who give assistance as necessary.

— Incentives – A number of regional health authorities (RHAs) and FHSAs are piloting incentive schemes which allow practices to retain a proportion of any savings that they make on prescribing costs for improvements to practice facilities. Fund-holding practices, which have an allowance for prescribing within the firm budgets allocated to them by regions, already have such an incentive, plus the added advantage of being able to vire funds between drugs, staff and alternative treatments.

12. Despite these measures, which are discussed further in chapter 3, there are still wide variations between areas and practices in average per capita expenditure, the number of items and the average cost and size of items prescribed. Some of these can be explained by demography or environment. Patients in deprived areas receive an above average number of prescriptions per year. However, a greater proportion of these are simple remedies with a lower than average cost per prescription. It is customary, when comparing prescribing rates, to allow for the likely effect of differences in the age mix of patients on GPs’ lists on their prescribing levels and costs by expressing these per ‘prescribing unit’ (PU). These PUs are simply age-weighted numbers of patients on doctors’ lists plus an allowance for other non-local patients seeking urgent treatment. This somewhat impersonal terminology is adopted in this report1. Allowance must also be made for the ‘list inflation’ which occurs when patients move away from the area without telling their GP. A fifty per cent variation in average prescribing expenditure per PU between the highest and lowest spending FHSAs remains (Exhibit 7)2 3. Differences between the prescribing of practices in the same locality, even those with similar list composition, are even greater than those between FHSAs. Low spending practices in high cost areas typically spend more than high spending practices in low cost areas (Exhibit 8).

1 The traditional weighting, whereby each patient over 65 is counted as having needs equivalent to three younger patients, is employed here rather than the more refined set of weights (ASTRO PUs, Ref.6) used by FHSAs to inform the setting of indicative prescribing amounts.

2 Calculations and comments throughout this report are based on 1992/93 prescribing data and September 1993 drug prices, except where specifically stated otherwise.

3 If standardised mortality rates and the percentage of prepayment certificates are also taken into consideration and if list inflation is used additionally as an indicator of deprivation, 81% of the variation in average per capita expenditure between FHSAs can be predicted statistically (Ref.9). This finding does not show the extent to which such factors cause or justify high prescribing.
After adjustment for estimated list inflation, there was a 50% variation between the highest and lowest spending FHSAs in average expenditure (net ingredient costs) on prescribed drugs per PU.

Note: The adjustment for list inflation assumes that it is spread evenly over patient age groups.

No allowance has been made for variations in morbidity or need except for the age weighting included in the calculation of prescribing units.

Source: Audit Commission based on PPA / WHCSA prescribing data
Exhibit 8
VARIATION BETWEEN GP PRACTICES IN DRUG EXPENDITURE PER PRESCRIBING UNIT: NET INGREDIENT COSTS 1992/93
There are often marked differences between the prescribing of GP practices in the same locality. Low spending practices in high cost areas spend more than high spending practices in low cost areas.

Source: Audit Commission based on PPA / WHCSA prescribing data.

RATIONAL PRESCRIBING

13. This report is about more rational prescribing, not just cheaper prescribing. It has been said that prescribing is rational if it takes into account potential efficacy, safety, appropriateness and economy. However, there is no easy way to balance these principles or to measure compliance with them. What may appear to one GP, faced with an individual patient, to be a rational decision may appear less so when the long term health of the population as a whole is considered. Those who were not present at the consultation can subsequently only guess at the circumstances in which a prescription was issued. Nevertheless, GPs are, as their title suggests, 'generalists'. Over 80% of the patients who consult them are diagnosed as having common conditions. Many could be treated successfully in a standard way. The extent of variation in quantities and choice of drugs suggests that not all doctors can be prescribing rationally.

14. This report therefore starts at the GP's surgery:

— Chapter 1 considers what can be deduced from prescribing data, and from the 54 GP practices studied, about what GPs are currently prescribing and why. It goes on to consider what GPs themselves are doing to monitor, discuss with fellow professionals and, where appropriate, modify their prescribing.

— Chapter 2 looks at the prescribing interface between primary and secondary care in more detail and suggests how this may develop with the spread of joint commissioning of health care across these sectors.
— Chapter 3 looks at what Family Health Services Authorities (FHSAs) can do to monitor key aspects of prescribing and to facilitate and spread best practice.
— Chapter 4 concludes by suggesting a way forward.

A summary of recommendations is included at the end of each chapter.

15. In a number of places, estimates of the national expenditure implications of adopting these recommendations have been included:

— These were calculated by comparing current average prescribing patterns with those of 50 selected GP practices from 36 FHSA areas all around the country. These practices all demonstrate good quality prescribing for conditions such as asthma, insomnia and anxiety, and rheumatic inflammation. They are also economical in their choice of drugs and make very limited use of those which are less effective. In aggregate they have an average proportion of elderly patients; all have within 5% of the national average of patients over 65 years. Appendix 2 gives fuller details of how these practices were selected.

— Projections showing the implications of prescribing like the 20th percentile of practices confirm the validity of these estimates.

— Sometimes, estimates of the longer-term potential for change are also quoted. These represent the expenditure implications of implementing fully identified economies that should theoretically be possible with no adverse effect to patient care.
1. The GP Practice

16. The 'average' GP sees 140 patients a week during surgery and visits another 25 at home. These averages mask wide variations that cannot be explained solely by list size and composition. Having examined the patient and arrived at a diagnosis, the doctor has to decide:

— whether to prescribe (paragraphs 18-32)
— what to prescribe, in what form and at what strength (paragraphs 33-54)
— how long a prescription to give (paragraphs 55-64).

Seven out of every ten consultations in the UK result in the issue of a prescription. This compares with only five out of ten in the Netherlands. The number of items prescribed has risen faster than the number of consultations.

17. The cost of the doctor's decision to prescribe may not be limited to that of a single prescription. A series of repeats may be initiated. A National Audit Office study (Ref. 10) found that, while there are no comprehensive data on what proportion of prescriptions are repeats, perhaps two thirds are issued without a further consultation taking place. However, since it may not be practicable to review a patient's drug regime fully whenever the patient is seen, a more informative figure may be the number of prescriptions that are repeated, regardless of whether a further consultation takes place. Small scale studies (Ref. 11) suggest that, using this definition, 90% of prescriptions for heart drugs are repeated. The percentage is much lower for certain other types of medicine. Overall, repeated items account for some 66% of prescribed items and 79% of expenditure (Exhibit 9, overleaf).

WHETHER TO PRESCRIBE

18. The wide variation, both between areas and between practices in the same area, in the average number of items prescribed per patient each year has been noted above. Often there are marked differences in the prescribing of different doctors in the same practice. These are greater than can be explained, by for instance, the needs of individual patients who require expensive drug treatment initiated by hospitals. Before investigating these further, it is necessary to step back a stage to consider the diagnosis of disease and consequent recording of morbidity.

WIDE VARIATIONS IN RECORDED MORBIDITY: TACKLING UNDER-DIAGNOSIS

19. A majority of prescriptions are for patients with common, stable, chronic conditions. There can be wide variation, even between neighbouring practices, in the percentages of patients that have been diagnosed as having such conditions (Exhibit 10, overleaf). To some extent, this may reflect the composition of the practice's list. On a broader scale, such local environmental or occupational factors as pollution or housing conditions may be relevant. High identified morbidity may reflect the specialist interests of doctors in the practice. It may just be that doctors use different definitions of morbidity or include patients before their diagnoses have been
**Exhibit 9**

**REPEAT PRESCRIBING**

The percentage of prescriptions that are repeated varies by type of medicine. Overall, repeats account for about 75% of prescriptions.

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*Source: Audit Commission from data on the ‘Chainbridge study’ supplied by the Sowerby Foundation for Primary Care Informatics Research, Newcastle University.*

confirmed. However, there is widespread suspicion that certain conditions such as asthma, non-insulin-dependent diabetes and hypertension are still under-diagnosed by some doctors, with consequent under-prescribing.

20. Many practices have undertaken extensive screening of patients for conditions such as hypertension and asthma, both in separate clinics and during consultations. However, if suspicion of under-diagnosis is to be allayed, it will be necessary to improve the consistency with which morbidity is defined by different GPs. Some GPs may also still need to improve the completeness
Exhibit 10
VARIATIONS IN DIAGNOSED MORBIDITY BETWEEN PRACTICES IN ONE FHSA

There can be wide variations between neighbouring practices in the percentages of patients diagnosed as suffering from common long-term chronic conditions.

Asthma

Source: Somerset FHSA

of their patient records and the ease with which they can aggregate data for patients with similar conditions. Reasons for any remaining differences between GP practices within a locality in their identified morbidity rates within specific patient age and sex groups for common chronic diseases should be considered by medical audit and local GP discussion groups. If, as a result, more patients are diagnosed, additional prescribing expenditure will follow.

MEETING PATIENT EXPECTATIONS?: LONGER CONSULTATIONS ARE NEEDED

21. For many conditions, the GP is faced with a range of options. These may include: prescribing drug treatment to relieve symptoms, change the natural progression of a disorder or
reduce risk factors; addressing underlying issues of the patient’s lifestyle; or merely providing reassurance while monitoring developments. Most doctors work under considerable time pressure, especially at certain times of the week. In the short run, it is usually quicker to prescribe. It signals to a patient that the consultation is at an end.

22. Antibiotics, for instance, which account for over 10% of prescribed medicines, are often prescribed for colds, flu and sore throats caused by viral infections against which they are virtually ineffective. Many doctors say that they often can not afford the time to explain to patients the reasons why they do not need any medicine. This stores up problems for the future. It starts a vicious circle of supply and demand. Patients’ perceptions that they should consult the doctor for such complaints are reinforced, as are their expectations of always receiving a prescription. This in turn may increase consultation rates, reducing time available for each consultation. More seriously for the patient, inappropriate use of antibiotics may build up resistance to these drugs and, by disturbing the balance of micro-organisms, permit serious infections to develop. For a minority, they could cause rashes, diarrhoea or more serious side effects.

23. GPs are more likely to think that patients want a prescription than is in fact the case. Some prescriptions, especially those for antibiotics, are never even dispensed. Patients consult for many different reasons (Ref. 12, Exhibit 11) – some are looking for reassurance rather than for treatment. In addition to diagnosing the nature of any medical condition, the GP needs to understand fully each patient’s reasons for wanting to see a doctor and what they expect the doctor to do, before deciding whether a prescription is appropriate. Some have found that the ‘worried well’ are equally satisfied with positive advice, coupled with an assurance that they are not wasting the doctor’s time. In addition to good inter-personal communication skills, this approach requires time. On average, GPs whose allow 10 minutes or more for each consultation prescribe less antibiotics (Ref.13).

Exhibit 11
WHY DO PATIENTS CONSULT THEIR DOCTOR?
Patients consult GPs for many different reasons.

Source: Martin et al., British Medical Journal, 3.8.91
THE DANGERS OF INCREMENTAL PRESCRIBING

24. Some GPs seem to find it easier and quicker to respond to symptoms by adding further drugs than to reconsider the patient's current medication as a whole. Sometimes drugs which the patient has been taking for a number of years may have caused the new symptoms and the best treatment may be to stop or change existing drugs (Exhibit 12, overleaf). 'Iatrogenic' diseases, i.e. those induced by the remedies themselves, are said to account for a significant number of hospital admissions. Incremental prescribing can be a particular danger if a patient is seen by a doctor other than his or her own GP. The remedies are good clinical notes and adequate time for thought during consultations coupled with regular review of patients' medication.

OVER-PRESCRIBED DRUGS

25. Certain types of drugs, although valuable in the treatment of many patients, are significantly over-prescribed by many GPs.

— Ulcer healing drugs are sometimes prescribed 'presumptively' without adequate investigation for inappropriately long periods to alleviate symptoms such as indigestion that may or may not be caused by peptic ulceration. Careful consideration is needed as to whether these drugs are appropriate for that patient, since once started it may be difficult to withdraw treatment.

— Treatment of rheumatism with non-steroidal anti-inflammatory drugs (NSAIDs) can have serious side effects, notably ulceration. The GP has to decide whether the benefits of treatment outweigh the risks. But these drugs are said often to be prescribed inappropriately, when no inflammation is present; to the wrong patients – those with a history of gastric ulcers for example; and for too long – elderly patients on repeat prescriptions are at particular risk.
THE DANGERS OF INCREMENTAL PRESCRIBING: ENIGMATIC EDNA

Some GPs find it easier to respond to a patient’s symptoms by adding further drugs than to review their overall drug treatment.

Exhibit 12

'Mrs Everidge' is 67. She has repeat prescriptions for hypertension, fluid retention, depression, constipation and arthritis:

Nowa

Initially diagnosed at age 46 as having high blood pressure.

Advised by GP to stop smoking and go on a diet.

She took no notice.

Subsequently her ankles swelled up.

GP prescribed bendrofluazide (2.5mg).

With time she felt depressed, and complained of 'pain in her bones'.

GP prescribed methyldopa.

At her six monthly check-up she complained of constipation. Moreover her blood pressure had risen.

GP prescribed: lofepramine (an antidepressant), ibuprofen (a NSAID) for pain.

GP prescribed:

lactulose (to be taken when needed) for constipation and increased her dose of bendrofluazide to 5mg.

- Methyldopa probably caused the fluid retention which made her ankles swell and is a common cause of drug-induced depression in the elderly.

- Lofepramine in turn is a common cause of drug-induced constipation.

- Lactulose is ineffective at this dose and on an 'as required' basis.

- Ibuprofen is likely to have caused a further rise in blood pressure; the prescription of a NSAID when there is no evidence of inflammation only increases the patient’s problems.

All 'Mrs Everidge' may really need is a more appropriate antihypertensive. It is possible, given her age, that 2.5mg of bendrofluazide each morning would be sufficient. The other drugs prescribed could be at best inappropriate and at worst potentially harmful. Iatrogenic disease (that caused by other treatments) accounts for a significant number of hospital admissions.

Source: Andrew Barr (Pharmaceutical Adviser, Mid Glamorgan FHSA).
Exhibit 13

VARIATION IN PRESCRIBING OF HYPNOTICS AND ANXIOLYTICS: NUMBER OF DAYS SUPPLY ISSUED PER PRESCRIBING UNIT (1992/93)

There is wide variation in the extent to which drugs that can cause dependence at low doses are prescribed.

There is wide variation in the extent to which drugs that are likely to cause dependence at low doses such as the benzodiazepines (used as tranquillisers and sleeping pills) is also still a major concern. Some 540 million days' supply of these drugs was dispensed in England and Wales during 1992/93. There is wide variation in the extent to which they are prescribed by different GPs, even in the same area (Exhibit 13).

— Prescription on demand of drugs that are likely to cause dependence at low doses such as the benzodiazepines (used as tranquillisers and sleeping pills) is also still a major concern. Some 540 million days' supply of these drugs was dispensed in England and Wales during 1992/93. There is wide variation in the extent to which they are prescribed by different GPs, even in the same area (Exhibit 13).

— For some conditions, such as hyperlipidaemia, there is no consensus on the circumstances in which drug treatment should be commenced. This is not a disease in itself, but one of a number of biological and life-style factors that can increase the risk of developing coronary heart disease. The spread of ‘well person’ health promotion screening has led to a rapid rise in identification of people with high blood cholesterol, for whom one option is treatment with lipid lowering drugs at a cost of about £30 per patient per month. The British National Formulary however advises that drug treatment is only appropriate for patients with existing coronary heart disease, those at high risk of developing it on account of multiple risk factors, and those with severe hyperlipidaemia which is inadequately controlled by diet. The wide variation in use of lipid lowering drugs (Exhibit 14, overleaf) suggests that such guidelines are not always followed.

26. Each year £295 million¹ out of the £782 million spent on these and other over-prescribed drugs (such as laxatives, hypnotics, anxiolytics, vitamins and topical antibacterial preparations) would be saved if the average level of prescribing was reduced to that of the 50 selected good prescribers (Box A).

---

¹ There is an overlap of £20 million between this amount and sums that could also be saved through more generic prescribing and other measures discussed later in this report.
The wide variation suggests that guidelines for the circumstances in which drug treatment of hyperlipidaemia should be initiated are not always followed.

Source: Audit Commission based on PPA / WHCSA data

27. The clinical decision whether or not to prescribe for a particular patient must remain with the GP. However, such decisions must be taken within agreed frameworks to ensure that treatment is both scientific and consistent. For most conditions, there is no shortage of suggested model protocols and guidelines detailing circumstances in which it is appropriate to prescribe. For example, the Royal College of General Practitioners has published a collection of protocols covering common diagnoses. These are not as well known amongst GPs as might be expected. Wider national endorsement and publicity for such protocols is required, followed by local agreements by all practices to adopt those that appear appropriate. Hospital doctors and pharmacists should be involved where appropriate. Publication in electronic form would ease the task of amending protocols to reflect local circumstances and subsequent updating. For certain conditions, however, national and local policy guidelines could be more useful than clinical protocols. For instance, GPs must not be required to make decisions on non-clinical grounds about whether or not high cost treatments such as growth hormones and fertility drugs should be provided on the NHS.

REDUCING THE PRESCRIBING OF QUESTIONABLE REMEDIES

28. Some drugs are generally considered to have little or no lasting therapeutic value for the vast majority of patients. Examples of medicines judged by the British National Formulary (BNF) to be of limited efficacy include anti-diarrhoeal drugs, vasodilators, cough suppressants, nasal decongestants, and appetite suppressants. Certain other drugs such as topical non-steroidal anti-inflammatory creams for rheumatism are agreed to provide extremely poor value for money compared to alternative treatments (Box B). Patients may request them because they seem to provide temporary relief of symptoms, or simply because they or their families have always used them. The NHS spent £72 million on these medicines in England and Wales during 1992/93.
### Box A

**EXAMPLES OF DRUGS WHICH ARE SAID TO BE SIGNIFICANTLY OVERPRESCRIBED**

<table>
<thead>
<tr>
<th>BNF Code</th>
<th>Drug / Section</th>
<th>Use / Indication</th>
<th>Comment</th>
<th>England &amp; Wales</th>
<th>Good $ Prescribers</th>
<th>Potential Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3</td>
<td>Ulcer healing drugs</td>
<td>Peptic ulcers, GORD</td>
<td>Very high per capita use by some practices suggests that these drugs are sometimes prescribed presumptively to alleviate symptoms of dyspepsia that may or may not be due to peptic ulceration.</td>
<td>297</td>
<td>4167</td>
<td>2682</td>
</tr>
<tr>
<td>1.6</td>
<td>Laxatives</td>
<td>Constipation</td>
<td>Misconceptions about bowel habits have led to excessive laxative use. Laxatives should generally be avoided except where straining will exacerbate a condition such as angina or increase the risk of rectal bleeding’ (BNF).</td>
<td>42</td>
<td>585</td>
<td>458</td>
</tr>
<tr>
<td>2.12</td>
<td>Lipid lowering drugs</td>
<td>Risk of heart disease</td>
<td>No general agreement on prescribing protocols. BNF comment: ‘should be reserved for patients for whom severe hyperlipidaemia is inadequately controlled by a modified fat diet. Must be combined with strict adherence to diet... and cessation of smoking.’</td>
<td>38</td>
<td>535</td>
<td>445</td>
</tr>
<tr>
<td>4.1.1</td>
<td>Hypnotics</td>
<td>Insomnia</td>
<td>‘Prescribing... is widespread but dependence and tolerance to their effects occurs. [They] should not be prescribed indiscriminately and should be reserved for short courses to alleviate acute conditions after causal factors have been established’ (BNF).</td>
<td>24</td>
<td>332</td>
<td>133</td>
</tr>
<tr>
<td>4.1.2</td>
<td>Anxiolytics</td>
<td>Anxiety</td>
<td>‘... Although there has been a tendency to prescribe these drugs to almost anyone with stress-related symptoms, unhappiness, or minor physical disease, their use in many situations is unjustified’ (BNF).</td>
<td>6</td>
<td>81</td>
<td>38</td>
</tr>
<tr>
<td>5.1</td>
<td>Antibiotics</td>
<td>Infections</td>
<td>Sometimes given for viral infections against which they are ineffective. Over-prescribing builds up resistance and disturbs the balance of micro-organisms in the body, permitting more severe infections to develop.</td>
<td>174</td>
<td>2444</td>
<td>1368</td>
</tr>
<tr>
<td>9.6</td>
<td>Vitamins</td>
<td>Vitamin deficiencies</td>
<td>Their use as general ‘pick-me-ups’ is of unproven value and, in the case of preparations containing vitamin A or D, may actually be harmful if patients take more than the prescribed dose. The fad for mega-vitamin therapy is unscientific’ (BNF).</td>
<td>5</td>
<td>75</td>
<td>43</td>
</tr>
<tr>
<td>10.1.1</td>
<td>NSAIDS</td>
<td>Pain and inflammation in rheumatic disease.</td>
<td>'Before treatment is started the prescriber should weigh efficacy against possible side effects (BNF).’ In patients with a history of peptic ulcer disease and in the elderly they should be given only after other forms of treatment have been carefully considered’ (CSM advice).</td>
<td>188</td>
<td>2633</td>
<td>1599</td>
</tr>
<tr>
<td>13.10.1</td>
<td>Topical antibacterial preparations</td>
<td>Skin infections</td>
<td>'Potentially hazardous and frequently their use is not necessary if adequate hygienic measures can be taken. Moreover not all skin conditions that are oozing, crustecd or characterised by pustules are actually infected’ (BNF).</td>
<td>8</td>
<td>115</td>
<td>64</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td>782</td>
<td>295</td>
<td></td>
</tr>
</tbody>
</table>

* NIC = Net Ingredient Costs

$ A basket of 50 practices selected from 36 FHSAs (no more than 2 from each) which demonstrate both good quality and economical prescribing.

