# Duplicate prescriptions: an aid to research and review

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SUMMARY. We describe a method of studying patterns of prescribing and related morbidity in general practice. Prescribing data were automatically duplicated onto a 'no-carbon-required' prescription-pad. Additional information about diagnosis and indications for each drug, an indication of whether the drug was newly prescribed or a repeat, and a patient identification code were entered onto the bottom copy. A computer was used to process the data, which were gathered over a period of seven months.

The method offers an efficient means of collecting data which can be applied by individuals or groups of doctors to improve patient care and help achieve rational prescribing.

## Introduction

PRESCRIBING is of particular interest to researchers because it is an aspect of the doctor/patient relationship which is easily quantified. It has been studied from economic, sociological, behavioural and therapeutic angles (Taylor, 1977). However, most studies of prescribing have considered it in isolation, because it is difficult to collect precise clinical indications for drug use.

## Aims

Our project was designed to develop and test a method which could be used to study age- and sex-linked patterns of prescribing and morbidity in general practice.

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## Method

With the permission of the Scottish Home and Health Department, a special prescription pad, consisting of EC 10s (Scotland) and NCR duplicate sheets, was developed and used to record all relevant data. Instructions on using these pads were printed on cardboard inserts attached to the pads by flexible binders. (See Figure 1.)

Details of all drugs prescribed (dose, quantity and so on), the prescription date and the name of the prescriber were automatically duplicated when the original prescription was written. Each prescriber also wrote on the duplicate the following information:

1. A patient identification code consisting of 12 characters and constructed as in Figure 1. Once the patient's identity code had been added, the name and address could be cut from the top of the duplicate sheet to ensure confidentiality.

2. Clinical indication (diagnosis where possible) for each drug prescribed.

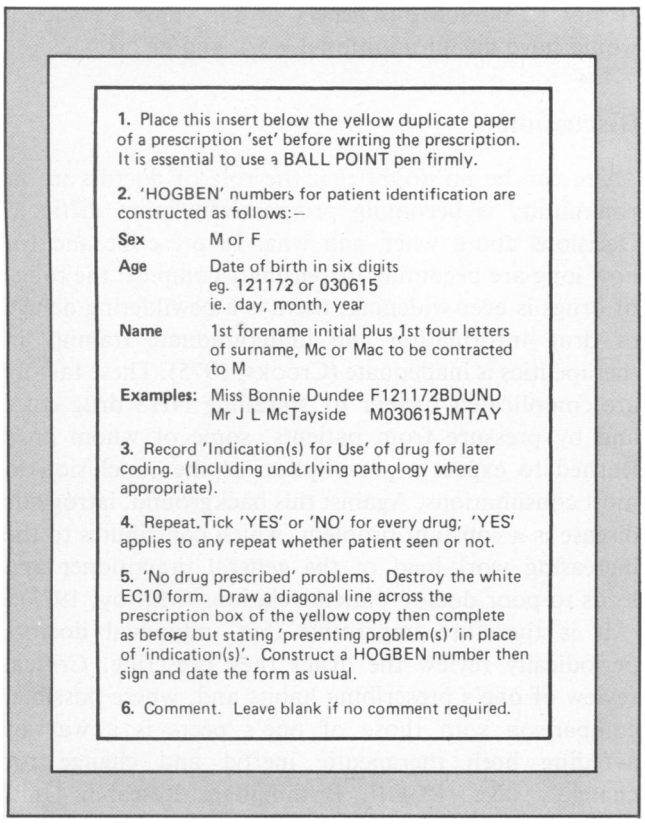
3. Whether or not each drug had been prescribed as a repeat.

There was also space on the form for details of pregnancy to be included where relevant.

Clinical indications were coded by the practice receptionists using the International Classification of Health Problems of Primary Care (Royal College of General Practitioners, 1976). Drugs were coded centrally using the DHSS Drug Master Index. A Burroughs B5700 computer was used for processing the data.

### *The pilot study*

A one-month pilot study, involving seven general practitioners recruited by the Scottish General Practitioner Research Support Unit, was carried out in February



1. Place this insert below the yellow duplicate paper of a prescription 'set' before writing the prescription. It is essential to use a BALL POINT pen firmly.

2. 'HOGBEN' numbers for patient identification are constructed as follows:–

| | |
|---|---|
| **Sex** | M or F |
| **Age** | Date of birth in six digits eg. 121172 or 030615 ie. day, month, year |
| **Name** | 1st forename initial plus 1st four letters of surname, Mc or Mac to be contracted to M |
| **Examples:** | Miss Bonnie Dundee F121172BDUND<br>Mr J L McTayside M030615JMTAY |

3. Record 'Indication(s) for Use' of drug for later coding. (Including underlying pathology where appropriate).

4. Repeat. Tick 'YES' or 'NO' for every drug; 'YES' applies to any repeat whether patient seen or not.

5. 'No drug prescribed' problems. Destroy the white EC10 form. Draw a diagonal line across the prescription box of the yellow copy then complete as before but stating 'presenting problem(s)' in place of 'indication(s)'. Construct a HOGBEN number then sign and date the form as usual.

