The Introduction of a Practice Formulary in a Military General Practice

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SUMMARY: Over a 15 month period, all the scripts written by doctors in the Episkopi Garrison Medical Centre, Cyprus, were analysed. A formulary was produced by using the most popular items in that 15 month period and tested in a one month trial period. The idea was to find a practical and efficient method of producing a 'basic' formulary to which items could be added or removed after discussion with colleagues.

Introduction

Practice formularies have been the subject of much research and various methods of compilation have been suggested^(1,2,3). In these days of greater awareness of drug costs and according to information from the Ministry of Defence (MOD) the medical equipment vote was £1.21m overspent, pharmaceuticals forming the largest single expenditure group, it was decided to look at a way to produce a practice formulary for a military general practice. There are several different ways to produce a list of approved drugs:

a. Work through MIMS/BNF listing those preparations that were prescribed and sorting them into single groups. This is a systematic method which ensures that no drug group is left out of the formulary, allows for immediate comparisons of prices but is time consuming and so needs real enthusiasm in all the practice's GPs.

b. Compile a list of common general practice conditions and after discussion with colleagues decide on a drug rationale for each condition. This ensures that common conditions pertaining to individual practices are covered by the formulary and that protocols for these conditions are reviewed. It is useful as an educational tool in that it encourages existing drug rationales to be defended against critical appraisal.

c. Monitor prescriptions for a defined period and then use this information to produce a list of preparations for each category of illness. This method uses information gained from the practice and so any subsequent formulary should be more relevant to local circumstances. It may hinder wider review of possible therapeutic options previously unused by that group of GPs. It is also a very labour intensive operation if not aided by computerisation.

The aim of most formularies in general practice is not to produce a strict list of drugs to be used but to try and produce a list of approved drugs which will provide treatment for 90% of general practice patients. This ensures a certain degree of preservation of clinical freedom. The defence budget is under constant review and if it is to be kept within cash limits a certain limitation in prescribing needs to be exercised by the Defence Medical Services. This limitation is best done by general practitioners for general practitioners on a local basis to meet local needs and expertise.

One of the problems of military general practice is that postings are of a limited duration (2-4 years) so that any formulary needs to be quickly produced and dynamic to accommodate the changes in colleagues.

In the UK there are about 17000 drug entities and drug forms available to each general practitioner. As the military limited list is much less restrictive than its NHS counterpart the range of requests to medical stores for preparations can be quite wide. It is the issuing doctor's responsibility to ensure that prescriptions are economically as well as clinically suitable. Norway manages with a list of 800 specific chemical entities comprising 1100 proprietary names and 1900 formulations. Perhaps the Defence Medical Service could do the same.

In overseas postings, a lot of our patients have no access to the advice of retail pharmacists and so rely on their medical centres to provide many over-the-counter medicines. This adds greatly to the drug bill.

Method

All the scripts written by doctors in the practice between April 1987 and June 1988 (15 months) were collected and analysed to determine the drug name used, number of generic prescriptions, number of 'prescription only medicines' and therapeutic categories. Access was available to the original prescriptions as they were kept until 18 months after dispensing by the practice pharmacy.

It was felt that this would produce a list of drugs which individual GPs were actually using rather than those they thought they should or might use to treat the common ailments presenting in the surgery. This analysis had to be done by hand, a laborious task, as the Defence Medical Services do not have the benefit of information which is available to our civilian colleagues from the Prescription Pricing Authority.

The initial practice formulary comprised all the drugs that had generated more than 10 scripts in the 15 month period. This list was given to all three GPs with instructions to stick as closely to it as possible in the test month (December 1988). Subsequently all scripts written in that month were examined to determine whether the prescribed drugs were included in the

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formulary. The formulary was then modified accordingly. All three GPs reviewed the need for each drug included in the formulary, deleting some and adding others after discussion of individual experience and preference. This process was planned to be repeated every six months to ensure that the formulary was a dynamic project responsive to local changes.

Results

In the 15 month period of script analysis, 5250 scripts were written containing 7173 pharmaceutical items. This worked out at a monthly average of 350 scripts. Four hundred and thirty six different drug names were used, of which 135 (30.96%) were written in the generic form. Two hundred and seventy nine (63.99%) of these drugs were found to be prescription only medicines (POM) and 25 (5.73%) were available in UK at NHS expense. There was no separate analysis of prescriptions written for servicemen against those written for their families. The practice profile showed the majority of our patients were aged under 30 years. This was reflected in the absence of cardiac and psychotropic medications from our list of 5 most used therapeutic categories.