(The selected practices have on average 0.08% less patients over 65 years old than the national average; all are within 5% of the national average).
# DRUGS OF LIMITED CLINICAL VALUE

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>All practices</td>
<td>Good $ Prescribers</td>
</tr>
<tr>
<td>1.4</td>
<td>Anti-diarrhoeal</td>
<td>Diarrhoea</td>
<td>Of secondary value in the treatment of diarrhoea, may have undesirable side effects and distract from giving fluids.</td>
<td>5.283</td>
</tr>
<tr>
<td>2.6.3</td>
<td>Peripheral Vasodilators (excluding Thymoxamine)</td>
<td>Peripheral vascular disease (poor mobility)</td>
<td>Use of vasodilators may increase blood flow at rest, but no controlled studies have shown any improvement in walking distance or sustained increase in muscle blood flow during exercise. Rest pain is rarely affected. Not .. effective for chilblains.</td>
<td>12.481</td>
</tr>
<tr>
<td>2.6.4</td>
<td>Cerebral Vasodilators</td>
<td>Dementia (Cerebral vascular dis.)</td>
<td>'Some improvements in performance of psychological tests have been reported but the drugs have not been shown clinically to be of much benefit in dementia.'</td>
<td>7.250</td>
</tr>
<tr>
<td>3.9.1</td>
<td>Cough suppressants</td>
<td>Coughs</td>
<td>'The drawbacks of prescribing cough suppressants are rarely outweighed by the benefits of treatment and only occasionally are they useful. Though commonly used in acute bronchitis and pneumonia they can be harmful.'</td>
<td>2.431</td>
</tr>
<tr>
<td>3.10</td>
<td>Systemic nasal decongestants</td>
<td>Blocked nose</td>
<td>'These preparations are of doubtful value.'</td>
<td>4.601</td>
</tr>
<tr>
<td>4.5</td>
<td>Appetite suppressants</td>
<td>Obesity</td>
<td>'Drugs can play only a limited role; their effects tend to be disappointing. Centrally acting appetite suppressants are of no real value in the treatment of obesity since they do not improve the long term outlook. Most have a pronounced effect on the CNS.'</td>
<td>1.701</td>
</tr>
<tr>
<td>9.7</td>
<td>Bitters &amp; Tonics</td>
<td>Poor appetite</td>
<td>'Traditional remedies. All depend on suggestion.'</td>
<td>0.047</td>
</tr>
<tr>
<td>10.3.2</td>
<td>Topical NSAIDS</td>
<td>Soft tissue inflammation</td>
<td>'May provide some slight relief of pain (BNF). A large placebo effect. A conventional rubifacient may produce as good a response (MeReC). (Exceptionally poor value for money because of low absorption through the skin.)'</td>
<td>35.720</td>
</tr>
<tr>
<td>12.2.2</td>
<td>(i) Topical nasal decongestants;</td>
<td>Blocked up nose</td>
<td>'(i) Of limited value as they can give rise to a rebound phenomenon as their effects wear off with a subsequent temporary increase in nasal congestion... leading to a vicious circle of events.'</td>
<td>1.451</td>
</tr>
<tr>
<td>12.2.3</td>
<td>(ii) anti-infective nasal preps.</td>
<td></td>
<td>'(ii) there is no evidence that topical anti-infective nasal preparations have any therapeutic value.'</td>
<td></td>
</tr>
<tr>
<td>12.3.3</td>
<td>Lozenges, sprays and gels</td>
<td>Sore throat</td>
<td>'No convincing evidence that antiseptic lozenges and sprays have a beneficial action.'</td>
<td>0.245</td>
</tr>
<tr>
<td>13.14</td>
<td>Topical circulatory preparations</td>
<td>Bruising, chilblains</td>
<td>'Of little value.'</td>
<td>0.508</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td>72</td>
</tr>
</tbody>
</table>

\* NIC = Net Ingredient Costs

\$ A basket of 50 practices selected from 36 FHSAs (no more than 2 from each) which demonstrate both good quality and economical prescribing. (The selected practices have on average 0.08\% less patients over 65 years old than the national average; all are within 5\% of the national average).
29. There is wide variation in the extent to which different doctors find it necessary to use less effective drugs (Exhibit 15). The planned extension of the selected list to cover a further ten categories of drugs will further restrict the range of drugs that may be prescribed on the NHS which are for treatment of minor self limiting ailments, or which are of doubtful clinical value. However the experience of other countries suggests that it would not be cost-effective, even if clinically acceptable, to ban the prescription of all such drugs. Doctors may amend their diagnoses to allow prescription of more expensive, but equally inappropriate, medicines for the same ailments. Thus local as well as national pressure will be needed to reduce their inappropriate use.

The main responsibility must remain with GPs themselves. There may be good, often non-pharmacological reasons, to prescribe them occasionally, for some patients. However, it is easy for this to get out of hand, especially when the surgery is busy. GPs may find it useful periodically to record and subsequently audit their reasons every time such a drug is prescribed. A saving of £45 million in ingredient costs could be made if all doctors were to prescribe these medicines at the same rate per PU as those in our sample of good prescribers.

Exhibit 15

**DRUGS OF LIMITED CLINICAL VALUE: EXPENDITURE PER PRESCRIBING UNIT**

(1992/93)

A saving of £45 million would be made if all doctors prescribed these drugs at similar rates per PU to

![Graph](image)

* A national sample of 3,409 practices, selected to exclude those with atypical percentages of elderly patients.

Source: Audit Commission based on PPA / WHCSA data.

**'OVER THE COUNTER' MEDICINES**

30. Many drugs for treatment of minor illnesses and for symptomatic relief, including most of those discussed above, can also be obtained 'over the counter' (OTC) from pharmacies. Nevertheless, in some areas patients expect to obtain them on prescription from the doctor. This does not appear solely to reflect deprivation. The doctor may be seen as a source of reassurance and is perceived to provide more effective medicines. The GP's terms of service (Ref. I 4) specify that 'a doctor shall order any drugs or appliances which are needed for the treatment of any patient to whom he/she is providing treatment under these terms of service by issuing to that patient a prescription form...'. Many doctors believe that this clause requires them to prescribe whatever
they have recommended to a patient provided that it is available through the NHS, whether or not the patient could purchase it cheaper without a prescription. This might include, for example, the cotton wool needed to apply a lotion. In addition to the price of such medicines, the costs of dispensing them and the 'opportunity cost' of the doctor's time, which are likely to be considerably greater, must also be taken into consideration.

31. Some countries, for example Denmark, have extended markedly the range of medicines that can be bought without a prescription. The UK has been following suit more cautiously. The likely NHS expenditure consequences of increased deregulation are unclear. In some instances, savings in the drugs budget have resulted: for instance £1.8 million per year when hydrocortisone and loperamide became available from pharmacies without a prescription; in others prescription expenditure has continued to rise. However many patients would find it more convenient to be able to buy a wider range of common medicines without prescription. For people who pay prescription charges, it would also often be cheaper. Any resulting reduction in receipts by the exchequer would be compensated by the benefits of savings in GPs' time.

32. It is important to ensure that opportunities for examining and counselling patients are not reduced by any expansion of OTC sales. An efficient system would be needed whereby pharmacists could formally refer patients to their GP if a serious complaint was suspected. This would be in line with recommendations of the Royal Pharmaceutical Society / Department of Health working party on the role of community pharmacists (Ref.15). Pilot schemes have been introduced in some areas. Also, four of the practices studied include advice to patients in their practice leaflets on circumstances in which it would be appropriate to consult a pharmacist rather than a GP. The directory of OTC medicines, which is now available to GPs, should facilitate this.

WHAT TO PRESCRIBE?
INFORMATION OVERLOAD

33. There is no shortage of sources of advice to GPs on what to prescribe. At times, however, this advice is conflicting. Many older GPs were not equipped through their training to take a rigorous approach to evaluation of the rival merits of each new research finding. Nor do most doctors have the time to keep fully up to date with the latest drug developments other than in areas of special interest to them. It is particularly difficult to obtain reliable data on the marginal cost-benefit of different treatments. In the circumstances, small practices in particular tend to rely heavily on information provided by drug company representatives.

CHEAPEST IS NOT ALWAYS RATIONAL

34. There are certain areas of prescribing where it is generally accepted that modern drugs are better despite being more expensive. There is a growing emphasis on preventive treatment rather than just relief of a condition. For example, each year 2,000 people die as a result of asthma attacks. Of these deaths, 80% are avoidable. Inhaled corticosteroids are increasingly prescribed to reduce the frequency and severity of attacks, in addition to the bronchodilators used to assist the patient to breathe once an attack occurs. The balance of expert opinion is now strongly in favour of this (Ref.17). By reversing the swelling of the lining of the bronchial tubes they can effect a permanent improvement to an asthmatic patient's condition. The number of prescriptions for inhaled steroids written in 1992/93 was 16% higher than in 1991/92, but the ratio of
Exhibit 16
PRESCRIBING FOR ASTHMA
There is wide variation in the ratio of inhaled steroids to bronchodilators. Greater use of steroids could prevent more serious asthma attacks.

Source: Audit Commission based on PPA / WHCSA data.

Inhaled steroids to bronchodilators prescribed varies widely between practices (Exhibit 16). There can be no single 'ideal' ratio, as prescribing should reflect the needs of individual patients. However those GPs (25%) who prescribe less than a quarter of the number of these preventive asthma drugs as they do of bronchodilators should regularly audit their practice to ensure that the needs of patients are being met.

35. Inhaled steroids cost on average 2.8 times as much per item as bronchodilators. Further increasing the prescribing of inhaled steroids will raise expenditure on drugs. If all GPs were to prescribe half as many inhaled steroids as bronchodilators (a ratio currently attained by 10% of practices), drug expenditure would be increased by £75 million. However, as shown in the Audit Commission's report on sick children (Ref. 18), it could be cheaper for the NHS as a whole. Fewer patients would be admitted to hospital with severe asthma attacks or complications. Asthma is not the only area where better care could lead to more expensive prescribing in the short term. More research is needed to provide authoritative cost-benefit data on the value of more prophylactic drug treatment for other conditions.

36. A minority of GPs argue that it is best for the patient to 'blast' all diagnosed conditions straight away with the most powerful suitable drugs, usually relatively new and expensive ones. Quick results, they say, are more likely to maintain a patient's faith in the doctor. However, indiscriminate use of such drugs may, by building up tolerance to them, reduce their value if ever a powerful drug is really needed. New drugs are also more likely than well established medicines to have undiscovered side effects. There are often inadequate outcome data to judge their relative merits.

ONLY 'THE BEST'? INDIVIDUALLY TAILORED CARE IS PREFERABLE
37. Other doctors advocate starting with an appropriate, well established drug and changing progressively to newer, more powerful medicines, or higher doses, only if the first does not work. The majority of those interviewed believed that most patients were willing to accept a succession of different drugs, provided that they were given a proper explanation when treatment was first initiated. While the choice should not be dictated solely by cost considerations, use of established drugs or, if relevant, those with a limited spectrum of activity is often more economical as well as better for the patient.  

Would a cheaper alternative drug be equally safe and effective?

38. A number of different drugs may be suitable for some patients. Their prices may vary considerably.

— One example is the choice between the heart drugs isosorbide mononitrate and isosorbide dinitrate. When taken, the latter breaks down into substances which include the former. A larger dose is required. However, after allowance for this, an equivalent dose and presentation of the dinitrate is still about 40% cheaper on average than the mononitrate. Total savings of £11 million could have been made in 1992/93 if the cheaper drug had been prescribed.

— In other cases, a cheaper drug may be suitable for most, but not all, patients. Cimetidine, for example, is around 60% cheaper than other H2-antagonist ulcer healing drugs such as ranitidine (Zantac®) or famotidine (Pepcid®). It is said by the British National Formulary (25th Edition) to be equally effective in healing peptic ulcers, and to have few significant differences in reported side-effects. However, it is unsuitable for that minority of patients, 2.7% on average, who are also taking anticoagulants, anti-epileptics and certain other drugs. And for some other patients, a change to cimetidine might require an adjustment to dosages of their other drugs. However, even if cimetidine is assumed to be an unsuitable or impracticable choice for as many as 20% of the patients taking an H2-antagonist ulcer drug, £45 million could be saved by prescribing the cheaper drug for the others.

39. Possible drug substitutions have been identified which could, in total, save £110 million (Box C). Even good practices may still have considerable scope for further savings. Emulation of their current prescribing would save only £25 million from substitution of these drugs. However, only the prescribing doctor is in a position to decide which drugs are suitable for each patient.

ALWAYS ‘PLAYING SAFE’ IS UNNECESSARILY EXPENSIVE

40. Some doctors are concerned about what they see as a rising risk of legal action or professional disciplinary hearings should they prescribe a drug which turns out to have an adverse effect on a patient. A minority of GPs play for safety with all patients, regardless of the balance between marginal risk and additional costs. Their choice of antidepressants provides a good example. Two main groups of drugs are used in general practice to treat depression - tricyclics which are well established and relatively cheap and the newer SSRIs (selective serotonin re-uptake inhibitors) which cost on average ten times more for an equivalent dose. Both are considered to be equally effective. However, there are said to be 150 suicides per year involving patients taking antidepressants. SSRIs have been heavily promoted on safety grounds; it is claimed to be less easy for severely depressed patients to commit suicide by taking an overdose; but the supporting research evidence is as yet inconclusive (Ref. 19). Nevertheless uptake of SSRIs has been
### Box C
**EXAMPLES OF POTENTIAL SAVINGS FROM SUBSTITUTION OF SIMILAR DRUGS**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Consider substituting</th>
<th>Typical saving possible</th>
<th>Comment</th>
<th>Potential savings--</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ranitidine /Famotidine</td>
<td>Cimetidine (if suitable:-80% of H2 antagonists)</td>
<td>43 - 48%</td>
<td>'The H2-antagonists are all very effective in gastric and duodenal ulcer.' 'Side effects are uncommon with few significant differences between available drugs.' 'Cimetidine should be avoided in patients stabilised on warfarin, phenytoin and theophylline, but other interactions may be of less clinical relevance' (BNF 25th Edn). The level of possible substitution assumed here takes into account levels and age distribution of usage of these interacting drugs, feasibility of restabilising certain patients on their other drugs, and the additional uses (eg in gastro-oesophageal reflux disease) of newer H2 antagonists.</td>
<td></td>
</tr>
<tr>
<td>Indapamide</td>
<td>Bendrofluazide</td>
<td>98%</td>
<td>'Other thiazides [indapamide etc] do not offer any significant advantage over [bendrofluazide and chlorthalidone].' 'Indapamide is claimed to lower blood pressure with less metabolic disturbance.' 'But a low dose of a thiazide, eg bendrofluazide 2.5mg daily, produces a [near-] maximal blood pressure lowering effect, with very little biochemical disturbance' (BNF 25th Edn.)</td>
<td></td>
</tr>
<tr>
<td>Doxazosin / Terazosin</td>
<td>Prazosin</td>
<td>67 - 75%</td>
<td>'Doxazosin and terazosin have properties similar to prazosin.' (BNF 25th Edn) It is necessary to consider for each patient whether the benefits of once daily dosing offered by doxazosin or terazosin justify the extra cost.</td>
<td></td>
</tr>
<tr>
<td>Isosorbide Mononitrate</td>
<td>Isosorbide Dinitrate</td>
<td>22 - 67%</td>
<td>'The activity of isosorbide dinitrate may depend on the production of active metabolites, the most important of which is isosorbide mononitrate. Isosorbide mononitrate itself is also available for angina prophylaxis, though the advantages over dinitrate have not yet been firmly established' (BNF 25th Edn.) If prescribing m/r forms, is the 24 hr duration of action of the mononitrate (as opposed to 12 hr) necessary for that patient?</td>
<td></td>
</tr>
<tr>
<td>Expensive NSAIDs such as fenbufen, azapropazone, etodolac, tiaprofenic acid, nabumetone or tenoxicam.</td>
<td>Ibuprofen / Naproxen (illustrative)</td>
<td>64 - 84%</td>
<td>'Differences in anti-inflammatory activity between different NSAIDs are small, but there is considerable variation in individual patient response.' 'It is often necessary to try several drugs before finding one to suit a particular patient.' 'The main differences are in the incidence and type of side-effects.' 'The prescriber should weigh efficacy against possible side-effects' (BNF 25th Edn). 'Ibuprofen: fewer side-effects than other NSAIDs but weaker anti-inflammatory properties. Naproxen: combines good efficacy with low incidence of side effects.' The choice of available NSAIDs is wide; one of the cheaper preparations (of which those above are examples) is likely to be suitable for most patients.</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td>1104</td>
</tr>
</tbody>
</table>

---

Potential savings:--

<table>
<thead>
<tr>
<th>Full substitution (except cimetidine)</th>
<th>20th percentile</th>
<th>Good practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.8</td>
<td>3.9</td>
<td>2.7</td>
</tr>
<tr>
<td>4.2</td>
<td>2.7</td>
<td>1.3</td>
</tr>
<tr>
<td>0.7</td>
<td>0.7</td>
<td>0.7</td>
</tr>
<tr>
<td>12.0</td>
<td>2.3</td>
<td>0.7</td>
</tr>
<tr>
<td>21.5</td>
<td>11.6</td>
<td>8.7</td>
</tr>
</tbody>
</table>

---
increasing rapidly. They represented 13.8% of prescriptions for antidepressants in 1992/93 compared to 8.8% in 1991/92. This change added over £30 million (49%) to expenditure on prescribed antidepressants. The use of SSRIs by different GP practices varies markedly, ranging from less than 1% to 90% of such prescriptions (Exhibit 17). By comparison, the selected good prescribers used SSRIs somewhat less on average than other practices (11.0%); they did not exclude them from consideration, but generally tried a more traditional antidepressant first.

Exhibit 17
VARIATION IN PRESCRIBING OF NEWER ANTIDEPRESSANTS (1992/93)
Evidence that SSRIs are safer is as yet inconclusive. Good prescribers generally try a well established cheaper antidepressant first.

Source: Audit Commission based on PPA / WHCSA data.

41. Other examples of new drugs promoted as replacements for existing products on grounds of safety include the sleeping pill zopiclone which costs 23 times as much as temezapam and the tranquilliser buspirone which cost 320 times more than diazepam. Some GP practices do not prescribe buspirone at all, while at others it accounts for 56% of all prescriptions for anxiolytics. Yet there is only marginal evidence that this drug is safer than much cheaper alternatives; the British National Formulary (BNF) concludes that 'the dependence and abuse liability has not yet been established'.

REDUCING THE IMPACT OF THE 'BAD EXPERIENCE'

42. It is each GP's responsibility to exercise care in prescribing within the current limits of knowledge about the effects of each drug. Any serious risks, together with compensating benefits, should normally be discussed with the patient. In a minority of cases this may be inadvisable; but doctors should never assume automatically that patients wish to place blind faith in their GP's judgement. However, individual GPs may not always be in the best position to quantify the relative risks of different treatments or to decide on an appropriate balance between cost and
'safety'. National and local guidelines agreed with professional bodies are needed; for instance, on circumstances in which SSRIs should be considered when treating depression. Prescribing advisers should also consider ways of reducing the impact of any 'bad experience' after a drug has been prescribed with due diligence and in accord with guidelines.

TOO WIDE A RANGE OF DRUGS?

43. Too wide a range of drugs is often used to treat the same condition. Often there appears to be no clinical or other rationale guiding the choice. Quality of care as well as costs can be affected. One example is the use of non-steroidal anti-inflammatory drugs (NSAIDs), primarily in the treatment of rheumatism. Most of these have serious potential side effects, including bleeding and ulceration, with which both the prescriber and other doctors who subsequently see the patient need to be familiar. Each of the 24 NSAIDs currently on the market, in 90 formulations, has somewhat different side effects. No single one of these drugs is effective for all patients. However, if as at many practices ten or more different NSAIDs are regularly prescribed, there is added danger that a GP working under pressure might miss a serious problem (Exhibit 18, overleaf).

44. Practices should agree a policy that sets out their choice of first, second and third line drugs for key areas of prescribing, particularly those where there are major safety considerations. The journal Prescriber recommends that GPs develop familiarity with just five or six NSAIDs drawn from different chemical groups. It is advisable for partners in the same practice to use the same five or six, since if an unexpected side effect does develop it is possible that a patient would not be seen by his/her own GP. Each practice should consider adopting a target of using no more than five different NSAIDs for 90% of their anti-inflammatory prescribing. Small practices may be able to achieve higher percentages. Compliance with this policy should be audited periodically.

SCOPE FOR FURTHER GENERIC PRESCRIBING

45. Most medicines have two names:- the approved pharmaceutical (generic) name of their active ingredient and the proprietary name under which they are marketed. If a doctor prescribes
Exhibit 18

NON-STEROIDAL ANTI-INFLAMMATORY DRUGS (NSAIDs)

If many different NSAIDs are prescribed regularly, there is added danger that a GP working under pressure might miss a serious problem.

For 90% of patients, Dr A prescribes just three types of NSAID; Dr B ten different NSAIDs.

Using the proprietary name, British pharmacists, unlike their counterparts in many other countries, have to dispense that particular brand. If it is unobtainable, they must obtain the doctor’s permission to substitute another. If the doctor prescribes using the generic or British Approved Name of the chemical together with the strength and form in which it should be dispensed, the pharmacist is reimbursed at a price reflecting that of the cheapest medicine which meets the specification. While a drug is covered by patents the choice will be limited to original brands or, in some cases, to an imported version of the same drug. This will only usually apply for about the first ten years that the drug is available, because some seven years of the patent life is typically used during development, clinical trials and licensing by the Medicines Control Agency.
the patent expires, other companies are entitled to bring out generic, non-proprietary copies. These must undergo the same rigorous licensing and inspection procedures as the original brands, but, because they do not have to bear a share of the original research and development costs, they are often much cheaper.

46. The original manufacturers may be able to rely on brand loyalty to retain an adequate share of the market. They may seek to improve product differentiation by presenting the proprietary drug in forms that can be taken less frequently, in combination with other drugs, in soluble form, with varying coatings, flavourings or additives or in better packaging. Alternatively they may reduce their list prices to the point where the cost difference is likely to appear insufficient to a GP to justify the upheaval of change. Thus price differentials vary greatly. For example, the branded form of the heart drug frusemide costs almost 11 times as much as the equivalent non-proprietary preparation, whereas there is virtually no price difference between generic and branded forms of the anti-inflammatory drug diclofenac sodium. However, price differentials can change rapidly and, even where they are small, big savings can still be made if a drug is widely used.

47. It should make no difference to most patients whether they receive a branded or non-proprietary drug. Occasionally there can be sound reasons for keeping to one brand (Ref. 20). In particular slight differences in ‘bioavailability’, the proportion of the drug which is absorbed, could de-stabilise the treatment of epilepsy, schizophrenia or certain heart diseases. In such cases it is best to specify drugs from a single manufacturer. Differences in the non-active ingredients or packaging of different brands may occasionally be a relevant consideration. Variations in colour or appearance might confuse some patients, particularly elderly people, who are taking many different drugs. It may sometimes be clinically preferable to prescribe a drug in a strength or presentation that is only available in branded form.

48. Such reservations apply in only a few cases. Nevertheless many GPs remain reluctant to prescribe a wide range of medicines generically. Some may still remember the time when generics were said to be of inferior quality. More often, they do not wish to spare the time. Many generic names take longer to write than brand names which are chosen so that they are easy to remember. It takes time to identify all patients who are receiving repeat prescriptions of branded drugs, check the details and change the computer record or prescription cards. It takes time for the doctor to explain the reasons for the change and to convince those patients which return claiming that their new pills do not work that they are still receiving the same medicine under a different name. Some practices visited during the Commission’s study who had not managed the change properly had given up in the face of pressure from a few discontented patients and reverted to branded drugs.

49. While the proportion of prescriptions which are written generically increased from 21% in 1982 to 43% in 1992, there is still scope to increase this further. A saving of £50 million would be made if all GPs prescribed just 20 drugs generically to the extent of the fifty selected practices (Exhibit 19, Box D, overleaf). The drugs considered exclude any where there are valid reasons for keeping to a single brand. It is estimated that eventually £84 million could be saved with no detriment to standards of patient care. There is considerable variation between practices and between FHSA areas in the scope for such economies (Exhibit 20, overleaf).
**Exhibit 19**

**NATIONAL SAVINGS FROM MORE GENERIC PRESCRIBING**

A saving of £50million would be made if all GPs prescribed just 20 drugs generically to the extent of the fifty selected practices. Eventually £84million could be saved.