6. Comment. Leave blank if no comment required.

**Figure 1.** *Instructions on using the duplicate pads.*

1976. An influenza-like illness was prevalent in the area at this time, so that the system was tried out under the stresses of high work-load.

During the month, 4,437 prescribed items were recorded. The following observations resulted from the trial.

1. The majority of participants felt that recording in this way involved extra work and would be feasible only for limited periods.

2. Writing out indications for newly prescribed drugs posed few problems, but it was sometimes difficult to recall the indications in relation to repeat prescriptions.

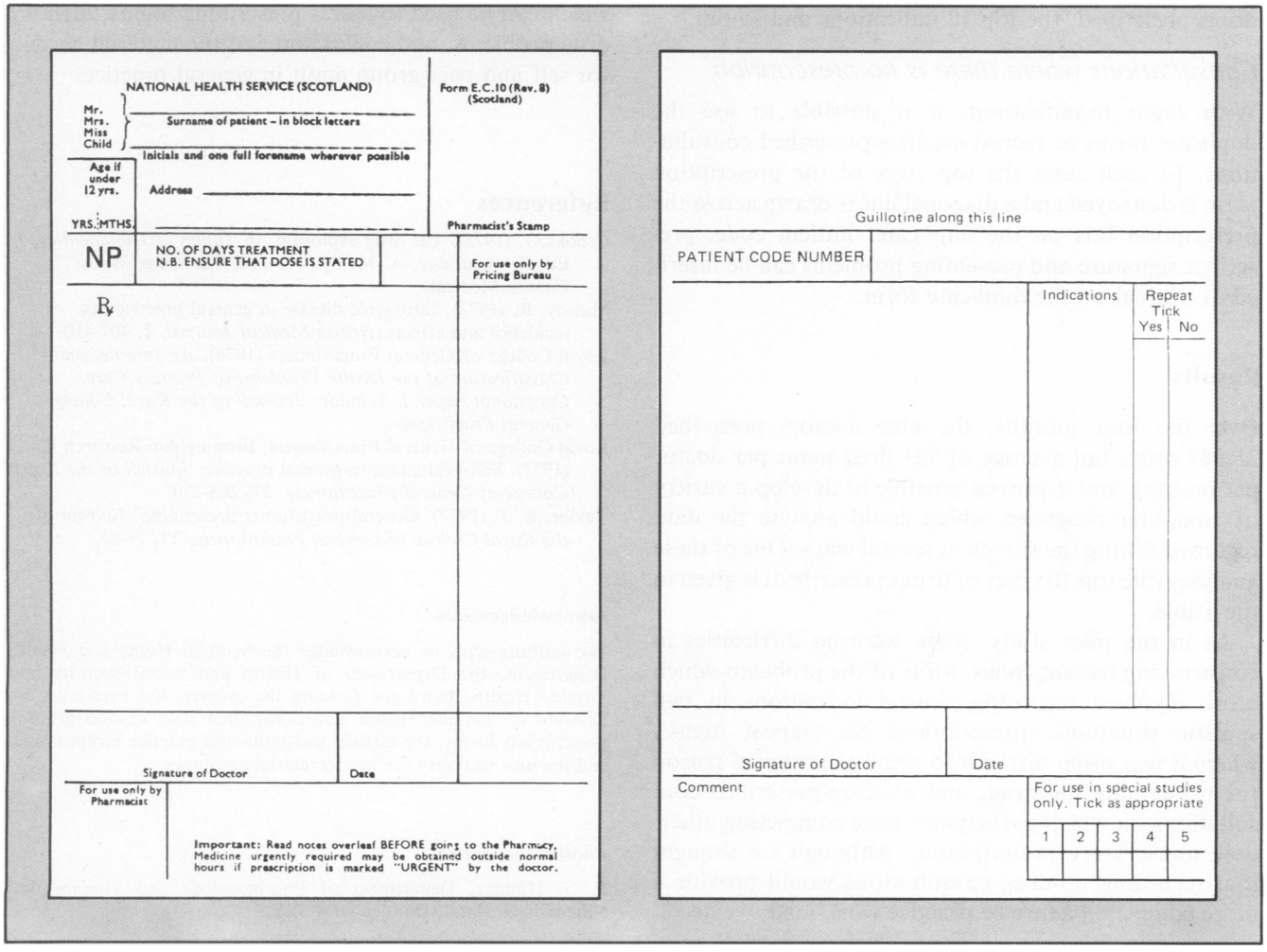
3. It was too time-consuming for receptionists to code the clinical indications; in retrospect we felt that this task was better suited to trained staff working centrally.