The Garrison Medical Centre (GMC) used 231 of the 958 pharmaceutical items which either had an individual annual expenditure of £10000 or were part of scales, kits or outfits according to Ministry of Defence information on pharmaceutical expenditure in 1987/88. The GMC also used 27 of the top 50 most prescribed pharmaceutical products on the Defence Medical Services List. It should also be noted that 6 of the top 50 are vaccines which would not generate a script in the GMC as details are entered directly onto personal medical documentation, 6 are infusion fluids, 5 anaesthetic items and one 'consultant only' drug. Removing these items from the list meant that 27 of the remaining 32 items were used at some time in the trial period at the GMC.

When the list of the five most prescribed therapeutic categories is compared with the ten most prescribed preparations there appears to be a lack of concordance in that 'infections & infestations' is the most prescribed therapeutic category but three out of the four most prescribed drug preparations were non steroidal anti-inflammatory drugs (NSAIDs). This can be explained if the arbitrary division of the therapeutic categories of 'pain' and 'musculo-skeletal disorders' is removed so that combined they become the principal category in the GMC practice.

In the trial month of the initial formulary 309 scripts were written (cf Dec 87–295, monthly average – 305) including 387 items; 130 drug formulations were used of which 90 (69%) were in the initial formulary. Out of the total of 387 items prescribed, 321 (82.9%) appeared in the formulary and 89 (63.6%) of the 140 initial formulary preparations were used. Discussion between the GPs on the viability of the first formulary led to 16

formulations being deleted and 24 formulations being added to make the second GMC formulary.

Discussion

A restricted list of drugs available for prescribing is not a new idea. The NHS introduced their Limited List on 1 April 1985 against a background of protest about clinical freedom, but it does seem to have helped control the drugs bill. It seems sensible that military GPs should start producing formularies to cover their local conditions and needs rather than to have a system imposed upon them as part of a cost reducing exercise. It has been shown that systems produced locally by GPs for themselves are followed more closely than lists that are imposed from outside(4). There is a lot to be said for the educational element of reviewing one's own prescribing, defending it against colleagues' criticism and then producing a formulary to suit everyone. This should ensure safer and more rational prescribing. It is also easier to become acquainted with the side effects and contra-indication of a smaller group of drugs. Military general practice is not directly comparable to that in the NHS for a number of reasons, the main ones being that the age range of the patients is narrower, there is a high proportion of sportsmen and women, little chronic disease, no geriatrics and abroad over-the-counter preparations are unobtainable or available on a limited basis only through NAAFI. The difference in emphasis is reflected in the classes of drugs in the top ten most prescribed drug preparations (Table 1). The list is composed of antibiotics, analgesics and NSAIDs which reflects the common consultations that are seen in military primary care such as injuries and infections, and the absence of hypnotics may reflect the greater length of time available for counselling and the more recent trend in not resorting to this group of drugs to solve psychosocial problems. The list of the top ten most prescribed therapeutic categories (Table 2) indicates the younger age range found in this practice in that a lot of consultations were for childhood infections, injuries from training or recreational sport and infections acquired as a result of living in a closed community.

In an ideal world all doctors would use generic nomenclature when prescribing medication. In this study it was found that the practice wrote 31% of drugs in their generic form which is comparable with NHS GPs in England and Wales who in the year ending February 1987 wrote 36% of their scripts in the generic form(5). Although a move towards generic prescribing should lower costs by allowing only one formulation to be stocked, in overseas practices there tend to be fewer formulations stocked so that the choice is naturally constrained. Generic names often indicate which chemical class the drug belongs to, and thus may help the GP, but brand names are often simpler both for medical assistants to use whilst dispensing, so reducing the chances of mistakes, and for patients to remember.

Table 1
Top Ten Most Prescribed Drug Preparations in the GMC
Apr 87–Jun 88

1. Naproxen (Naprosyn)	443 scripts
2. Ibuprofen (Brufen)	271
3. Amoxycillin (Amoxil)	217
4. Mefenamic Acid (Ponstan)	217
5. Amoxycillin (Amoxil) paediatric elixir	185
6. Soluble aspirin	170
7. Paracetamol tablets	161
8. Distalgesic	183
9. Flucloxacillin 250mg tablets	122
10. Penicillin V 250mg tablets	115

Table 2
Top Five Most Prescribed Therapeutic Categories in the
15 month trial period

1. Infections & infestations	1376 scripts (19.2%)
2. Pain	1230 (17.1%)
3. Musculo-skeletal disorders	885 (12.3%)
4. Skin	878 (12.2%)
5. Ear, Nose & Throat	626 (8.7%)

Patients often stay with each military practice for 2–3 years at a time and therefore often arrive on long term medication started elsewhere. This is not necessarily changed as the formulary should allow for variations to cover long term medication, hospital initiated medication and individual clinical freedom in particular cases. Eighty three per cent of the items that were prescribed in the test month were in the first formulary and the aim was to move towards 90% usage in the second and subsequent formularies.

Analysis of prescriptions, although a painstaking and laborious task is an ideal vocational training project which, while primarily educational, may also leave a lasting impact on the training practice.

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