---

**Source:** Audit Commission based on PPA / WHCSA data.

**Box D**

**EXAMPLES OF POTENTIAL SAVINGS FROM MORE GENERIC PRESCRIBING**

<table>
<thead>
<tr>
<th>Drug (Generic Name)</th>
<th>Examples of proprietary preparations</th>
<th>Price of most frequently prescribed proprietary formulations as multiple of that of generic equivalent</th>
<th>Potential savings if Complete generic substitution (£million)</th>
<th>Savings if all practices were to prescribe like selected good practices (£million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cimetidine</td>
<td>Tagamet</td>
<td>1.7</td>
<td>6.2</td>
<td>5.2</td>
</tr>
<tr>
<td>Frusemide</td>
<td>Lasix</td>
<td>11</td>
<td>0.6</td>
<td>0.5</td>
</tr>
<tr>
<td>Spironolactone</td>
<td>Aldactone</td>
<td>3.3</td>
<td>0.7</td>
<td>0.5</td>
</tr>
<tr>
<td>Atenolol</td>
<td>Tenormin</td>
<td>3.4 to 4.0</td>
<td>11.3</td>
<td>8.8</td>
</tr>
<tr>
<td>Labetalol</td>
<td>Trandate</td>
<td>1.9</td>
<td>0.6</td>
<td>0.4</td>
</tr>
<tr>
<td>Oxprenolol</td>
<td>Trasicor</td>
<td>2.0 to 2.4</td>
<td>0.6</td>
<td>0.2</td>
</tr>
<tr>
<td>Propranolol</td>
<td>Inderal</td>
<td>6</td>
<td>0.7</td>
<td>0.4</td>
</tr>
<tr>
<td>Methyldopa</td>
<td>Aldomet</td>
<td>1.7</td>
<td>1.0</td>
<td>0.7</td>
</tr>
<tr>
<td>Salbutamol - Inhaled</td>
<td>Ventolin</td>
<td>2.3</td>
<td>17.7</td>
<td>5.1</td>
</tr>
<tr>
<td>Metoclopramide</td>
<td>Maxolon</td>
<td>1.6</td>
<td>0.8</td>
<td>0.5</td>
</tr>
<tr>
<td>Flucloxacillin</td>
<td>Floxapen</td>
<td>5</td>
<td>1.3</td>
<td>1.1</td>
</tr>
<tr>
<td>Amoxyccilin</td>
<td>Amoxil</td>
<td>5</td>
<td>9.8</td>
<td>6.6</td>
</tr>
<tr>
<td>Erythromycin</td>
<td>Erythromed/Erythrocin</td>
<td>1.7 to 4.8</td>
<td>7.5</td>
<td>3.1</td>
</tr>
<tr>
<td>Co-trimoxazole</td>
<td>Septrin</td>
<td>6</td>
<td>2.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Metronidazole</td>
<td>Flagyl</td>
<td>3</td>
<td>0.7</td>
<td>0.5</td>
</tr>
<tr>
<td>Glibenclamide</td>
<td>Daonil</td>
<td>4.8</td>
<td>1.1</td>
<td>1.0</td>
</tr>
<tr>
<td>Ibuprofen</td>
<td>Brufen</td>
<td>1.4 to 2.4</td>
<td>3.3</td>
<td>2.7</td>
</tr>
<tr>
<td>Naproxen</td>
<td>Naprosyn</td>
<td>3.2 to 3.8</td>
<td>8.3</td>
<td>5.1</td>
</tr>
<tr>
<td>Piroxicam</td>
<td>Feldene</td>
<td>1.6</td>
<td>2.1</td>
<td>1.2</td>
</tr>
<tr>
<td>Allopurinol</td>
<td>Zyloric</td>
<td>20</td>
<td>6.9</td>
<td>5.4</td>
</tr>
</tbody>
</table>

**TOTAL (Top 20 drugs)**

84                                                                                                         50

* Savings are based on 1992/93 prescribing patterns and September 1993 drug prices.

** A basket of 50 practices selected from 31 FHSAs (no more than 2 from each) with list age distributions close to the national average and which demonstrate both good quality and economical prescribing.
There is considerable variation between GP practices in the scope for further economy:

There are much greater opportunities for savings in some FHSA areas than in others.

50. The advantages of generic prescribing are not confined to possible cost savings. In particular, patients needing a consultation at short notice are often seen by a doctor other than their own GP, who will need to know what medicines they are taking. The approved generic names may be much more informative than those of possibly unfamiliar brands. However increased generic prescribing must never be regarded as an end in itself; consideration must always be given to whether a particular drug is appropriate for treating a patient's condition.

51. Practices have adopted various ways to minimise the time and effort needed to change over to generic prescribing and to overcome any patient resistance (Box E). Some practices have programmed their computers to substitute generic for proprietary drug names, except where a GP overrides the substitution. Patients' concerns can be reduced by agreeing a common explanation for the change with nearby pharmacists and using leaflets and sticky labels attached to repeat
INTRODUCING GENERICS

Patients may be unwilling to accept a generic drug because of:-
• Suspicion of something different,
• Differences in appearance, size, texture, taste etc.,
• Differences in non-active ingredients (colourings etc.),
• Inferior packaging or patient information leaflets.
Inhaled salbutamol (for asthma) presents particular problems - a majority of GPs claim
• that patients find the generic less effective,
• that generic inhalers last for a shorter time,
• that differences in the colour of imported inhalers is confusing and potentially
dangerous if a patient is also taking inhaled steroids for their asthma,
• that some generic inhalers will not fit spacers properly.

Generic prescribing is not economical if the patient fails to take the medicine or is convinced
that it is less effective. FHSAs could do more to facilitate change and to provide practices
and pharmacists with explanatory notices and leaflets for patients. But, even without such
support, many practices have found that it is possible to prescribe generically without losing
patient confidence.

MAKING THE CHANGE:
NEW OR ONE-OFF ACUTE PRESCRIPTIONS:-
Use the 'G button': Many practice computers allow the doctor to enter the familiar
proprietary name but, if a generic (G) button is pressed, print out the prescription generically.
However, many GPs do not use their computers for acute prescriptions.

REPEAT PRESCRIPTIONS:-
Staged introduction: It is usually best not to introduce generic prescribing suddenly, but to
change existing patients one drug at a time:-
• Start with a drug where there are both big savings to be made and where there is little
reason to anticipate clinical problems or patient resistance.
• Identify all patients receiving repeat prescriptions for that drug. The GP should check
the list and pick out patients for whom the change might prove particularly confusing
or disturbing. Ideally no prescriptions should be changed until the next time that each
patient’s medication is reviewed, when the doctor can take time to explain the reasons
for the change. At the very least this should be done for vulnerable patients.
• Display a prominent notice near to the reception desk or dispensary explaining the
change:-
  — although the name and appearance may differ it is the same drug,
  — that it has passed the same quality tests as the brand previously prescribed,
  — the change will help the NHS to spend more on other treatments,
  — if patients have questions or problems, they should ask the pharmacist or see the
doctor.
• Stickers should be fixed to repeat prescription cards (or on the counterfoils of computerised prescriptions) confirming specifically that generic x is the same drug as brand y.

• Neighbouring pharmacists should be warned of the change in advance so that they can adjust their stocks. The doctors should agree with pharmacists guidelines for notifying any forthcoming change in the sourcing of generic drugs that may have clinical consequences (e.g. those where variation in bioavailability could be important).

• The pharmacist should also reassure patients that they are getting the same medicine; it may help for the GP to agree an explanation with neighbouring pharmacists.

prescription cards to confirm that the drugs are the same. However many good prescribers agree that ultimately it is better for the GP to spend time explaining the change to patients when their medication is reviewed.

52. In a number of countries, including the USA, pharmacists are free to dispense the generic equivalent of a prescribed brand. In the Netherlands this freedom is tempered for certain drugs by local agreements between doctors, pharmacists and the agencies who reimburse drug costs. The time has come to re-examine options for promoting more generic dispensing including those considered by the Greenfield Enquiry (Ref. 21): permitting GPs to tick a box on the prescription form either to indicate that a generic equivalent could, or that it could not, be dispensed. Quality assurance testing schemes for generics are already being considered by some regional health authorities to reassure doctors and patients about their consistency of bioavailability and presentation. Nationally, the British Generic Manufacturers Association is attempting to standardise the appearance of different generic versions of the same drug to reduce confusion. The European Commission, together with the Medicines Control Agency and equivalent regulatory bodies in other countries, could help to ensure that colour and size specifications are agreed and followed.

MORE DISCRIMINATING USE OF PRESCRIBING PREMIUM PRICE FORMULATIONS

53. Some medicines are marketed both in their standard forms and also, at a premium price, in presentations that manufacturers claim are easier for patients to use (Box F):

— 'Modified (sustained) release' formulations enable a patient to take medicine only once instead of two, three or four times a day. This is more convenient for some patients and may, as the pharmaceutical industry claims, improve the probability that they will take them as directed; but the benefits for all patients who receive them may not always justify the extra costs. These are substantial. For instance, long acting formulations of one heart medicine cost between 16 and 25 times more than the basic twice daily generic form – an extra cost to the NHS of £10.5 million in 1992/93 for that drug alone.

— Similar benefits of convenience and increased compliance from taking one pill instead of two are claimed for combination products. They could also save the patient a double prescription charge. But, for example, the heart preparation Inderex® costs the NHS almost 16 times as much as the same amounts of its components, propranolol and bendrofluazide, prescribed separately.
## Box F
EXCEPTIONS TO POTENTIAL SAVINGS FROM MORE APPROPRIATE USE OF PREMIUM PRICE PREPARATIONS

<table>
<thead>
<tr>
<th>Drug (Generic Name)</th>
<th>Examples of premium price proprietary preparations considered</th>
<th>Price of most frequently prescribed premium price items as multiple of that of equivalent dose of basic drug</th>
<th>Percentage of items prescribed in premium price form</th>
<th>Total expenditure premium incurred England &amp; Wales (£million)</th>
<th>Savings if all practices were to prescribe like 20th Percentile Good $ practices</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) Modified Release</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propranolol</td>
<td>Inderal LA etc</td>
<td>16 to 25</td>
<td>39.3</td>
<td>17</td>
<td>23.9</td>
</tr>
<tr>
<td>Isosorbide Mononitrate</td>
<td>Indur, Elantan LA etc</td>
<td>1.9 to 2.3</td>
<td>16.2</td>
<td>1</td>
<td>108</td>
</tr>
<tr>
<td>Verapamil</td>
<td>Securn SR etc</td>
<td>6</td>
<td>37.7</td>
<td>2</td>
<td>21.3</td>
</tr>
<tr>
<td>Salbutamol (tabs)</td>
<td>Ventolin CR, Volmax</td>
<td>5 to 8</td>
<td>9.0</td>
<td>3</td>
<td>6.1</td>
</tr>
<tr>
<td>Diclofenac Sodium</td>
<td>Voltarol Retard / SR</td>
<td>1.2</td>
<td>53.6</td>
<td>33</td>
<td>49.7</td>
</tr>
<tr>
<td>Ibuprofen</td>
<td>Brufen Retard</td>
<td>1.7</td>
<td>5.7</td>
<td>0</td>
<td>1.6</td>
</tr>
<tr>
<td>Indomethacin</td>
<td>Indocid R, Flexin Continus</td>
<td>11 to 14</td>
<td>28.0</td>
<td>8</td>
<td>19.6</td>
</tr>
<tr>
<td>Ketoprofen</td>
<td>Orovail</td>
<td>2</td>
<td>88.2</td>
<td>69</td>
<td>65.6</td>
</tr>
<tr>
<td>(ii) Dry powder (etc) inhalers</td>
<td></td>
<td>8 to 10</td>
<td>189</td>
<td>10</td>
<td>156</td>
</tr>
<tr>
<td>Salbutamol</td>
<td>Rotacap, Ventodisk etc</td>
<td>3.4</td>
<td>40.4</td>
<td>11</td>
<td>30.3</td>
</tr>
<tr>
<td>Terbutaline Sulphate</td>
<td>Bricanyl Turbohaler</td>
<td>2.7 to 3.7</td>
<td>24.6</td>
<td>11</td>
<td>19.6</td>
</tr>
<tr>
<td>(iii) Combination products</td>
<td></td>
<td>5</td>
<td>53.3</td>
<td>31</td>
<td>43.9</td>
</tr>
<tr>
<td>Amiloride HCl</td>
<td>Frumil, Lasonide</td>
<td>2.1 to 4.1</td>
<td>26.6</td>
<td>0</td>
<td>12.5</td>
</tr>
<tr>
<td>+ Furosemide</td>
<td></td>
<td>3.3 to 7.5</td>
<td>6.7</td>
<td>0</td>
<td>2.4</td>
</tr>
<tr>
<td>Hydroflumethiazide</td>
<td>Aldactide</td>
<td>3.5</td>
<td>103</td>
<td>2</td>
<td>5.5</td>
</tr>
<tr>
<td>+ Spironolactone</td>
<td></td>
<td>3.5</td>
<td>103</td>
<td>2</td>
<td>5.5</td>
</tr>
<tr>
<td>Frusemide + Potassium Chloride</td>
<td>Diumide K, Lasikal etc</td>
<td>3.5</td>
<td>103</td>
<td>2</td>
<td>5.5</td>
</tr>
<tr>
<td>Paracetamol + Codeine Phosphate</td>
<td>Solpadol</td>
<td>3.5</td>
<td>103</td>
<td>2</td>
<td>5.5</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$ A basket of 50 practices selected from 36 FHSAs (no more than 2 from each) which demonstrate both good quality and economical prescribing.

(The selected practices have on average 0.08% less patients over 65 years old than the national average, all are within 5% of the National average)

* All savings are based on September 1993 drug prices and 1992/93 prescribing patterns.
— Many inhaled drugs are also available in premium price formats. Salbutamol, for instance, can be inhaled to relieve asthma attacks using either an ordinary aerosol, or various devices such as Autohalers®, Rotacaps® or Ventodisks® which cost around eight times the price per dose. Many GPs believe the more expensive devices to be cost-effective and prescribe them extensively because they deliver a more precise dose than an aerosol without recourse to a bulky spacer. They are easier for some patients to use and therefore, it is claimed, more economical in use. Other doctors maintain that, for adults, similar clinical benefits can usually be achieved at less expense if the GP or practice nurse takes the time to teach patients to use ordinary inhalers properly and to check this inhaler technique periodically.

54. There is wide variation between practices in the proportions of drugs prescribed in premium price forms (Exhibit 21, overleaf). Some practices studied, for example, prescribe less than 0.5% of the heart drug propranolol in modified release form, others 97%. GPs should monitor from time to time the proportions of each drug which they prescribe in these forms. The total 'convenience premium' amounted to almost £130 million across England and Wales in 1992/93. While it would not be cost-effective to substitute cheaper formulations for all patients if this markedly reduced compliance or clinical effectiveness, the prescribing patterns of good practices suggest that at least £30 million could be saved without harming patient care. Some do this by offering patients an informed choice. A few practices have discussed and agreed the circumstances in which use of modified release and other premium price presentations is of real clinical benefit. Each patient's individual circumstances and needs can then be considered against these criteria. Premium price preparations are reserved for patients who need them.

55. A GP can prescribe any amount of medicine at a time, although many still usually follow the guidelines that a 28 day supply should be given unless the drugs form part of a shorter course of treatment. It is important that the prescription size is appropriate to the patient, since many drugs are wasted. Drugs may not be taken for many reasons. The patient's condition may change, they may be admitted to hospital, the medicine may not seem to work, or perhaps they may not really be sure that they wanted it in the first place.

THE RIGHT AMOUNT?

56. It is good practice to prescribe hypnotics such as nitrazepam and temazepam in small quantities at a time so as to try to wean patients off addictive drugs and to minimise risk of misuse. Prescriptions for 28 days or more should be confined to those few elderly patients where withdrawal is not considered practicable. However, nationally 45% of prescriptions for these drugs are for more than 30 tablets or capsules at a time, the number most usually required for one month, and 5% are for more than 90 at a time.

57. Non-steroidal anti-inflammatory drugs (NSAIDs) for rheumatism are best prescribed in small quantities initially until it is ascertained whether they are effective and do not cause side effects for each individual patient. If treatment is ineffective after two weeks, a different drug will need to be tried. Once a patient is stabilised on the drug a longer prescription may be considered. Good practice would therefore accord with a range of different item sizes appropriate to individual patients, but many doctors fail to discriminate.
Exhibit 21
PREMIUM PRICE PREPARATIONS
The total extra cost of prescribing drugs in 'convenience' formats is £130 million. Over £30 million could be saved without harming patient care.

- Modified release: £49 million EXTRA
- Dry Powder Inhalers: £52 million EXTRA
- Combination Drugs: £28 million EXTRA

There is wide variation in the proportions of drugs prescribed in these forms:
- Propranolol: modified release percentage of total prescribing.
- Inhaled salbutamol: % of dry powder and other premium price devices.

Total additional cost (£) per PU of selected premium price formulations.

* A national sample of 2,620 practices.
Source: Audit Commission from PPA / WHCSA data How much to prescribe?
58. A number of the doctors interviewed mentioned patient liability to prescription charges as a major factor in deciding what length of prescription to write. They said that they are embarrassed not to appear to be giving value for money by providing long prescriptions even if they are unsure as to whether a drug will prove appropriate. New 'single pill' courses of treatment cause them a particular problem.

59. In some cases the 'right' amount may be none at all; other forms of treatment or advice may be more appropriate than a prescription. Decisions about how much to prescribe must be sensitive to the needs and circumstances of each individual patient (Box G). Addictive drugs and those subject to misuse should normally be prescribed in small quantities at a time so as to minimise risk. But for many chronic conditions, once a patient is stabilised on a medicine, a longer repeat prescription may well be appropriate. This saves time and staff costs for GPs as well as being more convenient for many patients. Prescriptions for heart drugs, for example, written by the fifty

Box G

CHOOSING THE 'RIGHT' AMOUNT TO PRESCRIBE

| The amount of a drug prescribed on a repeat prescription should reflect:- |
|---------------|-----------------------------------|
| • The stability of the patient's condition and frequency at which medication is to be reviewed. |
| • The assessed risk of side effects taking into account the patient's clinical history. |
| • The perceived reliability of the patient in taking medication as directed and the extent to which the GP thinks it necessary to 'keep in touch'. While it is not essential for the review of medication to be linked to the dates at which repeat prescriptions will be requested, this is administratively convenient. |
| • Safety considerations associated with the particular drug (or the patient's circumstances). Would there be a significant risk to the patient or the family if larger than necessary quantities of the drug were stored in the patient's home? |
| • The shelf life of the medicine - usually quite long. |
| • The relative costs to the NHS of: |
| — ingredients (after discount); |
| — dispensing (including professional fees, container allowance and the marginal cost of processing payments); and |
| — the opportunity costs of the time spent by the doctor and staff in producing the prescription. |
| • Patient and doctor convenience:- ideally, a multiple of seven days' supply should be supplied so that the patient does not run out at a weekend and requests for repeats are evenly spaced. An exception may be made to avoid splitting drug packs containing 20 or 30 pills. |
| • The date when the patient would require repeat prescriptions for other medications if they are taken as prescribed. It has been suggested that entering the dose and frequency of repeats on the prescription form, leaving the pharmacist to calculate the required quantities, may reduce waste (Ref. 22) and inconvenience for patients. |
selected good prescribers were 25% longer on average than those issued by other GPs. The fee for dispensing a typical monthly prescription of digoxin is 28 times the cost of the ingredients. Nationally therefore, a move towards longer prescriptions could also offer scope to change the balance of pharmacists’ remuneration, recompensing them for undertaking extended roles but reducing the proportion of income derived from dispensing.

60. In the Netherlands the maximum length of free prescriptions is regulated: all prescriptions for tranquillisers, sleeping pills, appetite suppressants and antibiotics together with first prescriptions of any other medicine may not exceed 15 days. Subsequently a prescription up to six months can be given for oral contraceptives, up to three months of medicines for chronic diseases, and up to one month for other drugs.

EFFECTIVE REPEAT PRESCRIBING SYSTEMS

61. Repeats should only be authorised for patients with stable chronic conditions. The 'ground rules' should be established when a repeat prescription is first given to a patient. Patients must be encouraged to tell the GP if they stop taking one of the prescribed drugs or have some left over, and assured that the doctor will not be offended. Many doctors make a point of asking patients regularly how they are getting on with each of their medicines. All patients should have an up-to-date prescription record with a copy for them to keep. There should also be a tracer record in the GP's notes. These should show clearly how many more repeats can be obtained before seeing the doctor again. The numbers of repeats authorised need to be flexible according to the circumstances of each individual patient, but limits must be enforced so that they are respected by patients. Patients should know when they can pick up a repeat prescription. Except in exceptional circumstances, no repeats should be given more than a couple of days in advance of the due date. If a GP has doubts about a patient's compliance and considers this important, there should also be systems to spot overdue repeats.

62. For many, computerisation of repeat prescribing has brought substantial benefits in improved accuracy and quality of record keeping as well as time savings. However, use of a computer can not by itself rectify fundamental deficiencies in practice systems for administering repeat prescribing. Frequently the number of repeat prescriptions shown to have been issued exceeds that originally authorised. It can be difficult to establish whether the GP has authorised further repeats, or whether the limits entered into the computer have been overridden. Some prescriptions, including repeated prescriptions for acute conditions and the first of a series of repeats, may be hand written and never entered into the computer record. Other repeats are printed out, but never issued. This invalidates computerised checks for possible drug interactions and reduces the value of the records for medication review. It is also often difficult to find out when the medication was first initiated and the total number of repeats issued. Potential drug errors can occur from telephone requests, particularly if drug names are transcribed first on to a message pad and only later, and by a different person, matched with the patient's records. We therefore endorse the recent National Audit Office recommendation (Ref. 11) that FHSAs should ensure that all practices have an effective repeat prescribing protocol.

63. Some GPs would also welcome the option of being able to issue some patients with prescriptions for staged dispensing. The Department of Health should review the options. Repeat dispensing, whereby a GP could instruct a pharmacist to issue a prescription in stages, is advocated
by the Royal Pharmaceutical Society and is said to have reduced waste and saved money in New Zealand. Alternatively 'books' of dated repeat prescriptions would give the patient more say in when and where the medication was dispensed. Consideration should also be given to changing the season ticket scheme for prescription charges. Instead of having to lay out a considerable sum in advance, each charge paid during the year could contribute towards its purchase (as in New Zealand). Similarly in Eire, patients submitting receipts for drugs purchased in excess of a threshold amount during the year are entitled to a refund on future purchases.

AVOIDING THE DANGERS OF INCREMENTAL PRESCRIBING

64. Repeat prescriptions must be reviewed regularly to ensure that they are still appropriate. For patients over 75 years, medication review is part of the annual health checks required under GPs’ terms of service. However, both the frequency and thoroughness of review are often inadequate. This may be due to pressure of work, incomplete records, notes which do not record the reasons why and for how long a drug was first prescribed (perhaps by another GP), or just difficulty in getting a patient to attend the surgery. All the drugs that a patient is taking should be reviewed at the same time and repeats re-authorised as appropriate. Doctors may find it useful to seek independent suggestions for possible changes to long term medication from a pharmacist. Some conditions could be better treated by stopping or changing existing prescriptions. New research may suggest more effective options for treatment. Also, as people grow older, both the suitability of medicines and their optimum dosage change. A drug taken over a period of years may cease to be effective, or long term side effects may emerge. More seriously, it may interact with another medicine prescribed subsequently, or adversely affect a developing condition.