As a result of the pilot study the prescription pad was slightly modified: five 'special project' boxes replaced the 'pregnancy boxes' at the foot of the copy prescription. These were incorporated so that participants could carry out research projects distinct from the main study. (See Figure 2.)

### *The main study*

Using these modified forms, nine general practitioners carried out seven months' active recording in 1978,

**Figure 2.** *The two parts of the 'no-carbon-required' duplicate prescription pad.*



NATIONAL HEALTH SERVICE (SCOTLAND)

Form E.C.10 (Rev. 8) (Scotland)

Mr. Mrs. Miss Child — Surname of patient – in block letters

Initials and one full forename wherever possible

Age if under 12 yrs. YRS. MTHS.

Address

Pharmacist's Stamp

NP — NO. OF DAYS TREATMENT N.B. ENSURE THAT DOSE IS STATED

For use only by Pricing Bureau

℞

Signature of Doctor — Date

For use only by Pharmacist

Important: Read notes overleaf BEFORE going to the Pharmacy. Medicine urgently required may be obtained outside normal hours if prescription is marked "URGENT" by the doctor.

Guillotine along this line

PATIENT CODE NUMBER

Indications — Repeat Tick Yes | No

Signature of Doctor — Date

Comment

For use in special studies only. Tick as appropriate

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| | | | | |

The top 10 therapeutic classes of drugs.

| Class | Percentage of all prescriptions |
|---|---|
| Sedatives and tranquillizers | *6.32* |
| Diuretics | *6.12* |
| Hypnotics | *5.61* |
| Preparations for topical use in skin conditions | *5.54* |
| Analgesics (minor) | *5.31* |
| Penicillins | *5.01* |
| Expectorants and cough suppressants | *4.86* |
| Preparations acting on the heart | *3.96* |
| Non-steroidal anti-inflammatory drugs | *3.62* |
| Preparations for treatment of asthma | *3.45* |
| Total | *49.80* |

using the duplicate pad for each prescription. Completed copy prescriptions were sent weekly for centralized coding of drugs and diagnoses. At this point, individual forms were checked for completeness; incomplete forms or those requiring clarification of diagnoses were referred back to the prescribers.

With the aid of the computer, prescribing and morbidity data were analysed in a number of ways: diagnostic and therapeutic indices of prescribing, age/sex distributions of patients receiving specific groups of drugs, patient drug and disease profiles, the top 10 drugs prescribed, the top 10 indications and so on.

### *Consultations where there is no prescription*

With slight modification, it is possible to use the duplicate forms to record no-drug-prescribed consultations. In such cases the top copy of the prescription form is destroyed and a diagonal line is drawn across the prescription box on the duplicate. Patient code, prescriber signature and presenting problems can be inserted as normal on the duplicate form.

## Results

Over the four months, the nine doctors prescribed 25,987 drugs (an average of 721 drug items per doctor per month), and it proved possible to develop a variety of computer programs which could analyse the data recorded during the survey in several ways. One of these analyses (the top 10 types of drugs prescribed) is given in the Table.

As in the pilot study, there were no difficulties in constructing patient codes. Most of the problems which arose involved recording clinical indications in two specific situations: prescriptions for 'repeat items', where it was often difficult to recall the original reason for prescribing the drug, and no-drug-prescribed consultations, in which participants were completing otherwise unnecessary prescriptions. Although we thought that recording no-drug consultations would provide a more complete picture of practice work-load, we decided not to pursue this aspect of the study because it would have meant additional work and effort.

## Discussion

There can be no doubt that the role of doctors in the community is becoming progressively more difficult. Decisions about when and what to prescribe and for how long are becoming increasingly complex: the range of drugs is ever-widening, there is a bewildering deluge of drug information and undergraduate training in therapeutics is inadequate (Crooks, 1975). These factors are complicated further by spiralling NHS drug costs and by pressure from patients, some of whom have learned to expect a prescription as the conclusion to most consultations. Against this background, iatrogenic disease is a constant problem, which contributes to the increasing work-load of the general practitioner and leads to poor doctor-patient relations (Mulroy, 1973).

It is therefore imperative that individual doctors periodically review the drugs they prescribe. Critical review of one's prescribing habits and, where possible, comparison with those of one's peers is a way of avoiding both therapeutic inertia and change for change's sake (RCGP, Birmingham Research Unit, 1977).

The duplicate prescription pad, incorporating age, sex and morbidity statistics, gives the doctor a tool which can be used to assess prescribing habits, identify drug problems, and collect some of the material needed for self and peer group audit in general practice.

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