

Activities to improve hospital prescribing

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SYNOPSIS

Prescribing restrictions can effectively control drug use, but can also shift practice in unforeseen ways. Doctors must therefore be involved in any interventions to change their prescribing. Multifaceted interventions aimed at the barriers preventing good prescribing probably have the greatest chance of success. Interactive educational meetings are more influential than didactic meetings and one-to-one educational outreach visits are consistently effective. The implementation of guidelines should be supported with strategies such as systematic audit and feedback, active educational measures and mechanisms to ensure they are accessible at the point of prescribing.

Index words: drug information, drug utilisation, intervention studies.

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Introduction

While most prescribing occurs in the community, the quality use of medicines in hospitals should not be neglected. Doctors learn to prescribe in hospitals, and this has a great bearing on how they prescribe thereafter. Our major teaching hospitals care for the most complex patients, but their immediate therapeutic care is managed by our least experienced prescribers, albeit under the supervision of experienced clinicians. In contrast to community prescribing, there is little information available on drug use in hospitals due to a lack of co-ordination and poorly developed information systems. However, many detailed evaluations have shown that there are prescribing problems in Australian hospitals¹, for example, the overuse of cephalosporins (see page 32).

Characteristics of the drug use environment

Poor prescribing is not simply due to a lack of access to drug information or training of the prescriber.² A complex array of factors impact on prescribing and since therapeutic decision-making is loaded with uncertainties, the environment in which prescribing occurs has a powerful influence. Time pressures on the prescriber are great, resulting in hasty decision-making. Resources are limited, defining the boundaries of care and forcing priorities to be made. Prescribers have expectations of a drug's efficacy and adverse effects moulded by experience, peers and advertising, but these expectations may not be consistent with the evidence. Patients have expectations that cannot always be met, however, every patient has the right to

understand treatment options and participate in decisions about what will happen to them. Commercial incentives are a reality and drive the pharmaceutical industry, which in turn is driving developments in health care.

Improving drug use

Improving drug use is not easy. Presenting prescribers with research and evidence, or identifying a problem rarely changes practice. However, there is a range of interventions that can be effective in changing prescribing but their success is dependent on the setting in which they are applied.^{3,4} Multifaceted interventions aimed at the different barriers to change probably have the greatest chance of improving drug use although they are relatively expensive and can require repetition to maintain their impact, especially if there is a high turnover of staff (see example 1).

Example 1. Educational marketing and outreach

In one example, marketing techniques and educational outreach (academic detailing) were used to improve surgical antibiotic prophylaxis. The prescribers were visited by a pharmacist who explained the campaign, which involved posters, lectures and videotapes. As a result, prescribing in the six hospitals involved in the campaign improved significantly more than in six control hospitals.⁵

Education

Ideally medical students should be educated in the principles of good prescribing before they enter the hospital. On the wards, these principles should be reinforced with bedside teaching and examinations. The quality use of medicines needs to be recognised as an important part of medical education and intern training programs.

Junior medical staff make most of the prescribing decisions in hospitals and young interns prescribe largely by following the instructions of more senior residents and consultants.⁶ Educational activities should be tailored to the different levels of therapeutic decision-making in teaching hospitals.

While they may be useful to disseminate information, didactic educational meetings such as lectures, alone, have little or no effect on practice.⁷ The impact of training and education seems to be increased by:

- using interactive meetings (e.g. group problem solving, role playing, workshops)
- repeated sessions

- focusing on one clinical problem at a time
- training and practice at the work site
- using detailers and opinion leaders.

Opinion leaders are those who are named by their peers as trusted sources of information. The concept has been extensively utilised by the pharmaceutical industry for product promotion. When used to promote good practice, the impact of opinion leaders is variable and their role is not always clear.⁸ In hospitals, in contrast to general practice, it can be relatively easy to identify opinion leaders and recruit them into campaigns. There will be problems if they have not been involved or if their opinion is inconsistent with campaign messages.

Academic detailing (educational outreach)

Face-to-face educational visits by trained personnel with individual health practitioners are consistently shown to be effective in changing behaviour and prescribing practice.⁹ An economical and sustainable approach may be to train hospital staff to deliver the detailing during the course of their usual activities. In hospitals junior clinicians are important recipients of detailing but are sometimes overlooked (see example 1).

Feedback

Feedback provides clinicians with information comparing their practices or patient outcomes with other clinicians' or an external standard (e.g. a practice guideline). Feedback is successful when it is immediate, specific, able to identify those to whom it is directed, and when the desired change in behaviour or response is clear and unambiguous.⁹ In hospitals, there is an excellent opportunity to combine the methods of educational outreach with audit and feedback to deliver concurrent prescriber feedback, a potentially powerful intervention method. This process uses the power of the face-to-face encounter of educational outreach, and also provides information to the prescriber on their management of specific cases¹⁰ (see example 2).