DECIDING PRACTICE PRESCRIBING POLICY

65. Partners in many group practices often discuss individual cases informally including the medication prescribed. It is less common for them to meet to talk about the principles of prescribing. Where such discussion does take place, the choice of topic may be dictated by pharmaceutical company representatives offering educational films rather than by the prioritised needs of the practice. Developing a practice drug formulary can be a useful way to focus discussion. Only 9 out of the 54 practices studied said that they had a practice formulary. A further 14 practices were currently developing one. Many GPs think that the time and effort required to compile and maintain a formulary would outweigh its value. Perhaps more important than simply agreeing a list of preferred drugs should be to consider the circumstances in which each preparation will normally be used in the treatment of common illnesses. FHSA prescribing advisers need to be aware of such practice protocols and to challenge or support them where necessary. The majority of clinical protocols so far adopted by practices are either for less common conditions where responsibility for care is shared with a hospital or for conditions which are monitored in clinics run by practice nurses. Regular audit of actual prescribing in relation to a formulary and of protocol observance can ensure that formularies and protocols are kept up to date and that areas of disagreement between partners are explored openly. Although prescribing is one element of many of the audits carried out by GPs, such systematic monitoring is at present confined to a few enthusiasts.
FINDING TIME TO DISCUSS PRESCRIBING

66. There can be no single ideal model for organising practice discussions. Regular meetings of all partners with a pre-planned agenda reflecting practice priorities and ranging beyond purely pharmaceutical considerations, clearly understood responsibilities for keeping abreast of the literature and reviewing prescribing data, and documentation of decisions are all important. Lack of time is the major barrier. However, doctors can take a number of measures to make better use of their time including more delegation, appropriate computerisation and restricting time spent with drug representatives (Box H). Most FHSAs will assist with the construction of formularies and protocols (paragraph 98). They can also help by keeping their own demands on the practice for information to a reasonable level.

Box H
FINDING THE TIME

- Some additional GP time can be created through greater delegation to practice nurses, practice managers and other members of the health care team. It may prove worthwhile to employ a part-time counsellor or physiotherapist.
- Local pharmacists may be willing to offer advice and help with formulary construction or with preliminary review of repeat prescribing.
- Accurate notes and prescribing records are an essential pre-requisite for prescribing review and can also save time. One practice found that the best way to bring their records up to date was to increase the hours of a part-time practice nurse to act as a temporary 'audit assistant'. Audit funding may be available.
- Computerisation of prescribing records can save time if the right systems are chosen and comprehensive information is entered. Many FHSAs are prepared to offer advice on features of practice systems that will speed and facilitate prescribing review.
- Responsibilities for keeping up to date with drug information and clinical developments in specified areas of prescribing should be allocated amongst partners so as to reduce potential duplication of effort.
- Judicious choice of which postgraduate education events to attend will ensure that information useful to the practice is obtained.
- Pharmaceutical representatives should be seen only by appointment, preferably by a single designated partner or by the GP with a lead interest in the product area that they wish to discuss. Doctors at one practice studied use a form (Exhibit 22) to ensure that they only see drug representatives who have novel and relevant information to impart. At another, the practice manager rations the frequency of appointments given to each representative and vets applications to help weed out representatives who have no new material likely to be of interest to the practice.
- It is arguable that systematic choice of drugs and adoption of a formulary and practice protocols may themselves reduce the amount of 'thinking time' needed when confronted by a patient or when reviewing medication. To save compilation time, a range of formularies and protocols are available off-the-shelf. These can be adapted to meet the particular needs and circumstances of the practice.
- Patient information can be improved to reduce the number of unnecessary consultations by the 'worried well' or those requiring comfort medications.
SEEING PHARMACEUTICAL MANUFACTURERS’ REPRESENTATIVES

Doctors at one practice studied use this form to ensure that they see only those drug representatives who have novel and relevant information to impart.

| From Dr. __________________________ |
| TO ALL DRUG COMPANY REPRESENTATIVES |

Dear Sir/Madam,

We would be grateful if you could record below an outline of the information you intend to pass on to us.

Company: ________________________________________________

Representatives Name: _____________________ Date: __________

Drug(s) you wish to discuss with trade and generic name:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

What is new about this drug – presentation/effect?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Please leave an example of your promotional material including patient education materials.

This information will be circulated and each doctor will indicate whether they wish to see you. Please ring back in 10 days.

DOCTORS

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Receptionists please circulate the above information to each doctor.

Company: __________________________

Representative: _____________________ Date: __________

Dr ______ wishes/does not wish to see the representative. Suggested Time: __________

Dr ______ wishes/does not wish to see the representative. Suggested Time: __________

Dr ______ wishes/does not wish to see the representative. Suggested Time: __________

Dr ______ wishes/does not wish to see the representative. Suggested Time: __________

Dr ______ wishes/does not wish to see the representative. Suggested Time: __________

Dr ______ wishes/does not wish to see the representative. Suggested Time: __________

Source: A GP practice studied
67. This chapter has described opportunities for improving patient care through more rational prescribing as well as for making more effective use of NHS resources (Box I). If all GPs were to prescribe like the fifty selected GP practices on which our principal estimates of the implications of change are based, the national saving would be sufficient to fund, for example, an extra 80,000 total hip replacements each year. Chapter 1 ends with a description (Box J) of four of these practices. Not all that they do is necessarily advocated as good practice. These case studies do show that, although each area of the country has its own distinct needs, patterns of morbidity and drug usage, GPs whose prescribing demonstrates both a patient-focused approach and due regard to economy can be found in most locations. Chapter 2 then goes on to consider the major influence which decisions taken by hospital doctors have on GP prescribing.

**Box 1**

**MORE RATIONAL PRESCRIBING: SOME EXPENDITURE IMPLICATIONS**

<table>
<thead>
<tr>
<th></th>
<th>Total longer-term potential</th>
<th>Compared to 20th percentile of GP practices</th>
<th>Compared to average of 50 good practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over-prescribed drugs</td>
<td>up to £300m</td>
<td>£275m</td>
<td>£295m</td>
</tr>
<tr>
<td>Less prescribing of drugs of limited therapeutic value</td>
<td>about £50m</td>
<td>£50m</td>
<td>£45m</td>
</tr>
<tr>
<td>Substitution of alternative drugs</td>
<td>up to £110m</td>
<td>£40m</td>
<td>£25m</td>
</tr>
<tr>
<td>More generic prescribing</td>
<td>over £85m</td>
<td>£50m</td>
<td>£50m</td>
</tr>
<tr>
<td>More selective use of expensive formulations</td>
<td>about £40m</td>
<td>£70m</td>
<td>£30m</td>
</tr>
<tr>
<td>Less double counting of savings on over-prescribed preparations</td>
<td>about £40m</td>
<td>£70m</td>
<td>£30m</td>
</tr>
<tr>
<td>TOTAL POTENTIAL SAVINGS</td>
<td>about £500m</td>
<td>£400m</td>
<td>£425m</td>
</tr>
</tbody>
</table>

Less: Additional cost of improved prescribing, for example:
- more inhaled steroids for asthma (£75m),
- additional prescribing resulting from a reduction in the under-diagnosis of chronic conditions.

Note: Figures are based on 1992/93 prescribing patterns and September 1993 drug prices and are rounded to the nearest £5 million.

Source: Audit Commission from PPA and WHCSA prescribing data.
GOOD PRACTICE CASE STUDY 1

The practice
Dr A heads a fund-holding practice of six partners serving a southern industrial town with a rural hinterland. The practice's patients are drawn from a wide range of socio-economic backgrounds and have an age distribution close to the national average. The practice support staff are headed by a practice manager recruited from retail management.

The approach to prescribing
GPs in the practice have discussed their approach to consultations extensively amongst themselves. They feel that this is an important factor in their low prescribing (22% below the FHSA average). Dr A emphasises the importance of exploring why the patient has come to see a doctor before attempting to reach a diagnosis and agreement with each patient about how their condition is to be treated. He is conscious of the need to use language appropriate to the individual patient and to check their understanding of what has been discussed. He is convinced that this, combined with the knowledge that he wants to know how they get on with the medicines prescribed, reduces waste. He tries to provide holistic care by allowing time for discussion with the patient. The average time for a standard consultation is over ten minutes, double that of many other practices studied. The practice employs a specialist counsellor to whom the patient is referred if longer term psychological or social support and guidance is required.

Regular discussions
In addition to fortnightly business meetings, the partners hold formal clinical meetings every Monday lunch time with an agenda planned several weeks in advance. Other practice staff attend as appropriate. The present format of meetings was instigated by the practice manager who is involved in the preparation of data and discussion material for clinical meetings. They have abandoned meetings centred on drug company presentations. These were felt to be too narrowly focused and seldom of real interest or relevance to the needs of the practice. As well as attending formal meetings, the partners often discuss medication prescribed for individual patients over coffee each morning.

Guidelines for drug use
The practice aims to agree guidelines for prescribing expensive new drugs prior to their release on to the market. Thus they had (October 1992) agreed the circumstances in which the new Imigran® tablets for migraine would be prescribed. They are currently drawing up a formulary of first, second and third line drug choices for each condition. This will replace the current list of preferred drugs stored on the computer, which is mainly used by trainees. One partner has the responsibility of reviewing the literature and current prescribing data, one BNF chapter per month, and preparing a draft. He takes advice from the FHSA pharmaceutical adviser where relevant and has involved her in a review of their level 3 PACT data. The draft is discussed by all the partners monthly at one of the clinical meetings. The practice is considering instituting peer review of each others' prescribing. The partners

47
have also agreed guidelines for treatment of backache, pain relief, epilepsy as well as hypertension, asthma and clinic protocols. One of the practice nurses works extra hours as a clinical audit assistant.

**Computerised systems**

All prescribing and patient records are computerised. Each partner uses the computer during consultations. (Details of prescriptions written during home visits are entered onto the computer subsequently). It is therefore easy to derive and analyse prescribing in association with morbidity data.

**Length of prescriptions**

Patients with chronic but stable conditions are given prescriptions for two months. This is considered to be quite safe, cheaper for the NHS and more convenient for both the practice and the patient. However, prescribing of hypnotics, anxiolitics and other CNS drugs (initiated during the last two years) is treated as acute and normally limited to a maximum of ten days. The patient is always seen again before being given another prescription.

**Generic prescribing**

The practice has a high level of generic prescribing (60%), but does not pressurise patients to accept a generic if they continue to insist that a proprietary drug is more effective. GPs also avoid generics where there are doubts about bioequivalence or where a change of colour could be confusing to that patient.

**Prescribing data**

Analysis of PACT data confirms that practice prescribing is in line with current thinking on good practice:-

- Expenditure on prescribed corticosteroids for asthma patients was 43% higher than that on bronchodilators during the first quarter of 1992. Identified morbidity levels for chronic conditions such as asthma and diabetes (7.9% and 3.5% respectively) are amongst the highest in the FHSA area suggesting a major effort to eliminate under-diagnosis of chronic conditions. The practice achieves below average prescribing costs in all the main BNF chapters except respiratory disease. For example:
  - 41% below average for musculoskeletal disease,
  - 40% below for central nervous system drugs,
  - 32% below for infections, despite being in an area with an above average proportion of patients exempt from prescription charges.

- The choice of drugs prescribed appears to be less influenced by hospital decisions compared to other GPs in the area (for instance cimetidine is prescribed for some 50% of gastric ulcers).

- Although the practice formulary is still under development, for conditions where it is generally considered good practice to stick to a narrow range of drugs there is already close agreement between the six partners: four non-steroidal anti-inflammatory drugs account for 86% of the practice's prescribing in this category.
GOOD PRACTICE CASE STUDY 2

The practice and its patients

Dr B heads a three partner fund-holding, training practice on Merseyside. In addition to two practice nurses and a community liaison nurse-midwife, patient care is also provided by a dietician (two sessions per week), a counsellor (two sessions), a clinical psychologist (one session) and a physiotherapist (one session). The practice has above average percentages of elderly patients, children under 5 years and young disabled. They are drawn from both run-down council estates and more affluent areas.

A patient-centred approach with emphasis on good communication

Practice prescribing expenditure per PU is 34% below the FHSA average. Dr B emphasises that this follows from their patient-centred prescribing approach rather than a conscious attempt to cut costs. Good communication with patients is key. It is vital to find out what is important to each patient and why, rather than just treating their symptoms. Consultations average ten minutes, but many are substantially longer.

The approach sometimes results in more expensive prescribing; for instance his prescribing of acne treatment is high because he has come to realise how important this is to teenage girls. But in many other areas, good prescribing reduces costs. Practice prescribing of hypnotics is a fifth of the FHSA average. Dr B regards such drugs as short term symptomatic remedies for long term problems whose risks outweigh the benefits; he personally never prescribes them. Expenditure on antibiotics is 38% below average; 'you must be prepared to lose a few patients at first if you refuse them medicine for their colds, but if you give a proper explanation most will accept that you know what you are talking about'.

Communication within the practice

The practice does not have formal clinical meetings, but places emphasis on maintaining regular informal discussion of patient and prescribing issues over coffee and lunch. They have decided not to compile a practice formulary, because they believe this could become too 'proscriptive'. However, ensuring a common philosophy of consultation style and drug usage was an important factor when forming the partnership. All partners have regular external lecturing or advisory commitments.

Choice of drugs

The practice has an above average level of generic prescribing. If new patients come back saying that a brand is better, you have to explore precisely what they think the differences are. Changes in appearance of generics from different manufacturers is not a problem; patients go to the pharmacist who guarantees consistency. Dr B seldom prescribes modified release preparations, many of which he says are just gimmicks. However, asthma patients are encouraged to try out different types of inhalers, spacers and dry powder devices with instruction from the practice nurse until they find the one that suits them best. In this instance, he believes that more expensive formats are more economical in use and therefore cost-effective for many patients.
Ulcers - the hospital-community interface

Ulcer drugs are normally prescribed only after a patient has had a barium meal test. Cimetidine is used for 51% of H2 antagonists, but Dr B's first line treatment is a bismuth preparation, combined with antibiotics if necessary. Dr B would like the local hospital to offer open access endoscopy. At present this is only available after a lengthy series of outpatient appointments. Hospital doctors also often start patients who have been referred for an opinion on a specific brand of drug; this is despite protracted correspondence and written assurances that they will not do this. The practice now gives all patients referred a notice stressing that hospital doctors can only gain a partial picture of their medical condition and that the GPs may change any drugs that the hospital prescribes.

GOOD PRACTICE CASE STUDY 3

The practice and its patients

This three GP non-fund-holding training practice serves an industrial and university town in the East Midlands. The practice has a mix of professional and more deprived patients, with an age profile similar to the national average.

Consultations: spending the time to explain

The partners have discussed their approach to consultations 'incessantly'; they average 10 minutes. Using the practice computer to view clinical notes and for prescribing during consultations helps to involve the patient as well as improving efficiency. Spending time to explain to patients why they are prescribing (or not) a particular drug and what to expect from that treatment pays dividends both in improved patient compliance and in reduced numbers of out of hours calls. But in common with other practices, annual numbers of consultations per patient continue to rise (by about 3% per year).

Formulary

The partners have drawn up a practice formulary which has recently been updated. It was based on discussion of BNF recommendations, the local hospital formulary and their historic prescribing patterns. It is not exhaustive, but covers the majority of drugs that they would initiate themselves. If a hospital consultant prescribes a drug that they consider to be unnecessarily expensive, they often take the opportunity of changing it at the first six monthly review after discharge, explaining to the patient that his or her condition has now changed.

Generic prescribing

This has been practice policy for many years. Rates are well above average (71% compared to 48% in the main BNF chapters). New patients do not object providing that they are told in advance about any differences in appearance of the drug. They are not adverse to mentioning costs to patients.

Practice discussions

The partners share similar views; the approach to prescribing, for example the low use of cough medicines, was what attracted the most recent partner to join the practice. Ongoing discussion about prescribing issues is mainly informal over coffee, time permitting.
The two practice meetings a week are devoted to administration and to liaison with nurses and social workers on the progress of specific patients. They do not see pharmaceutical company representatives.

They do not set out to be low cost prescribers. They have recently taken on several patients who need expensive drugs. They use a good proportion of inhaled steroids for asthma. But they have become concerned that their consistently low prescribing expenditure (32% below the national average) might indicate that they are failing to identify need. However audits of chronic morbidity (e.g. asthma 6.2%) suggest that this not so.

**Drugs of limited clinical value**

Prescribing of these drugs is very low. Expenditure on topical NSAIDs is 14% of the national average, peripheral vasodilators 19%. They never prescribe cough suppressants. Their patients are now ‘well trained’ and know that all of the partners will tell them the same story. Prescribing on request might save time, but would start a cycle of demand which would use more resources in the long run. The practice prescribes few drugs that are also available over the counter. If a patient insists on a prescription, they receive something that tastes horrible. Patients are told before they sign on that the doctors expect them to buy for themselves such things as paracetamol, sticking plaster and cotton wool.

**Treatment protocols**

The practice has agreed protocols for treatment of hypertension and for referral to lipid clinics. They do not initiate lipid lowering drug treatment themselves.

**Length of prescriptions**

They give longer than average prescriptions for stabilised patients, typically a 2 month supply with a review every six months. Drugs are not re-authorised on the computer until the patient is seen. A hand written prescription for a few days supply of a vital drug may be issued in the interim. However a prescription for a hypnotic or a first NSAID would usually only be for 10 days.

**GOOD PRACTICE CASE STUDY 4**

**The practice and its patients**

This four partner non-fund-holding training practice serves a socio-economically mixed area of Inner London with a highly transient population. The practice has a list turnover of about 15% per year. Interpretation of prescribing data for practices in the area is complicated by average list inflation estimated at 30%. The practice also serves three hostels whose residents have high levels of psychiatric morbidity. It has a higher proportion of elderly patients than the FHSA average.

**Consultations - giving patients the final say**

Appointments are for 10 minutes. Dr D says that they often over-run and that 15 minutes is a more realistic average. He emphasises the importance of spending time discussing treatment options with patients, arguing forcefully if necessary, but leaving them the final say. Most are content to follow his advice if he tells them that no prescription is needed. For example, the practice spends less than half the national average per PU on
antibiotics. Practice expenditure on hypnotics is 40% of the national average; except for a few well established users, these are prescribed for one week at a time. Additional counselling is available (at a charge) both at the practice and locally from voluntary agencies.

The practice treats a significant number of recent immigrants who do not understand English. Interpreters are available through a patient advocate service funded by the FHSA. Such consultations take longer, but treatment is otherwise no different from that of other patients.

**Practice computer**

The computer is used for repeat prescribing and during consultations to produce acute prescriptions.

**Formulary**

The practice has its own formulary. This was initially based on a list of what they had prescribed. The partners already had a similar approach to prescribing; this is one of the factors considered when new partners are selected. Drug choices were then discussed at a series of practice meetings and the cheapest effective products selected. Thus, for example, they use cimetidine as their first line ulcer drug and have chosen the heart drug isosorbide dinitrate rather than mononitrate on clinical as well as cost grounds. They only use modified release drugs for conditions where a patient would not be reminded by recurrence of symptoms to take their medication. They try to stick to a narrow range of drugs; just 5 NSAIDs account for 95% of practice prescribing of these medicines.

**Practice meetings**

There are two meetings a week, one more business related and one clinical. Discussion of drug choices is usually in the context of the treatment of specific patients. Dr D relies principally on the Drugs and Therapeutics Bulletin and other professional journals for information about new drugs; the opinion of local consultants is also important. They see pharmaceutical company representatives only infrequently, normally by invitation when they need specific information such as how to insert the new implant drugs, or if they are offering to supply equipment.

**Generic prescribing**

It is practice policy to prescribe generically whenever possible. This includes inhalers; local pharmacists subscribe to an agreement that they will ensure that they supply products which conform to a standard colour code and fit spacers. Few patients now object to generics. The practice's generic prescribing rate for BNF chapters 1-6, 10 and 13 averages 73% compared to a national average of 48%.

**Length of prescriptions**

Prescriptions for stabilised patients are normally for a three month supply at a time, with just one repeat between reviews. Patients are always seen before re-authorisation unless they have been recently treated by another doctor. The patient's complete drug regime is reviewed at the same time. If a patient fails to make an appointment for review when requested, a one-off additional supply for no more than one month at a time may be authorised by a doctor. These prescriptions are recorded as separate items on the computer.
SUMMARY OF RECOMMENDATIONS

1. The consistency with which patients are diagnosed as having certain conditions, e.g. hypertension and asthma, needs to be improved.

2. Some practices need to increase the length of their consultations so as to allow sufficient time to identify the patients' reasons for consulting and to explain prescribing decisions.

3. Practices should audit their reasons for prescribing any drugs which are known to be of limited therapeutic value and should work towards reducing this element of their prescribing.

4. Information given to patients about their medication and its possible effects needs to be improved.

5. GPs need to formulate protocols for treating common conditions, taking into account national guidelines where appropriate.

6. Practices need a strategy for increasing the level of generic prescribing of those drugs where significant cost savings could be achieved with no proven detriment to patient care.

7. Premium price preparations, such as modified release and combination products, should be confined to patients who need them.

8. Opportunities for substituting equally effective but cheaper drugs within the same therapeutic category should be taken where this will not adversely affect patient care.

9. Drug therapy should be tailored to the needs of individual patients.

10. GPs should consider increasing prophylactic treatment, for example by prescribing more inhaled steroids to treat asthma as well as drugs for symptomatic relief.

11. Each practice should consider adopting a target of using no more than five different NSAIDs for 90% of anti-inflammatory prescribing.

12. Repeat prescriptions should be reviewed regularly to ensure that all of the drugs prescribed are still appropriate.
2. The Interface Between Hospital and Community

68. A recurring theme in this report is the extent to which GP prescribing is influenced by events and decisions that take place in hospitals:

- shared care arrangements and requests from consultants that GPs take over the prescribing of certain specialist drugs that are normally only initiated in hospital;
- changes in the quantity of drugs dispensed by hospitals to patients when they are discharged and to outpatients;
- the timely availability or otherwise of hospital and community health services which may affect a GP's decision whether or not to prescribe;
- what happens to patients' own drugs while they are in hospital;
- medicines initiated in hospital or recommended when patients are referred to hospitals for an opinion;
- emulation by GPs of hospital drug choices and treatment protocols. Only the tip of this iceberg has easily quantifiable expenditure implications (Exhibit 23). Quality as well as cost of care can be affected if there are deficiencies in information flows about prescribing decisions between hospitals, GPs, pharmacists and other health professionals.

Exhibit 23
HOSPITAL INFLUENCES ON GP PRESCRIBING
GP prescribing is heavily influenced by events and decisions that take place in hospitals; the full expenditure implications are difficult to quantify.
REDUCTIONS IN HOSPITAL DISPENSING

69. Hospitals are under tremendous pressure to provide some extremely expensive drugs within limited budgets. To accommodate such priorities, some have reduced the quantity of other drugs dispensed to outpatients and patients on discharge. This policy has increased overall prescribing expenditure since hospitals are able to obtain many drugs at substantially greater discounts than those available to community pharmacists. Where hospital regulations have been followed slavishly, instances have arisen where patients have been dispensed part of a short course of treatment by the hospital pharmacy and then been given another full course of treatment by their GP because of the difficulty in splitting packs. In some instances, it has also adversely affected quality of care, since patients may need a repeat prescription from their GP before (s)he has been notified by the hospital what drugs have been prescribed, for what reason, or even that the patient has been discharged. It can be less convenient for patients, and more expensive if they have to pay a full prescription charge for a small quantity of the drug. National guidelines were issued in November 1991 (Ref.23). Many regions have drawn up their own more detailed guidelines. Instances have been quoted where these have not always been strictly observed, but there are no formal schemes to monitor compliance.

70. GPs are also increasingly called upon to prescribe expensive specialist drugs to treat more exotic conditions that until recently would have been treated by hospital doctors. These include treatments for infertility, growth deficiency, malignant diseases and HIV; also drugs used as adjuncts to organ transplantation, chemotherapy and home dialysis. Nationally, such 'high-tech' drugs normally prescribed only under specialist supervision now represent 4% of GP prescribing expenditure, although there are big local variations. GP expenditure on these drugs rose by 20.5% between 1991/92 and 1992/93 (Exhibit 24). There are certain advantages in that the GP is better placed to know about all the medicines that the patient is taking and is more likely to treat the whole patient rather than a single condition. It is also more convenient for patients who live a long way from the hospital. Problems occur when the GP feels that (s)he has been pressured into taking over prescribing responsibility for purely financial reasons or without adequate knowledge of the workings of the specialist drugs involved or of how to monitor the patient’s condition. The respective responsibilities of consultant and GP and the circumstances in which the patient should be referred back to the specialist are not always properly documented.

HOSPITAL LED CHOICE OF DRUGS

71. Many other drugs initially prescribed for patients by hospital doctors are continued for some years after discharge. One study (Ref.24) estimated that between 16 and 20% of GP prescribing is hospital initiated; in total 40% may be strongly influenced by hospitals, since a GP's choices of drugs when prescribing for their own patients are also likely to be guided by that of local consultants. Cash limits provide hospitals with a strong incentive to persuade their doctors to prescribe the cheapest clinically appropriate drugs. Formularies are used to limit or guide their choice. Many drugs are therefore sold to hospitals at much discounted prices to encourage their use. Consultants are not always aware of the full list prices when making recommendations. The ulcer healing drug, ranitidine for instance is often no more expensive for hospitals than cimetidine; but it costs the NHS 90% more when prescribed by GPs. As noted in chapter 1, the cheaper drug (cimetidine) is unsuitable for a minority of patients because it reacts
Exhibit 24
HOSPITAL DRUGS PRESCRIBED IN GENERAL PRACTICE
GPs are increasingly called upon to prescribe specialist drugs.

<table>
<thead>
<tr>
<th>Conditions</th>
<th>1991/92</th>
<th>1992/93</th>
</tr>
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<tbody>
<tr>
<td>Adjuncts to treatment of AIDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infertility Treatment &amp; Growth Hormone</td>
<td></td>
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</tr>
<tr>
<td>Bone Diseases &amp; Other Hypothalamic Processes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment of Malignant Diseases</td>
<td></td>
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<tr>
<td>Immunosuppression</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renal Anaemias &amp; Intravenous Nutrition</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Expenditure (£million-England)

Source: Audit Commission based on Prescription Pricing Authority (PPA) and Welsh Health Common Services Authority (WHCSA) prescribing data.

with certain other medicines. One consultant admitted to always prescribing ranitidine 'because it is idiot proof' - 'GPs are likely to be in a hurry and could miss serious potential interactions'. In other instances the decision may be made by a relatively junior hospital doctor. Most GPs are unwilling to contest prescribing decisions taken at a hospital. It is particularly difficult for them to do so if the patient has already been told which medicine is to be prescribed or given an initial supply of that drug by the hospital.

PRESCRIBING BY THE MOST APPROPRIATE DOCTOR

72. The development of national and regional protocols specifying who should prescribe in what circumstances is encouraging. A number of FHSAs have been involved in producing local interface protocols which build on these guidelines. They range from statements of broad responsibilities to detailed protocols for treatment of specific conditions. It is important that these do not appear to be dominated by hospital interests. The best have been compiled jointly and circulated for comment to all GPs. Some fund-holding practices are also specifying prescribing responsibility in contracts. They need to ensure that their observance is regularly monitored. However, on occasion, strict observance of national guidelines on length of prescriptions for outpatients could increase costs as well as causing undesirable discontinuity of treatment. It may be better for a hospital to recommend a class of drug but not to prescribe, leaving the choice of product to the GP. Some FHSAs have negotiated as a quid pro quo that patients with monthly
outpatient appointments receive more than the guideline amounts so that they do not also have to request interim prescriptions from their GPs.

73. It is important that GPs should not be constrained by cost pressures from taking on shared care responsibilities in instances where they have the requisite knowledge to prescribe and where this is best for the patient. The number of patients who require these specialist drugs is likely to remain low on any practice's lists. Expenditure on drugs for these patients can easily be distinguished. Allowance should be made for their needs when monitoring prescribing costs. The FHSA and DHA should, however, jointly agree with the profession the circumstances in which such expensive drugs as growth hormones and for fertility treatment should be provided on the NHS and who should be responsible for the cost. GPs should not be asked to make political decisions on an ad-hoc basis.

REPRESENTING COMMUNITY INTERESTS TO HOSPITALS

74. More dialogue between the primary and secondary care sectors is desirable. Many FHSA medical advisers now sit on the drugs and therapeutics committees (DTCs) of major hospitals within their areas. Some also have GP members. Meetings should be held at times when they can attend. This can be a useful way of ensuring that community interests are represented in hospital decisions about inclusion of new drugs in formularies or about prescribing responsibilities. These decisions must not be driven exclusively by hospital cost minimisation. Hospital use of established drugs that have the greatest indirect effect on community costs may also need to be re-examined. However, DTC membership can be a time consuming activity and only a small part of the agenda will be of direct interest to GPs or FHSAs. Some FHSAs have seven or more major acute hospitals, each of which has its own DTC, within their areas. Increasingly key decisions about hospital drug use are also being taken by clinical directorates, which have their own budgetary constraints. Surrey is one FHSA that has therefore promoted the formation of a joint co-ordinating committee on which all hospital units in its area are represented. This takes the lead on issues of common community interest.

75. Prices at which drugs are reimbursed in the community should be taken into consideration when agreeing regional purchasing contracts, compiling and reviewing hospital formularies. Purchasers are well placed to ensure that this happens. Formularies should distinguish drugs considered suitable for routine prescribing by GPs from those intended primarily for specialist hospital use. Both sets of drug prices, hospital and community, should be shown. Consultants should recommend a type of drug rather than a specific medicine or brand unless there are compelling reasons to do otherwise. They should only initiate outpatient treatment with a specific drug if delay would be harmful. A number of the consultants interviewed were happy for the medication that they had prescribed to be changed subsequently if a GP thought it to be in the patient's interest. However they would have liked prompt information about changes if the patient was scheduled to attend hospital for a follow-up appointment.

DISAPPEARING MEDICINES

76. Hospitals usually ask patients to take all their medicines with them when they are admitted so that they can be positively identified. If all did so, some £90 million worth of drugs prescribed by GPs would be taken into hospitals each year. Many are destroyed or simply never
returned when the patient is discharged. Often this is due to storage and administrative difficulties, but some hospital pharmacists also express concern about their legal responsibility if the returned medicines subsequently prove to be faulty or inappropriate.

77. Hospitals should review periodically their local arrangements for dealing with patients' own drugs and ensuring that they are returned to patients where appropriate. A clear procedural distinction needs to be drawn between patients admitted for medical treatment and others. Many would not need to bring their drugs into hospital if the timeliness and accuracy of communication between GPs and hospitals prior to admission about their drug regimes could be assured. Hospitals should ensure that patients whose medication is changed while they are in hospital know whether they should, after discharge, take the new drugs in place of those previously prescribed or in addition to them. If any patients could still be confused, swift communication will be needed with their GPs and, where appropriate, any community nurses who will be visiting them in their homes. These measures should reduce the risk of involuntary overdose.

TACKLING THE CONSTRAINTS THROUGH JOINT COMMISSIONING

78. Total costs of drug and other forms of treatment should be taken into account by DHAs when deciding what services to purchase from local hospitals. It may prove cost effective to introduce or expand access to open endoscopy clinics or to fund more physiotherapy or counselling opportunities, although there have been no conclusive studies. The advent of joint commissioning bodies has brought renewed interest in studying overall hospital/community treatment costs, and resources to undertake such studies. Joint hospital / FHSA formularies are being produced in a number of areas. Joint commissioning should also lead to strengthening of existing local arrangements for sorting out interface problems. Newcastle DHA funds three GPs to work part time as managers in local trust hospitals to address problems before they escalate into an 'issue'.

59
SUMMARY OF RECOMMENDATIONS

1. The respective responsibilities of hospital consultants and GPs for prescribing and the circumstances in which patients should be referred back to the specialists should be clarified.

2. There needs to be more dialogue between the primary and secondary care sectors, with GPs, FHSAs and all local hospitals represented on joint drug and therapeutic committees.

3. Prices at which drugs are reimbursed in the community should be taken into consideration when agreeing regional purchasing contracts and shown in hospital formularies.
3 Promoting More Rational Prescribing

79. Rational prescribing involves both issues of quality (efficacy, appropriateness, safety) and of cost-effectiveness. The needs and characteristics of the individual patient must be paramount. In the longer term, and considering NHS expenditure as a whole, this is synonymous with securing good value for money. However it is essential to pursue any economies in the annual drugs budget that can be made without detriment to care in order that the NHS can continue to afford new worthwhile treatments. This chapter considers how FHSAs and other bodies can best instigate and facilitate change.

80. FHSAs are charged both with promoting rational prescribing and with keeping GPs prescribing expenditure within budgetary allocations agreed with regions. Many are still struggling to persuade GPs that these responsibilities are mutually compatible. With the exception of drug categories covered by the 'selected list', GPs can decide how much and what they prescribe. They are only guided by the indicative prescribing amounts (IPAs) set annually by FHSA medical advisers. Only two English FHSAs managed to hold total prescribing expenditure within their allocations during 1991/92 and none were successful in 1992/93. FHSAs have virtually no power in the last resort to compel GPs to prescribe in a particular way unless it can be proved that their actions are harmful to patients. The educative, facilitative approach adopted by most FHSAs seems the best course for the foreseeable future.

81. If the current rate of growth in drug expenditure is to be significantly reduced, it will not be sufficient to rein back the heaviest prescribers. It will also be necessary to equip the majority of prescribers to examine their practices in a critical and informed manner. Postgraduate education centres and medical audit advisory groups have a part in this, but the key local co-ordinating role must at present fall to FHSA prescribing advisers and their RHA colleagues. A wide range of activities to influence prescribing is currently undertaken (Exhibit 25) and many FHSAs have already had significant successes (Ref.25) in persuading some GPs to modify their prescribing habits. There remain four broad areas where initiatives are needed at national or local levels:-

— Greater incentive for GPs to improve their prescribing,
— Better information and support,
— Improved communication,
— More time and resources.
There are many different ways in which FHSA advisers influence GPs' prescribing:

**INCENTIVES**

**THE INDICATIVE PRESCRIBING SCHEME: TARGET BUDGETS**

82. The Indicative Prescribing Scheme (IPS) provides each GP practice with a measure of expectation against which they can compare their prescribing costs. The methodology for deriving indicative prescribing amounts\(^1\) (which is described in appendix 1) is also integral to setting the drugs element of fund-holding budgets and underlies most prescribing incentive schemes. By itself, however, the IPS exercises no financial incentive or penalty and has been somewhat discredited to date as a means of controlling expenditure. Eighty-five percent of practices (92% of larger practices) in studied FHSAs overspent their IPAs during 1991/92. The total amount overspent in England (excluding fund-holding practices) during 1992/93 equalled 7.5% of the budget. Despite the efforts of medical advisers to explain the IPS to GPs, most practices studied felt that they had been offered little explanation of how their individual IPAs had been calculated. This led to misunderstandings and resentment. A majority of the GPs interviewed felt that they had not been adequately consulted before their IPAs were set. Some see their IPAs as being so out of line with patients' prescribing needs that they virtually ignore them. Many FHSA advisers share their doubts, and find it hard to try to persuade GPs to take IPAs seriously.

83. Guidance on setting IPAs was revised for 1993/94 to address past weaknesses (Ref.26). It is intended that there should be a gradual move towards setting them on a capitation basis. Further development will be needed (see appendix 1) if IPAs are to provide an incentive to

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\(^1\) Guidance for 1994/95 was issued as this report went to press. From April 1994, IPAs are to be renamed Target Budgets.
economic prescribing in themselves, or an equitable basis for calculating fund-holders' drug
budgets and incentive payments. It has not always been clear whether IPAs are to be regarded as
projections of prescribing out-turn, realistic targets, a challenge, or expenditure ceilings dictated
by the aggregate level of prescribing expenditure which the nation can afford. If the latter, and
if cost were to be the sole consideration, then 'teeth' would need to be added to the scheme. In
Germany, for instance, the threat of financial penalties to be imposed on doctors who are unable
to justify overspending the norm if the reduced national budget is exceeded, coupled with higher
patient contributions and an extended limited list, appears to have reduced prescribing by 25%.
However if as we would advocate, the intention is that IPAs should support the promotion of
rational prescribing, then they can only be of use if GPs regard them as realistic targets. The
success of the 1994/95 guidance which treads a middle path will need to be kept under review.

FINANCIAL INCENTIVES: FUND-HOLDING

84. The IPS by itself is unlikely to persuade all GPs to prescribe more rationally or
economically. The financial and other benefits to practices provided by fund-holding and
prescribing incentive schemes can potentially exert a more powerful influence. Their effective-
ness in restraining the national drugs bill without adversely affecting quality of care has yet to be
established conclusively, but first results are encouraging. The prescribing expenditure of first
and second wave fund-holders in studied FHSAs averaged 9.4% less per PU during 1992/93 than
that of other practices (Exhibit 26, overleaf - a). The average increase in expenditure per PU
between 1991/92 and 1992/93 was 12% for non-fund-holding practices, 10% for first wave
fund-holders but only 7.7% for second wave fund-holders (b). Fund-holders were also more
successful than others in keeping prescribing costs within 'budget' and, in aggregate, under-spent
their allowances during 1992/93. They achieved this by prescribing more generics (c), less drugs
of limited clinical value (d) and, for example, less antibiotics (e). Fund-holders appear also to
have been better than other practices in prescribing more expensive drugs, such as inhaled steroids
for asthma (f), where these benefit patient care.

85. In the longer term, the further spread of fund-holding, while not a universal panacea,
will undoubtedly increase incentives for more economic prescribing. The process of preparing
for fund-holding has itself provided impetus to fresh thought about prescribing practices. There
have been valuable improvements in record keeping and systems and increased awareness of
prescribing costs. There has been fresh examination of the way resources are allocated between
drugs and alternative forms of treatment. Some fund-holding practices studied expressed caution
about their ability to make further savings, but analysis of their prescribing data shows considerable
scope for further economies. Fund-holders will continue to require information and support from
FHSAs, although many will increasingly seek these elsewhere. FHSAs now need to improve their
monitoring procedures to ensure that the quality of patient care continues to be maintained.

86. Although about a third of patients will shortly be registered with a fund-holding practice,
comparable incentives are also required to promote more rational prescribing by other GPs.
Incentive schemes have had a somewhat chequered history. Previous schemes required savings
to be made in the total prescribing expenditure of all GPs within a district. In some areas, the
enthusiasts failed to secure the commitment of other GPs. In others, the promised incentives
contributed to marked changes in prescribing; for instance Rochdale's generic prescribing rate
A COMPARISON OF PRESCRIBING BY FUND-HOLDING AND OTHER PRACTICES

On average, fund-holding practices were more economical than others...

(a) Fund-holders' drug expenditure per PU averaged 9.4% less than others in 1992/93.

(b) Their expenditure increased less than that of other practices between 1991/92 and 1992/93.

(c) They prescribed more drugs generically than non-fund-holding practices.

Note: A national sample of 3,409 practices of which 289 are fund-holding, selected to exclude all practices with atypical percentages of elderly patients.

Source: Audit Commission from PPA / WHCSA prescribing data
(d) Fund-holders prescribed less drugs of limited clinical value per PU than did other practices.

(e) Fund-holding practices spent less per PU than others on antibiotics.

...But on average prescribe more expensive drugs where these are better for patient care.

(0 For instance, they prescribed on average a higher ratio of inhaled steroids to bronchodilators for asthma.

Note: A national sample of 3,409 practices of which 289 are fund-holding, selected to exclude all practices with atypical percentages of elderly patients.

Source: Audit Commission from PPA / WHCSA prescribing data
grew from 40% to 46% during 1991/92. But in both cases, overall savings targets were not met
due to a national surge in prescribing costs. It is therefore vital to their credibility that the
experimental incentive schemes announced for 1993/94 should not again be perceived to have
failed.

87. The current incentive schemes start with the advantage that they focus on individual
practices. They should be given a fair opportunity to prove their worth, since only a minority
were agreed in time to exert a major influence on 1993/94 expenditure. Future schemes should
be structured and funded so that all practices are able, with reasonable effort, to qualify for an
incentive payment. Those based on percentage savings compared to IPAs may offer little
incentive either to historic high spenders or to those who have already made the obvious
economies. A distinct approach to incentive schemes may be required for dispensing practices.
On average, these currently prescribe more expensive brands than prescribing practices, more
frequently but in smaller quantities. The incentives offered to these prescribers will need to be
sufficient to outweigh their potential loss of profits from dispensing.

88. Safeguards are needed to ensure that incentive schemes reward good prescribing and not
just cheap prescribing or inflated lists that erroneously give the impression that a practice is
prescribing economically. Evaluation should not be confined to financial aspects. The variety of
incentive schemes now in operation, including locally funded schemes such as in Wessex, provides
an ideal opportunity for comparison. In addition to cost savings, incentives may, for instance, be
linked to compliance with regional formularies within key areas of prescribing (Wessex), locally
agreed indicators of good prescribing (North East Thames), implementation by practices of new
procedures and improvements to prescribing agreed with the FHSA, compilation of a practice
formulary, or provision of morbidity information.

THE SCOPE FOR OTHER INCENTIVES

89. Although FHSAs have little scope, or uncommitted funds, for using discretionary
payments to influence prescribing, some have used their control over other approvals and
discretionary payments to influence practice behaviour. Some have considered giving preference
to those which meet FHSA targets when allocating funding for additional practice staff or
facilities. Informal understandings present great dangers; practices may be tempted to postpone
implementation of identified prescribing economies until a favour is granted. Scope for more
positive action to influence their capability to rationalise prescribing is increasing with the advent
of joint FHSA-DHA commissioning bodies. Examples include funding clerical assistance for
practices to systematise prescribing records and bring them up to date, paying for advice on
practice formularies, negotiating bulk purchase discounts for practices that wish to install
computer systems which meet FHSA specifications, providing free training for dispensary assist-
ants and other practice staff or seminars geared to the needs of specific practices.

INFORMATION AND SUPPORT
CONTINUING EDUCATION ON GOOD PRESCRIBING

90. To a considerable extent, doctors' prescribing is guided by example and experience gained
after they qualify. Formal instruction in pharmacology forms a relatively small part of their initial
training. Continuing education for GPs on drugs and prescribing has traditionally been organised
either at postgraduate centres or as small group events. Often these are sponsored by pharmaceutical companies and so may provide an apparent endorsement of their sales message. Accreditation of events for postgraduate education allowance (PGEA) and their subsequent monitoring to ensure the accuracy of presentations and lack of bias have not always been sufficiently rigorous. Single handed GPs can have a particular problem finding the time to attend worthwhile events.

91. Postgraduate centres should ensure that a balanced programme of education is provided which is relevant to the current needs of GPs. This should include events directed at improving prescribing in the context of the consultation process. Requirements for PGE accreditation of small group events and their subsequent monitoring and assessment should be made more rigorous. Liaison with FHSAs and other local bodies with an interest in promoting rational prescribing should be improved. Seminars at postgraduate centres should not be too geared towards specialist interests and the more exotic drugs needed by hospital doctors. GPs, especially single handed practitioners, should be consulted about their timing and location. Ways should be found to ensure that they are not, as is sometimes alleged, dominated by consultants and that GPs are not inhibited from contributing freely based on experience in general practice. Some doctors believe that payment of PGEA should be conditional on attending a more structured series of events. A more detailed analysis of coverage and attendance could inform the debate.

PROMOTING DISCUSSION ABOUT RATIONAL PRESCRIBING

92. FHSAs should have a strategy for promoting education for all GP practices. Rochdale FHSA, in partnership with the local medical audit advisory group (MAAG), local medical committee (LMC) and postgraduate education tutor and with support from Manchester University, has organised local GPs into groups of about 12 to discuss medical audit and prescribing. The FHSA funds the administration of monthly meetings and provides supporting group PACTLINE data. These meetings, which qualify for PGEA credit, offer the opportunity to discuss drug choices, new drugs and the chance for peer review of prescribing patterns. It is left to the group leaders to set the agendas. However, they are also an appropriate opportunity for the FHSA to put across broad messages about prescribing. In another area, neighbouring GPs themselves initiated group discussions on prescribing matters and invited the FHSA pharmaceutical adviser to attend. A third model is for the FHSA to organise targeted prescribing seminars (Box K, overleaf).

INFORMATION FOR GPS

93. GPs require reliable independent information about the pharmaceutical properties of drugs (including their efficacy, other benefits, side-effects and potential interactions with other medicines and conditions), their clinical use and comparative cost-effectiveness. Adequate opportunity to exchange information and experience with other GPs, with pharmacists and hospital doctors is as important. Doctors need not only factual data about new and existing drugs, but also a conceptual framework against which they themselves can evaluate the benefits and demerits of new products against those already on the market. They need to keep up to date with new research findings and with changes in drug prices. The National Health Service Management Executive, RHAs, FHSAs, postgraduate education centres, medical audit advisory groups and
PROMOTING DISCUSSION THROUGH PRESCRIBING SEMINARS

The prescribing advisers at Somerset FHSA organised a programme of prescribing seminars for selected GPs. These were focused on each of the main drug groups used in general practice and more general themes such as the circumstances in which it was worthwhile to prescribe certain expensive new drugs. GPs received personal invitations. PACT data was used to ensure that doctors with a mix of prescribing practices, both high and low cost, were included. The advisers structured each discussion by first inviting the GPs present to describe their approach to prescribing in a number of areas of controversy or concern. A hospital consultant from a relevant specialty was then invited to sum up research evidence and to give his own views. The consultant was briefed to confine him/herself to conditions likely to be treated in general practice. Those present were then invited to reach a consensus on the first, second and third line of treatment and choice of drugs for each condition discussed. These decisions and their rationale were documented and circulated to all GPs and community pharmacists in the FHSA area.

Those GPs interviewed who had attended the seminars agreed that they were well organised and had been of considerable value in provoking re-examination of their prescribing practices. The circulated summary reports too were found to be of use by those who had been unable to attend because of their timing or location. Consultants too had commented that they had learnt new things about the value of certain treatments and prevalence of certain minor side-effects in general practice. GPs do not always realise the wider significance of isolated instances or have the time to publish papers on such matters. The FHSA has been encouraged by the success of the seminars to repeat them in another part of the district. The local medical audit advisory group also plans to run seminars on how the outcomes of these prescribing choices should be audited.

Depending on local circumstances, it may be appropriate for a body other than an FHSA to take the lead in organising seminars on rational prescribing. In one area studied a number of practices are banding together with the support of the FHSA pharmaceutical adviser to organise discussions on selected prescribing topics. They too invite a local consultant to give his views, but the GPs feel that it is important that meetings are held on their own territory and at a time convenient to them so that they retain ‘ownership’ and disruption to their other commitments is minimised.

drug information services need to co-operate in ensuring that GPs have access to such information and are supported in making best use of it.

94. GPs also need information on how their prescribing compares with that of other practices, locally and nationally. To some extent this can be derived from data that are already available to them through the PACT (Prescribing Analysis and Cost) system. However, until these data are made available in electronic form, it will remain very time consuming to use them to examine the potential for cost savings and quality improvements. Some practices have programmed their practice computers to produce such information from their own practice prescribing records. However, for comparative data they are reliant on exchange of information with other enthusiasts. Many practices are unable to undertake such analyses through lack of
time or expertise, or because they do not record all prescriptions which they write on their computer. At the present time, FHSAs are in the best position to fill this information gap.

IMPROVED PRESCRIBING DATA FOR FHSA ADVISERS

95. However, FHSAs face similar difficulties. Until 1992, prescribing advisers had to rely on PACT print-outs for information about prescribing by each GP or practice. There was no shortage of data, but information was slow to obtain, bulky to store and time-consuming to analyse. Prescribing data, by BNF section, for every practice are now downloaded to FHSAs electronically each month using the PACTLINE system. Advisers have found this system useful for spotting trends and for preparing graphical presentations of prescribing data for use during their practice discussions. These data are, however, too aggregated to permit calculation of potential savings or confident assessment of prescribing quality. For these, FHSAs, like GPs, are still reliant on analysis of printed level 3 data. One region uses a scanner to re-input data into a computer, but this is slow, expensive and a poor substitute for direct provision of electronic data by the PPA. Some FHSA computer systems too are still insufficiently flexible for manipulating prescribing data in conjunction with information on practice characteristics. Monitoring therefore tends to concentrate on prescribing expenditure at the expense of indicators of quality of prescribing.

96. A project has recently been initiated to make detailed prescribing information available to FHSAs in electronic format. This will greatly facilitate analysis for those who have the time and expertise to develop their own systems. However, the analysis required for calculation of commonly suggested indicators of rational prescribing and for quantification of potential economies could more economically be carried out nationally. The Audit Commission has therefore developed its own Thematic Analysis of Prescribing (Box L, overleaf). This uses annual data supplied by the PPA to quantify, for each practice and FHSA in the country, prospective savings from more generic prescribing, substitution of equivalent drugs and reduced prescribing of clinically questionable preparations. It provides data which can be used by FHSA advisers to question levels of prescribing of expensive convenience preparations and of drugs which are often over-prescribed. Information on item sizes and strengths, quality markers and data on the extent to which hospital drugs and items of current concern to FHSA advisers are prescribed by GPs are also produced. They will be made available to FHSAs as part of the current programme of local audits being carried out under the auspices of the Commission.

97. Prescribing information needs to be considered in relation to the needs of each practice's patients:

— Somerset FHSA has collected data on identified morbidity for sixteen chronic conditions which account for a high percentage of repeat prescribing from all practices in their area. These figures represent each practice's own views of the numbers of patients that need treatment, although each may have used rather different definitions of morbidity. They offer an alternative way to compare unit prescribing costs which can be taken into consideration when fine-tuning IPAs. Morbidity rates can be compared with those of neighbouring practices and areas of possible under-diagnosis identified.

— Surrey FHSA has collected data from selected practice computer systems on the age and sex distributions of patients for whom each class of drug has been prescribed. These data are used, together with age and sex breakdowns of patient lists, to predict other practices'
**Box L**

THE AUDIT COMMISSION THEMATIC ANALYSIS OF PRESCRIBING:- LIST OF 'ACTAP' TABLES

<table>
<thead>
<tr>
<th>Overview of prescribing patterns:</th>
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<tbody>
<tr>
<td>1. Summary of potential savings and key indicators,</td>
</tr>
<tr>
<td>2. Aspects of Expenditure Control,</td>
</tr>
<tr>
<td>3. Prescribing by BNF chapter:</td>
</tr>
<tr>
<td>'core GP' and total items per 1000 prescribing units (PUs), unit costs,</td>
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<tr>
<td>expenditure per 1000 PUs.</td>
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<table>
<thead>
<tr>
<th>Potential economies:</th>
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<tbody>
<tr>
<td>4. Generic prescribing,</td>
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<tr>
<td>5. Alternative comparable drugs,</td>
</tr>
<tr>
<td>7. Drugs of limited clinical value.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topics which should provoke questions for FHSA advisers and where economies may well be possible:</th>
</tr>
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<tbody>
<tr>
<td>6. Usage of premium price (eg modified release) formulations,</td>
</tr>
<tr>
<td>8. Items often over-prescribed,</td>
</tr>
<tr>
<td>9. Level of prescription of items also available over the counter,</td>
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<tr>
<td>10. Item sizes.</td>
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<table>
<thead>
<tr>
<th>Prescribing for selected conditions:</th>
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<tbody>
<tr>
<td>11. Peptic ulcers,</td>
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<tr>
<td>12. Hypertension,</td>
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<tr>
<td>13. Asthma,</td>
</tr>
<tr>
<td>14. Insomnia, Anxiety &amp; Depression,</td>
</tr>
<tr>
<td>15. Infections (including range of antibacterials used),</td>
</tr>
<tr>
<td>16. Rheumatic Inflammation and Gout (including range of NSAIDs used),</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional information:</th>
</tr>
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<tbody>
<tr>
<td>17. Dispensing practices – comparison with prescribing practices,</td>
</tr>
<tr>
<td>18. Hospital-shifted prescribing in more detail.</td>
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</table>

<table>
<thead>
<tr>
<th>'Difference Tables'</th>
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<tr>
<td>D1-D4. The percentage change between the current years prescribing and that of the previous year.</td>
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<table>
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<th>These tables are available showing:</th>
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<tr>
<td>(i) The prescribing of each practice within an FHSA area,</td>
</tr>
<tr>
<td>(ii) Averages and totals for each FHSA in England and Wales.</td>
</tr>
</tbody>
</table>
prescribing costs for various types of medicine. These predictions are a reflection of average practice rather than an ideal. They can however be compared with PACT data to obtain a better indication of areas of comparative over-prescribing and under-prescribing and can also inform the setting of IPAs. A computer package based on this methodology has been developed and made available to a number of other FHSAs. Similar studies have been carried out on a smaller scale by the Sowerby Institute of Pharmacology at Newcastle University. The patterns of prescribing revealed are broadly similar, but differences in the extent to which antibiotics are prescribed for children would repay investigation.

PROMOTION OF PRACTICE FORMULARIES AND CLINICAL PROTOCOLS

98. Many FHSAs with pharmaceutical advisers offer practices assistance in preparing or reviewing practice formularies. Such help has generally been well received by the minority of doctors who have taken up the invitation. It has been a useful way to build up the credibility of a FHSA as a source of objective information. However, its provision can be very time consuming. Managers will require reassurance that it continues to be a cost-effective activity, that the resulting formularies or protocols are actually used by practices and that their prescribing changes for the better as a result. To avoid reinventing the wheel at each practice, FHSAs could provide interested practices initially with a suggested core formulary, and information on possible alternative choices, on computer disk. This could then be reviewed against practice and FHSA aggregate PACT data and revised, in consultation with the pharmacist, to meet practice needs. Formularies should not serve merely to codify existing practice. Advisers must satisfy themselves, before providing assistance to a practice, that all partners will take an active part in developing the formulary and intend to subscribe to the results. Mid Glamorgan FHSA asks them, on completion of the work, to indicate acceptance by signing a copy of the formulary. This will provide the basis for future FHSA monitoring of formulary compliance.

EXTENDING THE INVOLVEMENT OF COMMUNITY PHARMACISTS

99. If pharmaceutical assistance to GPs in constructing formularies is to be provided more widely, it will become necessary to recruit and train suitable community or hospital pharmacists to supplement FHSA advisers. Pharmacists can also help GPs to review long term medication. This is particularly appropriate for patients in residential homes who have been shown to receive far more prescribed items on average than other patients of comparable age. However community pharmacists currently have no incentive to become involved because they are still largely paid according to the number of items that they dispense. Mid-Glamorgan FHSA has promoted a pilot scheme with volunteer GPs whereby repeat prescriptions for patients who receive more than six different drugs have been reviewed by a university pharmacist (Box M). Major improvements to patient care and financial savings have been achieved (Ref.27). It is now hoped to extend the scheme with the paid help of community pharmacists. These would be given the specialist training needed and then accredited by the university on behalf of the FHSA. There are clear benefits to adopting an interdisciplinary approach to drug therapy which uses the combined knowledge and experience of the medical and pharmaceutical professions. One possible way to bring this about in the longer term would be to have salaried pharmacists working in GP practices.

100. A small number of pilot schemes have been set up to expand pharmacists' health promotion activities, improve the quality of advice and to make more effective use of patient
A researcher has conducted pilot projects under the auspices of Mid Glamorgan FHSA, the local MAAG and the Welsh School of Pharmacy to evaluate the potential for rationalising repeat prescribing at a large fund-holding practice.

On the most recent occasion, 25 elderly patients shown on the practice's computerised record as receiving six or more different drugs on repeat prescription were selected at random by the senior partner for review. For each, a form was completed by practice staff showing details of medicines and doses prescribed, with dates started and last issued. The relevant GPs familiarised themselves with the medical notes of the selected patients and added details of diagnoses to the data collection forms. The forms were reviewed by the pharmacist who identified any potential drug-related problems, and then led a discussion with the GPs. It was found possible to review the therapy of 20 patients in a two hour session. Decisions were recorded by the pharmacist.

The 20 patients were receiving an average of eight items each on repeat prescription, the highest number on this occasion being 15 different medicines. The pharmacist recommended stopping 26% of the items, changing 6% of the drugs, and modifying the dosage of a further 8%. Twelve percent of these recommendations resulted from evidence of side effects and 55% of the recommended changes were implemented following discussion with the patients. The most frequent rejected recommendations involved long term prescription of addictive drugs.

The review was well received by the GPs present. It concentrated entirely on improving patient care rather than on suggesting alternative cheaper drug choices. The practice had already reviewed this aspect of its prescribing. Some of the recommendations would have increased costs. Nevertheless substantial net savings were made as well as quality improvements.

The average net annual saving from accepted recommendations was £80 per patient reviewed; the costs were £3.50 per patient. 8.5% of patients at the practice reviewed were receiving six or more items on repeat prescription. As a purely illustrative figure, if it could be assumed that similar savings could be secured for all of these and if this practice were typical, £350 million per year could be saved across the country as a whole.

medication records. Such schemes, if successful, could relieve pressure on GPs' time and ensure that health promotion messages reached a wider audience. If this is to work, it is essential that local GPs have confidence in pharmacists' abilities and are involved in discussions about new schemes. Some FHSAs have appointed part-time community pharmacy development advisers. Elsewhere this role may be filled by the pharmaceutical adviser.

101. In Britain interaction between GPs and pharmacists occurs mainly on an ad hoc basis. However, in the Netherlands, the Health Department has taken the lead in promoting local pharmaco-therapeutic discussion groups so as to improve communication and co-operation between doctors and pharmacists. These were started informally, but initially met with some suspicion. The Dutch government decided at the end of the 1980s to accelerate the process and
to impose a more formal timetable and structure. Each group now meets every two months. Some agenda items are centrally co-ordinated. For instance, the Department may ask the groups to discuss drug choices in a particular therapeutic area, providing supporting prescribing data and literature. Doctors have found the differing perspectives of the pharmacists illuminating. There have also been brainstorming sessions on control of high prescribing. However, the groups have proved particularly useful in developing local understandings, for instance of circumstances in which doctors think it important that pharmacists should supply patients with medicines from a single source. Neighbouring doctors have also on occasion found it useful to agree a united front to resist unjustified 'consumer pressure'. Local representatives of health insurance funds have also attended where relevant. Hospital doctors were not invited initially, since it was feared that they would have intimidated the family doctors, but are now being gradually drawn in. Pharmaceutical company attendance or sponsorship remains forbidden. Each member of a group receives an annual payment (approx. £220) for regular attendance. This expenditure is said to have been more than repaid. Resulting savings are estimated at between 7% and 8% of the drugs bill and there have also been improvements to the quality of prescribing.

ENCOURAGING PRESCRIBING AUDIT

102. Participation in medical audit enables practices to focus on finding practical solutions to issues which are of real concern to them and their patients (Ref.28). Prescribing is of such importance that it should feature heavily in any audit programme. Accurate patient information and prescribing records are essential prerequisites. One FHSA studied funded audit assistance for practices specifically to get their morbidity data and prescribing databases up to date. Another invites practices to submit bids for funding audit projects. Preference is given to those which support FHSA objectives, such as reviewing prescribing for patients with targeted conditions or monitoring protocol and formulary compliance. Funding is conditional on the submission of an audit report to their medical audit advisory group (MAAG). Each report bears a confidentiality
rating which specifies what aspects, if any, may be publicised or shown to the FHSA. A number of MAAGs circulate details of good prescribing audits both pro-actively and on request.

103. Wherever relevant, audits should consider patient views. Some MAAGs offer help with survey design and analysis. A substantial minority of patients, for example, feel that doctors should examine them more thoroughly before deciding whether a prescription is needed. Others would like to know more about possible side effects. Some patients say that they would like clearer explanations, backed up with more written information.

COMMUNICATION
MORE FOCUSED PRACTICE VISITS

104. A major element of advisers' activity has been to conduct practice visits to explain and enforce the Indicative Prescribing Scheme and promote more rational prescribing. The former Regional Medical Service estimated in 1982 that each practice visit by a medical officer saved an average of £10,000 in prescribing expenditure. It is more difficult to assess the effectiveness of FHSA advisers since they are expected to influence the prescribing of a far greater range of practices. There are so many influences on prescribing that it is impossible to isolate the effect of visits or advisers' other activities.

105. Face-to-face discussion with all GPs in their own practices has generally proved to be the most effective initial approach for winning the confidence of GPs. Doctors have been more inclined to start to implement FHSA suggestions on prescribing in localities where advisers have appeared interested in practices' own agenda for change. However, visits are resource intensive. Frequent visiting of all practices may not always be the most efficient means of communication and should not be rigidly enforced by corporate contracts or action plans. More targeted visits, complemented by other forms of communication, may sometimes be more effective. One FHSA studied holds prescribing team meetings involving advisers and general management to agree which practices will be visited, what are the practices' main problems and which type of approach is most appropriate. This approach can be more responsive to changing areas of concern than use of a fixed 'visit rule' whereby, for example, all practices with total unexplained costs more than 15% above average are visited quarterly. Some FHSAs, with inadequate resources to visit individual practices, have organised group meetings. These are best conducted on 'neutral territory' such as a postgraduate centre.

106. In many areas, documentation of meeting outcomes has been poor and there has been little follow-up action by many FHSAs due to shortage of time. Good preparation and follow up is needed if visits and meetings are to be effective and minimise demands on the time of GPs and advisers (Box N). Many advisers also need to be more systematic in the way they collate basic information about their activities in order to prove their worth and plan future work. Only a minority of FHSAs such as Somerset had, at the time of our study, conducted a survey of GPs to determine the perceived usefulness of advisers' visits and written advice. This deficiency will be rectified during the local audits currently being carried out by the Commission's staff.

107. The initial focus of most FHSA practice monitoring and visits has been high cost prescribing. Few have been able to devote resources to the other end of the spectrum, exploring whether low cost prescribers are providing an adequate quality of patient care. Only one FHSA
**Box N**

**MAKING BEST USE OF PRACTICE VISITS**

<table>
<thead>
<tr>
<th>Is a practice visit the most appropriate mode of communication?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Is the matter to be discussed practice-specific or more general?</td>
</tr>
<tr>
<td>• Will it be necessary to quote data confidential to the practice?</td>
</tr>
<tr>
<td>• How sensitive is the issue?</td>
</tr>
<tr>
<td>• Are practice GPs likely to be receptive or feel threatened?</td>
</tr>
<tr>
<td>• How important is it that all partners receive the message or agree action?</td>
</tr>
<tr>
<td>• Could the message be conveyed or agreement reached more efficiently:</td>
</tr>
<tr>
<td>— at an area meeting or seminar,</td>
</tr>
<tr>
<td>— in a newsletter, or</td>
</tr>
<tr>
<td>— through an exchange of correspondence?</td>
</tr>
</tbody>
</table>

Warn practices well in advance about what is to be discussed during the visit.

- Concentrate on key issues of relevance to the practice, but:
  - Set a balanced agenda so that GPs do not gain the impression that FHSA advisers are interested only in cost cutting.
  - Tell them what data the FHSA will be using so that they have a chance to study these before the meeting and agree their accuracy.
  - Ask in advance whether there are any issues that practice GPs wish to discuss.

Agree a time and duration for the visit when all partners can attend.

- Try to plan work so that visits can be made on appropriate days of the week.

Strike a sensible balance between preparation and visiting times.

- Standardised reports highlighting where practices stand in relation to others may speed preparation.
- Develop ways of communicating prescribing indicators succinctly to GPs.
- Ensure that everybody visiting a practice has some broad knowledge of its partners' own agenda for change and of issues currently under discussion between the practice and FHSA.
- Go prepared to quote authoritative references to back up recommendations and, if appropriate, personal experience or that of other practices.
- Develop intelligence networks using GP colleagues to find out how local pharmaceutical company representatives are reacting to FHSA recommendations and promoting their products.

Do not ignore practice staff other than the doctors - drug reps don't!

At the end of each visit, agree with practice GPs:

- specific targets or changes to be considered,
- a time scale for implementation or follow up.

Confirm what was discussed and agreed:

- A follow up letter or standardised form showing areas discussed may be used.
- Where appropriate, ask all practice partners to sign and return a copy of the letter to signify their acceptance or agreement.

Monitor progress against targets and action plans.
studied had yet looked at repeat prescribing systems or at review procedures during practice visits. This focus has strengthened many GPs' perceptions that FHSA advisers are unduly concerned with costs. Most do have a far more extensive agenda for improving prescribing rationality and quality that they would like to pursue when time permits.

108. Some FHSAs have, however, developed quality indicators against which practices will also be monitored. GPs should have a clear idea as to what non-financial aspects of prescribing are of current concern to their FHSA and why. Detailed indicators can be time consuming to compute regularly for all GPs. Newcastle FHSA has therefore selected a representative 'basket' of practices which it monitors in detail so as to keep an eye on trends. Others may focus sequentially on specific drug groups, prescribing topics or conditions right across the FHSA (e.g., antibiotics, hypnotics, ulcer drugs).

SEEKING AGREEMENT ON GOOD PRACTICE

109. Wessex Region is trying to secure a consensus between regional primary care advisers, postgraduate centres, medical audit groups, local medical committees (LMCs), FHSAs and other interested parties as to what constitutes rational prescribing. Where possible, the agreement of all GPs should be sought, since it is they who are likely to be monitored against these standards. Barking and Havering FHSA, in common with neighbouring authorities, is asking all local GPs to give their opinions on appropriate and achievable non-financial targets for four aspects of rational prescribing:-

— What in any one practice should be the percentage of NSAIDs prescribed from the five most commonly used?
— What should be the maximum appropriate level of benzodiazepine prescribing in number of items per thousand patients per month?
— What is an appropriate percentage of cephalosporin relative to penicillin prescriptions?
— What level of generic prescribing is appropriate to general practice?

It is hoped that this exercise will produce agreed targets appropriate to each individual practice against which their progress towards better quality prescribing can be monitored. In time, by feeding back information on other practices' targets, a greater consensus should emerge as to what are considered to be feasible objectives for GPs in the area.

ARE PRESCRIBING NEWSLETTERS AND DRUG ADVICE USED TO BEST ADVANTAGE?

110. While practice visits may be the most effective way of getting to know each practice, messages can usefully be reinforced, and potentially reach a larger proportion of GPs, through written communication. Some FHSAs use newsletters to inform GPs and, sometimes, community pharmacists about prescribing issues. Others rely on less frequent letters highlighting a particular concern. Some regions also prepare newsletters on trends in drug usage which are circulated either together with FHSA material or separately. There is no clear logic as to who produces what. Some FHSAs have produced price comparisons of generic and proprietary drugs for instance that, while valuable, have no local content and could have been compiled more economically.
nationally. Only a minority of FHSA\textregistered s have sought feedback from GPs on the extent to which newsletters are read, let alone as to which aspects are considered useful. Some doctors interviewed dismissed them as propaganda and wanted recommendations to be better supported by authoritative references if they were to act on them. One FHSA, however, commissioned a hospital drug information pharmacist to survey GPs' needs. The focus of FHSA newsletters should be on filling gaps in the other prescribing information routinely supplied to GPs. Newsletters must be well written and presented as well as authoritative (Box O) since they have to compete for GPs' attention with the substantial quantities of promotional and other information on drugs that they regularly receive.

\textit{Box O}

\textbf{PRESCRIBING NEWSLETTERS}

<table>
<thead>
<tr>
<th>Prescribing messages can be reinforced through written communication.</th>
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<tbody>
<tr>
<td>FHSA Newsletters should:</td>
</tr>
<tr>
<td>• Be brief – important because GPs receive so much paper.</td>
</tr>
<tr>
<td>• Be attractive – they are more likely to be read and not to cause unnecessary offence if light-hearted in approach.</td>
</tr>
<tr>
<td>• Not duplicate Regional information:- report FHSA prescribing trends and how these may affect IPAs, progress on local initiatives, local concerns, including those of patients. Timely reiteration of national policy messages put into a local context may sometimes be appropriate.</td>
</tr>
<tr>
<td>• Offer the opportunity for two-way communication by asking for GP feedback and suggestions for topics to be covered – one FHSA was considering the introduction of a letters column.</td>
</tr>
<tr>
<td>• Enable GPs to act easily on the information presented by giving references, sources and local consultant opinion and specific suggestions for monitoring and action.</td>
</tr>
<tr>
<td>• Be sent to both GPs and pharmacists (so both 'sides' know what is going on).</td>
</tr>
</tbody>
</table>

\textit{111}. Many regional drug information centres also send GPs separate digests of information on new medicines. The timing of these is problematic. Typically they are prepared at around the time that the drug comes into use in hospitals. The average GP may have no occasion to use the drug for some months or even years after receipt of the information. There was low recall amongst GPs interviewed of these leaflets and those who did remember receiving them generally had difficulty in finding one as an example.

\textbf{IMPROVING KNOWLEDGE ABOUT THE PHARMACEUTICAL PRICE REGULATION SCHEME}

\textit{112}. Many doctors would like reassurance that any savings in the UK drugs budget secured through more rational and economic prescribing will not be eroded through the workings of the Pharmaceutical Price Regulation Scheme (PPRS). Some suggest that, if usage of high profit
margin proprietary drugs begins to fall, pharmaceutical companies could price their next new products higher so as to recoup lost profits. To this might be added additional expenditure on generics and other substituted drugs. In reality, pricing freedom may be limited by competitive pressures and overseas marketing considerations, except in the case of major breakthroughs, which occur relatively infrequently. The National Audit Office reviewed the workings of the Scheme shortly before the recent re-negotiation, although its report remains unpublished. It will no doubt wish to revisit this topic to ensure that the new provisions are having their intended effect. FHSAs and the NHSME will need to continue their efforts to counter doctors' suspicions. Otherwise many GPs will argue that it is not worthwhile to invest major time and effort to secure more economic prescribing.

113. Doctors have also expressed concern about the level of secrecy in the UK surrounding the withdrawal or suspension of product licences for certain drugs. This can compromise the care of patients who have taken the drug and increase the expense of their treatment. It would seem desirable that, as a minimum, the Committee on the Safety of Medicines should be permitted in such exceptional circumstances to publish reports in the public interest containing any relevant scientific information. Harmonisation of European legislation should be expedited. The desirability of increasing the separation of responsibilities for promoting the UK pharmaceutical industry, for protecting the interest of patients and for promoting rational prescribing should be kept under review.

IMPROVING COMMUNICATION WITHIN PRACTICES

114. FHSAs may also be able to help if the partners in a practice find it difficult to reach agreement on common goals and policies. Rochdale has funded a facilitator to work on building up a team approach with a few practices whose prescribing expenditure was of particular concern. This initiative has met with some success.

IMPROVING COMMUNICATION WITH PATIENTS

115. None of this will lead to more rational prescribing unless GPs are also able to convince patients if they believe no prescription to be needed or a change of medication appropriate. Until recently, GPs have received little guidance on how to communicate effectively. One FHSA is trying to rectify this by offering training in 'how to say no'. All the partners within a practice need to present a united front on such matters. FHSAs can also help by producing guidance about when to consult a GP and information about generic medicines. Some include this in their GP services leaflets. They could also provide supporting leaflets for GPs and pharmacists when specific change is contemplated. Sefton FHSA seeks opportunities to promote its messages in the local press and radio programmes. Consideration now needs to be given nationally to whether it would be beneficial to provide patients with more information about the prescribing of different GPs in an area, as well as about practice facilities and services, so that they could make more informed choices.

116. Particular problems can arise in areas where a significant proportion of patients are drawn from minority ethnic communities. Some of these patients have difficulty in communicating with their GPs. Some can not read leaflets in their own languages. They may have a
different understanding of disease processes and different expectations of the role of a doctor and the use of medicines:

— Birmingham FHSA, following research on the best way of persuading Asian patients to demand less antibiotics, commissioned a video in four languages as well as English (Ref.29). This has been made available to forty inner city practices. Some show it in their waiting areas. Others use it during health promotion clinics. A formal evaluation is currently in progress.

— Camden and Islington is one of two inner London FHSAs which fund a patient advocacy service that provides interpreters for GP consultations. An interpreter attends regular weekly sessions at some practices which have a predominance of patients from a particular ethnic community. Other practices are asked to give three day's notice of consultations which require an interpreter, although in an emergency the service will also interpret for a patient on the telephone.

TIME AND RESOURCES
RESOURCES AND SUPPORT: BUILDING AN EFFECTIVE FHSA TEAM

117. FHSAs, as well as GPs, face serious limitations in the amount of time and resources that they can devote to improving prescribing. Regardless of size, they were initially funded for the equivalent of one medical adviser to work on prescribing issues. The number of GPs for whom each was responsible varied from 70 to 1140. As noted in Practices make perfect (Ref.1), some FHSAs used the funding to appoint a number of part time advisers with a variety of roles. Prescribing formed only a small part of the jobs of those FHSA medical advisers interviewed during the study. Many FHSAs have expanded the availability of prescribing advice to members, officers and practices by appointing a pharmaceutical adviser, often part time. However, there is still a wide disparity in the availability of prescribing advice in relation to the number of doctors.

118. Medical and pharmaceutical advisers should have clear roles, with defined objectives and distinct responsibilities. These will rightly vary according to local circumstances. Typically
however, the medical adviser adopts a broad strategic approach, while the pharmaceutical adviser concentrates on working with selected practices and on provision of advice about specific drugs and their usage. At one FHSA, it is the pharmaceutical adviser who carries out routine practice visits, while one of the medical advisers acts as an 'elder statesman', visiting any GPs who resist the pharmaceutical adviser's efforts. Some FHSAs have found it appropriate to nominate one adviser or manager to focus on budgets and expenditure, leaving other advisers free to offer educational advice and assistance.

119. GPs receive prescribing advice of a rather different nature from pharmaceutical company representatives. These heavily outnumber FHSA advisers; one large firm alone employs three times as many. Representatives from some forty firms regularly visit some practices. The major pharmaceutical companies also devote considerable resources to ensuring that their representatives' knowledge of drugs is kept up to date. One trains experienced field staff for an average of 20 to 30 days each year in addition to producing distance learning packs on new products. FHSA advisers start from the advantage of a professional education and recent clinical experience. However, like GPs, it is difficult for them to find the time to keep fully up to date. The pace of development is such that to do so is important for their continuing credibility with practices.

120. The effectiveness of prescribing advisers is frequently limited by a lack of adequate support staff. FHSAs function within very tight constraints on their administrative expenditure which has not expanded in line with their role. However, it is not sensible that many highly paid medical advisers should have to do their own filing or routine extraction and manipulation of prescribing data and beg secretarial support from other officers. Provision of adequate support staff and facilities for professional advisers is essential if best use is to be made of their time.

121. All FHSA advisers and staff must work as a team if they are to make best use of the limited resources available to them to put across their key prescribing messages. Effective systems are needed for ensuring that information relevant to prescribing received by locality and other managers is relayed to prescribing advisers. They in turn should regularly brief other FHSA officers communicating with practices so that prescribing messages given by all advisers and staff are consistent. One FHSA identifies ten key themes that the FHSA wants to convey to doctors. There is an information board identifying who will be visiting each practice, when and for what purpose. Everyone at the FHSA knows what GPs are being told. Regardless of who visits a practice, the same basic messages are reinforced.

122. The amount of time spent by members of FHSAs in considering prescribing does not reflect its importance to good health care and position as the largest element of their authorities' budgets. FHSA chairmen and members should take an active role in setting strategic direction, agreeing policy, and monitoring performance in promoting rational prescribing. They should not just rubber stamp policies developed by officials. Members should be regularly apprised of progress against FHSA prescribing objectives. The professional GP and pharmacy members of the authority are well placed to suggest ways of improving value for money and to act as a sounding board for policy. Two FHSAs studied have established prescribing subcommittees. These enable members to acquire a more in depth knowledge of prescribing issues that is not confined to financial aspects. Participation by members in practice visits can lead to better understanding of
barriers to change. They can also take a significant role in informal publication of FHSA objectives amongst professional bodies and through their links to other health authorities, voluntary and community organisations.

123. Most FHSA can point to success stories where the intervention of advisers has helped to curb excessive or ineffective prescribing. Given adequate resources, there is still much more that they can do to work alongside practices to improve the quality of patient care.

**SUMMARY OF RECOMMENDATIONS**

1. Incentive schemes should be structured and funded to encourage rational prescribing and so that all practice are able, with reasonable effort, to qualify for a payment.

2. FHSA needs to make better use of their resources by improving the co-ordination of their efforts to promote rational prescribing.

3. FHSA needs better prescribing information. The Audit Commission has developed its own thematic analysis of prescribing to assist this process.

4. Postgraduate centres should ensure that a balanced programme of education is provided which is relevant to the current needs of GPs.

5. Prescribing audits should be encouraged.

6. FHSA should find more effective ways to promote practice formularies and clinical guidelines.

7. The skills of community pharmacists should be used more effectively in advising GPs on drug choices.

8. Visits to practices by advisers need to be better targeted, more focused and effectively followed up.

9. Prescribing newsletters need to more adequately reflect the information needs of practitioners.

10. Local consensus of good practice in key areas of prescribing needs to be improved.

11. FHSA needs to assist GPs in educating patients about the appropriateness of drug therapy.
4. The Way Forward

124. The spread of fund-holding has greatly increased the incentive for many practices to improve the cost-effectiveness of their own prescribing. If all were like the good prescribers described in this report, FHSAs might safely be able to rely on budgeted service agreements and outcome targets to regulate prescribing. Adopting, as a few FHSAs are attempting to do, a more hands-off, 'commissioning' stance than hitherto will require development of outcome measures for primary care that could be used to monitor the performance of GP 'contractors'. This will take time. FHSAs will always need to be in a position to reassure patients that quality of prescribing is not compromised in the search for further ways to reduce costs. In the meantime FHSAs must continue to take the lead in providing practices with information and support, tackling interface issues and facilitating change. The introduction of joint commissioning between FHSAs and DHAs will help to remove some constraints to rational prescribing. FHSAs should continue to foster a climate for change and the realisation that prescribing decisions must be taken within the context of the overall resources available to the NHS. The feasibility of devolving cash limited budgets to local level covering all health expenditure including both community and hospital prescribing, as advocated by one health commission, is one option that would merit exploration.

A COHERENT PRESCRIBING STRATEGY

125. Each FHSA needs a clear prescribing strategy. The starting point should be an agreed vision of what constitutes rational prescribing. This should facilitate integration with FHSA strategies and action plans for health promotion, medical audit, practice computerisation and the way in which it approaches GPs on other issues. FHSA plans for implementing the health gain targets set out in Health of the Nation and local priorities, for example the reduction of deaths from asthma, have implications for expenditure on prescribed drugs. FHSAs must ensure that these are carried through into their approach to influencing GP prescribing.

THE LOCAL AUDITS

126. During 1994, the Commission's staff will be undertaking audits of all FHSAs. Their aim is to recommend ways in which they and their advisers could best work with the medical profession, with patients and with other health authorities to promote more rational, safe, economic and effective prescribing by GPs. Auditors will review how FHSAs are seeking to promote better prescribing and how successful they have been in that task. They will be interviewing key FHSA staff, analysing written communication with GPs and prescribing newsletters, using comparative trends in prescribing data and indicators, using a survey both to ascertain GP opinion on current FHSA prescribing activity and to find out the extent to which doctors discuss prescribing matters systematically with their partners.

127. Prescription Pricing Authority data will be used to quantify the potential for improved cost-effectiveness of prescribing. Audits will also focus on areas where the quality of patient care
could be improved. In some cases this would require an increase in GP prescribing expenditure, although the total costs to the NHS as a whole could be reduced. Auditors will then follow up topics of key local concern with a sample of GPs and will also, where relevant, interview hospital doctors and pharmacists. They will seek ways in which obstacles to change, including those which may result from hospital practice, patient pressures, or relationships between GPs and local pharmacists, can be circumvented. They will work closely with FHSA advisers in drawing up action plans for improving their promotion of rational prescribing.
APPENDIX 1:
SETTING INDICATIVE PRESCRIBING AMOUNTS / TARGET BUDGETS

METHODOLOGY

— Until 1992/93, IPAs were based primarily on each practice’s historic spending. This was adjusted for growth, inflation and trends in the mix of drugs prescribed using a nationally determined ‘uplift factor’.

— FHSAs are encouraged to incorporate local knowledge by using discretionary ‘soft factors’ to reflect changes in practice composition, list sizes and the needs of any high cost patients receiving treatment. But not all FHSA advisers have had sufficient access to data analysis facilities to incorporate ‘soft factors’ systematically.

— ‘Benchmark’ expenditure allowances, which take into account the age and sex distribution of patients on practice lists, were introduced in 1993/94 to supplement historic costs as a basis for setting amounts (Exhibit 27). These enable FHSA advisers to begin to make more systematic and demonstrably fair reductions to the IPAs of historic high prescribers.

— Other recent improvements have been made to the guidance to counter criticism that IPAs were largely based on data which were two years old and did not reflect subsequent changes to list sizes, practice composition or prescribing patterns, some of which had been agreed with FHSAs. IPAs are now based on more recent expenditure out-turn data.

— Greater consistency has also been introduced between the accounting assumptions used in the calculation of IPAs, fund-holding budgets and FHSA budgetary allocations.

— The NHS Management Executive issued further guidance (Ref. 26(ii)) as this report went to press. From April 1994, IPAs are to be renamed Target Budgets ‘to give a clearer indication that GPs are expected to manage their prescribing expenditure within the allocation, while ensuring that patients receive the medicines that they need, through more cost-effective use of drugs and the elimination of wasteful prescribing’. The new guidance reflects many of the recommendations made in this report.

SCOPE FOR FURTHER IMPROVEMENT

— Many feel that insufficient account is taken of current differences between GPs in the quality of their prescribing, when setting practice IPAs. IPAs can also still appear to reward high prescribers and penalise those who have less scope for further economies. ‘Benchmark’ allowances can also reward practices or areas with high list inflation where patients have moved away from the area but are still registered with more than one practice.

— More timely notification of ‘uplift factors’ than was given in 1993/94 and greater consultation between the Department of Health and FHSAs about proposed methodological changes would greatly assist advisers’ ability to ‘sell’ the IPAs to practices. The 1994/95 guidance recognises the need for greater transitional protection to FHSA allocations and practice IPAs than has been given in the past. Last year, advisers in areas whose total allocations were ‘squeezed’ faced particular difficulties in persuading practices
who could be offered little increase for 1993/94 over their 1992/93 amounts that the new scheme was fair. This was particularly so if GPs had previously justified their prescribing expenditure in terms of above average morbidity or need.

— Both the assumptions used to forecast national prescribing expenditure needs and those used by regions and FHSAs to 'share out the cake' must be stated more clearly. The 1993/94 allocation of budgetary allowances between regions according to historic average expenditure per prescribing unit (which varies widely across the country) can lead to anomalies. It has been modified in 1994/95, but should be kept under review.

GAINING ACCEPTANCE FOR IPAs

— Amounts should be agreed with practices wherever possible. [All partners might be asked to sign a form of acceptance].

— IPAs should also reflect any prescribing implications of implementing local health gain and practice development action plans. One FHSA studied sends GPs statements of assumptions and allowances made to permit implementation of agreed improvements to prescribing such as increasing the use of inhaled steroids by asthma sufferers.

— If a challenging amount is set for a high spending practice, then the FHSA should also suggest a number of options for broad areas where that practice could make economies, showing how much might be saved.

SYSTEMATIC USE OF LOCAL KNOWLEDGE

In past years, some FHSAs used their own methodological variants for setting IPAs, which were more or less generous. This, and differing historic average levels of prescribing across the country makes comparison of FHSAs' or regions' past success in keeping expenditure within allocations potentially misleading. While the freedom of FHSA advisers to use local knowledge to refine practice IPAs so as to reflect demonstrable differences in need should not be further restricted, such knowledge must be employed systematically and transparently:

— Some advisers use supporting analyses based on trends in practice expenditure.

— Somerset's former medical adviser believes that IPAs should reflect each practice's views of morbidity amongst its patients. Data on identified morbidity for sixteen chronic conditions are collected from each practice and compared with prescribing expenditure on relevant drugs.

— Weighted capitation benchmarks can be derived for separate BNF chapters which allow more refined consideration of the scope for adjustment of baseline IPAs based on historic expenditure. At present these rely on local studies; a number of FHSAs use a program developed by Surrey FHSA. National research by the Prescribing Research Unit, Leeds on the age and sex distributions of patients for whom specific classes of drugs are prescribed by GPs in a larger sample of computerised practices will commence shortly.
APPENDIX 2:  
METHODOLOGY USED TO SELECT A SAMPLE OF G.P. PRACTICES WHO ARE GOOD AND ECONOMICAL PRESCRIBERS

Prescribing data for 4800 practices in 53 FHSAs were examined. All practices' prescribing units (PUs) were reduced by the average list inflation in their FHSA.

The following practices were ruled out:-

Practices whose prescribing is possibly unrepresentative:-

— Tiny practices with less than 1300 adjusted PUs.
— Those with a proportion of elderly patients 5% or more below the national average.

Practices whose prescribing could be poorer than average in the following areas:-

— Asthma:- DDD ratio of inhaled steroids to sympathomimetic bronchodilators below 0.33;
— Hypnotics & Anxiolytics:- DDDs per 1000 adjusted PUs exceeding 6910;
— Range of NSAIDs:- Top 5 accounting for less than 85% of NSAIDs prescribed;
— Possible over prescribing:- Expenditure per 1000 adjusted PUs exceeding £13,196;
— Drugs of limited clinical value:- Expenditure per 1000 adjusted PUs exceeding £1,014.

Practices who were below average in the economy of their prescribing:-

— Generics:- Those who could save more than £1,109 per 1000 adjusted PUs by prescribing 20 leading drugs generically.
— Substitution of comparable drugs:- Those who could save more than £1,615 per 1000 adjusted PUs from the substitutions listed in this report.

The resulting list of practices was further reduced so that practices in any single FHSA were not over-represented. Ratios of values of the above indicators for each practice to the 20th percentile of prescribing were calculated. This was also done for expenditure on antibiotics per 1000 adjusted PUs, the range of antibiotics prescribed and the total additional expenditure per 1000 adjusted PUs on premium price items. These indicators were weighted and summed in a number of different ways. According to the values of each of these combined indicators, either one or two of the qualifying practices with the 'best' quality and economy indicators were selected from each FHSA, to give a total sample of 50 practices spread across the country.
## APPENDIX 3

<table>
<thead>
<tr>
<th>Region</th>
<th>Total expenditure</th>
<th>Potential savings:</th>
<th>Less-</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Net ingredient costs</td>
<td>Over-prescribed drugs</td>
<td>Limited therapeutic value</td>
</tr>
<tr>
<td></td>
<td>c.50 good practices</td>
<td>c.50 good practices</td>
<td>Total potential</td>
</tr>
<tr>
<td>Northern</td>
<td>202.6</td>
<td>24.7</td>
<td>3.3</td>
</tr>
<tr>
<td>Yorkshire</td>
<td>225.8</td>
<td>24.8</td>
<td>4.1</td>
</tr>
<tr>
<td>Trent</td>
<td>285.3</td>
<td>27.7</td>
<td>4.2</td>
</tr>
<tr>
<td>East Anglia</td>
<td>124.5</td>
<td>11.7</td>
<td>1.4</td>
</tr>
<tr>
<td>N.W. Thames</td>
<td>197.3</td>
<td>12.9</td>
<td>2.2</td>
</tr>
<tr>
<td>N.E. Thames</td>
<td>208.1</td>
<td>13.4</td>
<td>3.1</td>
</tr>
<tr>
<td>S.E. Thames</td>
<td>218.9</td>
<td>18.7</td>
<td>2.8</td>
</tr>
<tr>
<td>S.W. Thames</td>
<td>169.6</td>
<td>10.9</td>
<td>1.6</td>
</tr>
<tr>
<td>Wessex</td>
<td>175.2</td>
<td>15.8</td>
<td>1.9</td>
</tr>
<tr>
<td>Oxford</td>
<td>139.4</td>
<td>10.9</td>
<td>1.0</td>
</tr>
<tr>
<td>South Western</td>
<td>210.3</td>
<td>19.1</td>
<td>1.8</td>
</tr>
<tr>
<td>West Midlands</td>
<td>319.0</td>
<td>28.1</td>
<td>5.5</td>
</tr>
<tr>
<td>Mersey</td>
<td>161.8</td>
<td>20.8</td>
<td>3.3</td>
</tr>
<tr>
<td>North Western</td>
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<td>28.5</td>
<td>5.7</td>
</tr>
<tr>
<td>England</td>
<td>2901.5</td>
<td>268.3</td>
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</tr>
<tr>
<td>Wales</td>
<td>209.9</td>
<td>26.6</td>
<td>4.1</td>
</tr>
<tr>
<td>England &amp; Wales</td>
<td>3111.3</td>
<td>295.0</td>
<td>46.3</td>
</tr>
</tbody>
</table>

**n.b.** The drugs element of GP prescribing gross expenditure after discount was £2641 million (England), £178 million (Wales)

*Source:* Audit Commission from data provided by Department of Health, PPA, Welsh Office.
References


25. NHS Management Executive.
   (i) *Indicative prescribing scheme: guidance on setting amounts*. HSG(93)4.
   (ii) *Prescribing expenditure: guidance on allocations and budget setting 1994/95*. EL(94)2.


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Prof. Philip Reilly  *RCGP Prescribing Fellow; Professor of General Practice, Queen's University Belfast
Dr Jane Richards  Chair, GMSC Prescribing Subcommittee; PPA Member; GP
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($ succeeding Prof. George Teeling-Smith who attended 2 meetings)
Dr Patricia Wilkie  Patients’ Association
(* Prof Reilly also acted as medical adviser to the study team)
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  - Ms Sue Kilby
- Hampshire FHSA
  - Dr Michael Parsons
  - Ms Sue Halewood
- Mid Glamorgan FHSA
  - Dr Richard Lewis
  - Mr Andrew Burr
- Newcastle upon Tyne FHSA
  - Dr Sidney Leigh
  - Mr Peter Hopley
- Northamptonshire FHSA
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  - Ms Sue Ashwell
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  - Mr Peter Welsby
- Sefton FHSA
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- Dr Gardner (Northampton)
- Dr Gibson (Heywood)
- Dr Griffiths (Penistone)
- Dr Harding (Loughborough)
- Dr Hellisiwell (Keighley)
- Dr Hughes (Havant)
- Dr Jeffers (Daventry)
- Dr Leney (Islington)
- Dr Mehra (Gosforth)
- Dr Mooney (Heywood)
- Dr Myers (Romford)
- Dr Price (Southsea)
- Dr Reeder (Northampton)
- Dr Robinson (Southsea)
- Dr Sarkar (Rochdale)
- Dr Shah (Ystrad Mynach)
- Dr Smith (Newcastle)
- Dr Saraphdar (Rochdale)
- Dr Baker (Bootle)
- Dr Brandman (Hornchurch)
- Dr Chinn (Havant)
- Dr Corcoran (Beckington)
- Dr Dinwiddie (Northiam)
- Dr Evans (Twycross)
- Dr Garston (Ainsdale)
- Dr Gopinath (Bolton upon Dearne)
- Dr Hansford (Bridgwater)
- Dr Head (Hastings)
- Dr Henry (Moreton)
- Dr Jago (Bridgwater)
- Dr Kapoor (Bootle)
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- Dr Moore (Fareham)
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- Dr Opedi (Enterhild)
- Dr Patel (Peacehaven)
- Dr Price (Southsea)
- Dr Rickerby (Northampton)
- Dr Rosser (Crewkerne)
- Dr Satsangi (Romford)
- Dr Silver (Newcastle)
- Dr Smith (Keighley)
- Dr Taylor (Heywood)
Dr Toni (Rainham)  Dr Traynor (Newcastle)  Dr Verity (Rochdale)
Dr Waghorn (Daventry)  Dr Waller (Litherland)  Dr White (Northampton)
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Dr Gregory (Newcastle)  Dr Irvine (Northumberland)  Dr Kennedy (Newcastle)
Dr Lee (Hampshire)  Dr McDonald (Barnsley)  Dr McGovern (Newcastle)
Dr Nuttall (Northampton)  Dr Parsons (Somerset)  Dr Tiner (Somerset)
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Dr Walters (Newcastle)  Dr Williams (Hampshire)  Dr Willis (Northamptonshire)

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Dr Serlin (Southport & Formby)  Dr Smithard (Birch Hill)  Dr Wray (Barnsley)

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Mr Adrian Shafford (Oldchurch)  Mr Robin Gallamore (Barnsley)  Ms Pauline Davies (Portsmouth)
Mr Peter Hopley (Newcastle)  Mr Clive Jones (East Glamorgan)  Mr J Thompson (Northampton)
Mr John Walker (Birch Hill)  Ms Geraldine Alder (Harold Wood)

Community Pharmacists:

Mr G Bell (Northamptonshire)  Mr A Crabbe (Mid-Glamorgan)  Ms J Crawford (Hailsham)
Mr H Grove (Mid-Glamorgan)  Mr P Jenkins (Mid-Glamorgan)  Mr J McGill (Rotherham)
Mr B. Shooter (Havering)  Mr P Walker (Rochdale)

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North West Thames RHA  -  Mr H Stokoe
North Western RHA  -  Dr V Standing, Mr C Jackson, Mrs B O'Driscoll
Northern RHA  -  Dr Smith
South East Thames RHA  -  Mr R Lea
South West RHA  -  Mr T Beswick
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- National Audit Office
- NHS Trust Federation
- Patients' Association
- Prescription Pricing Authority
- Royal College of General Practitioners
- Welsh Office
- Zieckenfondsraad (Sick Fund Council)

- Ministry of Health, The Netherlands
- BMA General Medical Services Committee (Prescribing Subcommittee)
- Department of Health / NHSME
- Institute of Health Services Management
- Medical Advisers Support Centre (MASC)
- National Association of Health Authorities & Trusts
- National Pharmaceutical Association
- Office of Health Economics
- Pharmaceutical Services Negotiating Committee
- Prescribing Research Unit Leeds University
- Royal Pharmaceutical Society of Great Britain

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Dr Hugh McGavock, Drug Utilisation Research Unit, Northern Ireland
Mr Alun Jones, LMC Secretary, Mid Glamorgan
Prof. Bill Shannon, Irish College of General Practitioners
Prof. David Taylor, (formerly) Research Fellow, Kings Fund Centre

(and members of the advisory group)
# Glossary of Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABPI</td>
<td>Association of the British Pharmaceutical Industry – Trade association and pressure group for UK proprietary drug manufacturers.</td>
</tr>
<tr>
<td>ACBS</td>
<td>Advisory Committee on Borderline Substance — rules on which foods and preparations are reimbursable by the NHS if prescribed by a doctor.</td>
</tr>
<tr>
<td>ACE inhibitor</td>
<td>Angiotensin-converting enzyme inhibitor: this class of drugs is one option for treating hypertension and heart failure.</td>
</tr>
<tr>
<td>ACTAP</td>
<td>Audit Commission Thematic Analysis of Prescribing.</td>
</tr>
<tr>
<td>Acute prescription</td>
<td>Prescription for a drug which will not be repeated without the doctor's express authorisation (usually after another consultation).</td>
</tr>
<tr>
<td>ADR</td>
<td>Adverse drug reaction; (side-effect).</td>
</tr>
<tr>
<td>Anxiolytic</td>
<td>Sedative, Tranquilliser.</td>
</tr>
<tr>
<td>ASTRO PU</td>
<td>Age, Sex and Temporary Resident Originated Prescribing Unit – Prescribing unit reflecting average drug expenditure per patient within nine age bands and by sex of patients. Used to calculate the weighted capitation benchmarks which, from 1993/94, inform the calculation of practice IPAs.</td>
</tr>
<tr>
<td>BAN</td>
<td>British approved (generic) name.</td>
</tr>
<tr>
<td>Basic price</td>
<td>Net ingredient cost of drugs before discount.</td>
</tr>
<tr>
<td>b.d.</td>
<td>Twice daily (bis die).</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>Group of drugs, now known to cause dependence at low doses, widely prescribed as hypnotics (sleeping pills) and anxiolytics (tranquillisers), especially between 1960 and the mid '80s.</td>
</tr>
<tr>
<td>BGMA</td>
<td>British Generic Manufacturers Association.</td>
</tr>
<tr>
<td>Bioavailability</td>
<td>The extent to which an administered drug becomes available to the target tissues.</td>
</tr>
<tr>
<td>Bioequivalent</td>
<td>Of identical bioavailability and active chemical composition.</td>
</tr>
<tr>
<td>BMJ</td>
<td>British Medical Journal.</td>
</tr>
<tr>
<td>BNF</td>
<td>British National Formulary, published jointly by the BMA and the RPS, each March and September.</td>
</tr>
<tr>
<td>Borderline substance</td>
<td>Food or preparation which may be prescribable as a medicine in circumstances specified by the ACBS.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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<td>------------</td>
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</tr>
<tr>
<td>CD</td>
<td>Controlled drug. Under the Misuse of Drugs Regulations 1985, the prescription must be fully completed and in the doctor's own handwriting.</td>
</tr>
<tr>
<td>CHCs</td>
<td>Community Health Councils — local representation of patients' interests.</td>
</tr>
<tr>
<td>CNS</td>
<td>Central nervous system (BNF Chapter 4).</td>
</tr>
<tr>
<td>Commissions</td>
<td>Joint FHSA / DHA (non-statutory) health care purchasing bodies.</td>
</tr>
<tr>
<td>Compliance</td>
<td>The extent to which patients follow the instructions of the doctor or drug manufacturer when taking (or omitting to take) drugs.</td>
</tr>
<tr>
<td>Compliance aid</td>
<td>Device (such as NOMAD®) supplied by pharmacists to help elderly or confused patients with multiple medications to take the right pills at the right time by laying out a monthly supply of their medicines in trays.</td>
</tr>
<tr>
<td>Container allowance</td>
<td>A fixed fee per item reimbursed to pharmacists under the Drug Tariff for supply of medicine containers and measuring spoons.</td>
</tr>
<tr>
<td>CSM</td>
<td>Committee on Safety of Medicines.</td>
</tr>
<tr>
<td>CVS</td>
<td>Cardiovascular System (abbreviation) (heart and circulation) – BNF Chapter 2.</td>
</tr>
<tr>
<td>Data sheet</td>
<td>Technical information about a drug, interactions, side effects etc. Also published in compendium form.</td>
</tr>
<tr>
<td>DCGP</td>
<td>District Committee of General Practitioners — a locally elected non-statutory LMC subcommittee — some areas only.</td>
</tr>
<tr>
<td>DDD</td>
<td>Defined Daily Dose: the average amount of the drug needed each day to obtain optimum therapeutic effect for adults suffering from the conditions for which it is most usually prescribed, eg based on DURG [WHO] recommendations.</td>
</tr>
<tr>
<td>DIP</td>
<td>Drug Information Pharmacist (District or Region).</td>
</tr>
<tr>
<td>Discount</td>
<td>Percentage deduction from the list price of prescribed drugs (approx. 2.5 to 11% depending on number of prescriptions dispensed – see Part V of Drug Tariff) made by the PPA when pharmacists and dispensing doctors are reimbursed to represent the assumed level of discounts that they receive from manufacturers or wholesalers.</td>
</tr>
<tr>
<td>Dispensary assistant</td>
<td>Member of staff, sometimes untrained, employed by a dispensing practice to make up prescriptions.</td>
</tr>
<tr>
<td>Dispensing fee</td>
<td>Professional fee reimbursed to pharmacists for each NHS item dispensed. Medicines which contain several drugs or drugs combined in different proportions (eg those for HRT) attract multiple fees, even if supplied in a single original pack.</td>
</tr>
<tr>
<td>DPO</td>
<td>District pharmaceutical officer.</td>
</tr>
<tr>
<td>Drug tariff</td>
<td>Regulations governing the prices and fees reimbursed to pharmacists for the supply of drugs - updated monthly.</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
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</tr>
<tr>
<td>DTB</td>
<td>Drugs and Therapeutics Bulletin – a Consumers Association publication.</td>
</tr>
<tr>
<td>DTC</td>
<td>Hospital (or district / trust) drugs and therapeutics committee, often responsible for review of hospital or district formularies.</td>
</tr>
<tr>
<td>DUMP</td>
<td>Disposal of Unwanted Medicines and Poisons campaigns organised by FHSAs.</td>
</tr>
<tr>
<td>DURG</td>
<td>World Health Organisation Drug Utilisation and Review Group</td>
</tr>
<tr>
<td>e/c</td>
<td>Enteric coated.</td>
</tr>
<tr>
<td>Excipient</td>
<td>Non-active ingredient of a drug.</td>
</tr>
<tr>
<td>Exempt</td>
<td>Patients exempt from prescription charges (see Part XVI of Drug Tariff for precise regulations). These include: – children under 16, students under 19, men over 65, women over 60; – those holding FHSA certificates issued to expectant mothers and for 12 months after the birth and to those with specified chronic diseases including certain forms of diabetes or epilepsy, with severe physical disability or requiring continuous surgical dressing or (eg) a colostomy appliance; — those receiving income support or family credit and their dependants; disabled war pensioners, and certain others holding social security exemption certificates; – people with prepayment certificates (FP96). In addition, no charge is payable for contraceptive drugs/appliances.</td>
</tr>
<tr>
<td>External referencing</td>
<td>Price approval mechanism for new drugs operated by some countries based on comparison with prices of comparable drugs elsewhere.</td>
</tr>
<tr>
<td>FHSA</td>
<td>Family Health Services Authority</td>
</tr>
<tr>
<td>Formulary</td>
<td>List of selected drugs, sometimes accompanied by guidance and protocols for their use, compiled by most hospitals, a few districts or FHSAs, some GP practices, and also some published by also academic departments (Belfast, Newcastle, Lothian etc).</td>
</tr>
<tr>
<td>FP6,FP7</td>
<td>Doctor's Clinical Notes Cards (Male and Female).</td>
</tr>
<tr>
<td>FP10</td>
<td>Prescription bearing GP's unique identifying number.</td>
</tr>
<tr>
<td>FP10(HP)</td>
<td>Prescription written by a hospital doctor for dispensing by a community pharmacist and recharge to the hospital drugs budget.</td>
</tr>
<tr>
<td>FP96</td>
<td>Annual (or 4 monthly) prepayment certificate for prescriptions</td>
</tr>
<tr>
<td>Fund-holding group</td>
<td>Group of GP practices which, while remaining clinically independent, have banded together to qualify for fund-holding status and have jointly appointed a manager to administer the fund.</td>
</tr>
<tr>
<td>G Button</td>
<td>Facility on some practice computer systems whereby, if used, the computer will substitute the appropriate generic drug, in place of the proprietary name entered by the GP, when printing a prescription.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Generic</td>
<td>Copy of a drug whose patent has expired.</td>
</tr>
<tr>
<td>GIS</td>
<td>Gastro-intestinal system (BNF Chapter 1)</td>
</tr>
<tr>
<td>GMSC</td>
<td>General Medical Services Committee of the BMA (British Medical Association); subcommittees include one on prescribing.</td>
</tr>
<tr>
<td>GP (or GMP)</td>
<td>General (medical) practitioner (unrestricted) - family doctor in contract with the NHS.</td>
</tr>
<tr>
<td>GPFH</td>
<td>General Practice Fund-Holder, allocated a fund by the RHA (advised by the FHSA) to pay for practice staff, hospital and other services and prescribed drugs.</td>
</tr>
<tr>
<td>GSL</td>
<td>General sales list of medicines freely available without prescription or pharmaceutical supervision.</td>
</tr>
<tr>
<td>Hypertension</td>
<td>High blood pressure – a risk factor for heart diseases and strokes.</td>
</tr>
<tr>
<td>Hypnotic</td>
<td>Sleeping Pill.</td>
</tr>
<tr>
<td>ICE</td>
<td>Innovative Chemical Extension. (A new drug with many similarities to another which is already available).</td>
</tr>
<tr>
<td>I/C Rate</td>
<td>Items per consultation.</td>
</tr>
<tr>
<td>Indication</td>
<td>A condition or disease, e.g. one for which a drug has been licensed.</td>
</tr>
<tr>
<td>INN</td>
<td>International non-proprietary (generic) name.</td>
</tr>
<tr>
<td>Internal referencing</td>
<td>Price approval mechanism for new drugs operated by some countries based on comparison with the domestic prices of existing drugs in the same product group, possibly normalised by DDD.</td>
</tr>
<tr>
<td>IPA</td>
<td>Indicative prescribing amount – non-cash limited prescribing cost allowance set for each GP by FHSAs following national and regional guidance.</td>
</tr>
<tr>
<td>IPS</td>
<td>Indicative Prescribing Scheme</td>
</tr>
<tr>
<td>Limited list</td>
<td>Legislation first introduced in 1985 to curb the rise in NHS drug expenditure. The black list specifies products which are not eligible for reimbursement. The white list specifies which drugs (within categories such as sleeping pills where a wide range of clinically equivalent medicines were available at widely differing prices) can be prescribed on the NHS.</td>
</tr>
<tr>
<td>Lipid lowering drugs</td>
<td>Used to reduce high blood cholesterol — a risk factor in heart diseases.</td>
</tr>
<tr>
<td>List inflation</td>
<td>The total number of patients registered with GPs as resident in an area as a percentage of the true population of the area, which often exceeds 100% because some patients do not inform their GP when they move to another area. FHSA list inflation indices currently vary between 96% and 132%.</td>
</tr>
<tr>
<td>LMC</td>
<td>Local medical committee – statutory representative body.</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
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</tr>
<tr>
<td>LPC</td>
<td>Local pharmaceutical committee.</td>
</tr>
<tr>
<td>MAAG</td>
<td>Medical Audit Advisory Group associated with each FHSA which promotes and advises on self audit by GP practices.</td>
</tr>
<tr>
<td>Maintenance treatment</td>
<td>Continuing low dose drug treatment to prevent relapse.</td>
</tr>
<tr>
<td>MAR Chart</td>
<td>Medication Administration Record, showing doctors review instructions and recording all drugs taken by a patient - widely used in nursing homes.</td>
</tr>
<tr>
<td>MASC</td>
<td>National Medical (and pharmaceutical) Advisers' Support Centre (Liverpool).</td>
</tr>
<tr>
<td>MCA</td>
<td>Medicines Control Agency responsible for licensing clinical trials, drug production and imports and for maintaining registers of adverse drug reactions.</td>
</tr>
<tr>
<td>MeReC</td>
<td>Medicines Resource Centre (Liverpool) - Department of Health funded body which provides independent advice on drugs and prescribing.</td>
</tr>
<tr>
<td>Me-too drug</td>
<td>Popular name for a new proprietary drug which closely resembles one already on the market.</td>
</tr>
<tr>
<td>MIMS</td>
<td>Monthly Index of Medical Specialties - drug listing sent to all GPs. Also a fortnightly magazine.</td>
</tr>
<tr>
<td>Morbidity</td>
<td>Incidence of illness or disease (or health risk factors).</td>
</tr>
<tr>
<td>m/r</td>
<td>Modified (eg sustained) release preparation of a drug.</td>
</tr>
<tr>
<td>MSK</td>
<td>Musculoskeletal System (BNF Chapter 10).</td>
</tr>
<tr>
<td>MSIS</td>
<td>Management Services Information System. Project to provide FHSAs, RHAs and DoH with monthly prescribing data in electronic form, including PACTLINE.</td>
</tr>
<tr>
<td>NAO</td>
<td>National Audit Office — recent NAO reports include those on Community Pharmacies (1992) and Repeat Prescribing (1993). An unpublished study of pharmaceutical pricing has also been undertaken.</td>
</tr>
<tr>
<td>NCE</td>
<td>New chemical entity (ie: a significant new drug).</td>
</tr>
<tr>
<td>NHSME</td>
<td>National Health Service Management Executive.</td>
</tr>
<tr>
<td>NIC</td>
<td>Net ingredient cost of drugs (before discount).</td>
</tr>
<tr>
<td>NPA</td>
<td>National Pharmaceutical Association: Furthers the interests of self employed community pharmacists.</td>
</tr>
<tr>
<td>NSAID</td>
<td>A non-steroidal anti-inflammatory drug, for rheumatism etc.</td>
</tr>
<tr>
<td>o.d.</td>
<td>Once a day (omni die).</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>------</td>
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</tr>
<tr>
<td>OHE</td>
<td>Office of Health Economics – funded by the Association of the British Pharmaceutical Industry to undertake and oversee cost-benefit studies and other research on drug usage.</td>
</tr>
<tr>
<td>o.m.</td>
<td>Each morning (omni mane).</td>
</tr>
<tr>
<td>o.n.</td>
<td>At night (omni nocte)</td>
</tr>
<tr>
<td>OPD</td>
<td>Original pack dispensing.</td>
</tr>
<tr>
<td>Orphan drug</td>
<td>A drug designed for treatment of rare diseases with consequent limited sales potential, such as those given special monopolistic protection in the USA.</td>
</tr>
<tr>
<td>OTC medicine</td>
<td>GSL or P list medicine available without prescription.</td>
</tr>
<tr>
<td>PACT</td>
<td>Prescribing Analyses and Cost Tabulations, at 3 levels of detail – produced by the PPA for FHSAs and GPs.</td>
</tr>
<tr>
<td>PACTLINE</td>
<td>Computer system introduced during 1992 for monthly transmission of PACT data for each GP practice, disaggregated to BNF main section level, to FHSAs, RHAs and DoH, and for its tabular and graphical analysis.</td>
</tr>
<tr>
<td>PAMS</td>
<td>Welsh prescribing information system similar to MSIS / PACTLINE.</td>
</tr>
<tr>
<td>Parallel import</td>
<td>Drug licensed by the MCA for importation by wholesale or chain pharmacists. Chemically equivalent to a proprietary medicine manufactured or marketed in the UK but cheaper. May be supplied if a drug is prescribed generically.</td>
</tr>
<tr>
<td>PCA</td>
<td>Prescription Cost Analysis drug, pharmacy and dispensing doctor database to be operated by the PPA, providing a wide range of drug price and sales analyses, monitoring and forecasting information.</td>
</tr>
<tr>
<td>Peptic ulcers</td>
<td>Ulceration of the lining of the digestive tract.</td>
</tr>
<tr>
<td>Personal administration</td>
<td>Injections and other drugs given directly to a patient by a prescribing doctor or a member of his practice staff.</td>
</tr>
<tr>
<td>PGEA</td>
<td>Post graduate education allowance for GPs.</td>
</tr>
<tr>
<td>Pharmacodynamics</td>
<td>The overall effect of a drug on patient behaviour and well-being.</td>
</tr>
<tr>
<td>Pharmacokinetics</td>
<td>Way in which the drug moves in the body, including its metabolisation rate and biodegradability.</td>
</tr>
<tr>
<td>PILs</td>
<td>Patient information leaflets.</td>
</tr>
<tr>
<td>PL</td>
<td>Product Licence Number allotted by the MCA.</td>
</tr>
<tr>
<td>Placebo</td>
<td>'Medicine' with no active ingredient but which may achieve a beneficial effect through a patient's faith in its efficacy.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
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</tr>
<tr>
<td>P List</td>
<td>Pharmacy list — drugs which may be dispensed without prescription, but only under the supervision of a qualified pharmacist.</td>
</tr>
<tr>
<td>PMRs</td>
<td>Patient medication records kept by some pharmacists in order to check for drug interactions and errors (and to promote customer loyalty).</td>
</tr>
<tr>
<td>Polypharmacy</td>
<td>Giving a patient lots of different drugs – unstated implication that some are required to counteract the side effects of the others.</td>
</tr>
<tr>
<td>PO medicines (POMs)</td>
<td>Drugs available only on prescription by a doctor or through a dispensing doctor.</td>
</tr>
<tr>
<td>POT</td>
<td>Fee Period of Treatment supplement to pharmacist’s professional (dispensing) fee payable where prescription size exceeds the threshold quantities specified in Part IIIA Section H of the Drug Tariff.</td>
</tr>
<tr>
<td>PPA</td>
<td>Prescription Pricing Authority.</td>
</tr>
<tr>
<td>PPRS</td>
<td>Pharmaceutical Price Regulation Scheme, influencing prices at which proprietary drugs are purchased by the NHS.</td>
</tr>
<tr>
<td>p.r.n.</td>
<td>As required (pro re nata).</td>
</tr>
<tr>
<td>Prophylaxis</td>
<td>Preventive treatment.</td>
</tr>
<tr>
<td>PSNC</td>
<td>Pharmaceutical Services Negotiating Committee: Statutory body representing the interest of dispensing chemists in England &amp; Wales</td>
</tr>
<tr>
<td>PU (Prescribing Unit)</td>
<td>Weighted denominator for prescribing data, calculated as list size of patients aged under 65, plus 3 times list size of patients 65 and over, (plus temporary residents).</td>
</tr>
<tr>
<td>Pulse treatment</td>
<td>Drug or other treatment given in periodic 'bursts' rather than on a continuous regime.</td>
</tr>
<tr>
<td>q.d.s.</td>
<td>Four times a day (quater die sumendus).</td>
</tr>
<tr>
<td>RCGP</td>
<td>Royal College of General Practitioners.</td>
</tr>
<tr>
<td>Repeat dispensing</td>
<td>RPS proposal whereby a pharmacist could dispense long prescriptions in instalments.</td>
</tr>
<tr>
<td>Repeat prescription</td>
<td>Officially defined as a prescription issued without a consultation. A broader definition is a second or subsequent prescription of a drug for treatment of a stable chronic condition requiring long term medication.</td>
</tr>
<tr>
<td>RPS</td>
<td>Royal Pharmaceutical Society of Great Britain: Professional body and statutory registration authority for pharmacists, which also enforces legislation on supply of medicines to the public.</td>
</tr>
<tr>
<td>Rx</td>
<td>Medical shorthand for prescription (from the Latin 'recipe').</td>
</tr>
<tr>
<td>s/c</td>
<td>Sugar coated</td>
</tr>
<tr>
<td><strong>Side effect</strong></td>
<td><strong>Unplanned (and usually undesirable) additional effect of a drug on an individual patient.</strong></td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>SMAC</strong></td>
<td><strong>Standing Medical Advisory Committee.</strong></td>
</tr>
<tr>
<td><strong>SMR</strong></td>
<td><strong>Standard mortality ratio – Age weighted index of actual versus expected death rates.</strong></td>
</tr>
<tr>
<td><strong>Soft factors</strong></td>
<td><strong>Local knowledge used to adjust IPAs calculated using specified formulae.</strong></td>
</tr>
<tr>
<td><strong>SPAC</strong></td>
<td><strong>Standing Pharmaceutical Advisory Committee.</strong></td>
</tr>
<tr>
<td><strong>s/r</strong></td>
<td><strong>Sustained release — modified release formulation of a drug which releases its chemical ingredients gradually, enabling it to be taken less frequently, eg once a day.</strong></td>
</tr>
<tr>
<td><strong>SSRI</strong></td>
<td><strong>Selected Seratonin Re-uptake Inhibitor – Class of Antidepressant drugs.</strong></td>
</tr>
<tr>
<td><strong>Stepped care</strong></td>
<td><strong>A planned sequence of progressively stronger treatments (or drugs) through which patients are moved if their condition fails to respond (as opposed to prescribing the most powerful, or expensive treatment straight away).</strong></td>
</tr>
<tr>
<td><strong>t.d.s.</strong></td>
<td><strong>Three times a day (ter die sumendus).</strong></td>
</tr>
<tr>
<td><strong>Temporary resident</strong></td>
<td><strong>Patient treated while away from home by a doctor from a practice other (TR) than that of the GP with which he is registered.</strong></td>
</tr>
<tr>
<td><strong>Therapeutic index</strong></td>
<td><strong>A benefit-risk ratio: the dose of the drug estimated to be effective of a drug for 50% of patients in a particular condition divided by the dose that would have a toxic effect on 50% of the patients in that condition.</strong></td>
</tr>
<tr>
<td><strong>Training practice</strong></td>
<td><strong>Practice offering training (typically a 6 month stretch) to doctors who wish to enter general practice.</strong></td>
</tr>
<tr>
<td><strong>TTOs</strong></td>
<td><strong>‘To take out’ prescriptions given to hospital patients on discharge.</strong></td>
</tr>
<tr>
<td><strong>Uplift factor</strong></td>
<td><strong>Nationally determined percentage increase, taking account of projected increases in prices, prescription volumes, the changing mix of drugs and affordability, used by FHSAs, RHAs and DoH to project baseline prescribing expenditure needs for the forthcoming year.</strong></td>
</tr>
<tr>
<td><strong>Weighted capitation</strong></td>
<td><strong>The prescribing expenditure needed by a practice based on ASTRO PUs Benchmarks (calculated from its list size and age/sex distribution), average historic regional spend per patient and uplift factors. Used by FHSAs, together with historic spend data, to set IPAs.</strong></td>
</tr>
<tr>
<td><strong>YellowForm</strong></td>
<td><strong>Form used by GPs to report suspected ADRs to the CSM.</strong></td>
</tr>
</tbody>
</table>