Example 2. Concurrent prescriber feedback

Immediate feedback has been used to improve antibiotic prescribing. Following an educational program, prescribers were alerted within 24 hours if they had prescribed an unnecessary intravenous antibiotic. This rapid feedback resulted in significantly greater use of oral antibiotics.¹⁰

Guidelines

In general, effective implementation of guidelines requires support with strategies such as systematic audit and feedback and active educational measures.^{3,4} Guidelines should take account of local circumstances and local consensus processes can be important. However, this must be matched with a sustainable and regular production process so the guidelines remain current. That may not be possible for guidelines at the local level.

Dissemination of guidelines alone is unlikely to lead to behaviour change. However, they may have a lasting impact when the target audience is already particularly receptive to change and the message is timely and delivered by a credible

source in a clinically relevant way¹¹ (see example 3). Dissemination activities by themselves are also unlikely to lead to behaviour change, but raising awareness of the messages underpinning proposed changes is still important.⁴

Example 3. Guidelines, audit and feedback

In one example, prescribers were issued with guidelines after an audit of their anticoagulant prescribing. This intervention, coupled with a new order form for heparin prescriptions, increased the time the patients were in the therapeutic range and reduced the delay in starting warfarin therapy.¹²

For guidelines to be effective they need to be accessible at the time a decision is being made. In hospitals, pocket-sized materials have enjoyed some success. State departments of health are providing access to health information via web portals. However, computers are generally not yet at the patient bedside where most therapeutic decisions are made and there is limited access elsewhere in the hospital. Unfortunately, computerised prescribing developments in Australian public hospitals have lagged behind general practice. Frustrated clinicians are buying hand-held computers to access clinical information. We need to tap into this emerging phenomenon and evaluate its impact on practice.

'Computerised prescribing developments in Australian public hospitals have lagged behind general practice'

Routine reminders, forms and required consultations

Manual or computerised prompts to perform a specific clinical action are effective.⁴ Simple interventions such as altering order forms to reflect preferred dosing intervals for antibiotics have been successful in improving use. Many hospitals limit the use of particular drugs until a nominated senior clinician has been consulted, however this can be onerous. Prescribing restrictions are a proven measure for controlling antibiotic use, but can shift practice in unforeseen ways and require efficient systems and a supportive framework to function smoothly.⁴ Even without computer-based prescribing, interactive web modules could be developed as an alternative means to implement prescribing restrictions.

Sustainability of interventions to improve prescribing

A single round of interventions does not generally achieve a sustained impact on practice. The impact of co-ordinated educational and persuasive interventions such as the dissemination of printed guidelines, supported with promotional campaigning and academic detailing, may be expected to last up to 12 months (see example 1). By that time, staff turnover, other campaigns, pharmaceutical product promotion and fading memories will cause a shift in priorities and practice

behaviour, and a loss of motivation. Interventions that change the process of drug use and decision making (such as the use of forms, prescribing restrictions, routine reminders and decision support systems) should have a more sustained impact, but even these require resources to maintain and update.

Quality improvement, drug usage evaluation, and drug and therapeutic committees

Given the number, range and persistence of drug use problems, there is a compelling case for the support and development of programs that are dedicated to improving the quality use of medicines. Drug usage evaluation programs¹³ identify, observe and explain patterns of practice then implement activities to improve drug use, and then verify the effects of interventions. To work, these programs need clinicians' involvement, individual practitioner feedback and a supportive organisational culture, in particular an authoritative and credible drug and therapeutics committee.

In current hospital administration structures, the committee is ideal for overseeing drug usage evaluation as well as being a major stimulus to improve the quality use of medicines.¹⁴ Most hospitals with a pharmacy service have a committee, but its role may be more oriented towards regulatory rather than improvement activities and it may lack broad and credible representation from clinicians. Prescribers must be engaged in any process aimed at changing their prescribing, to reduce the perception of outsider interference and challenges which threaten professional judgements, decision-making and patient care.¹⁵

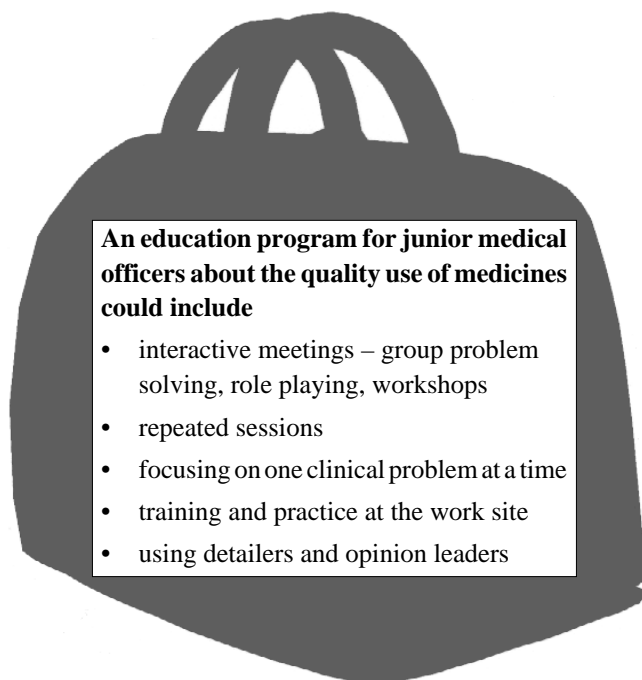
Conclusion

To encourage the quality use of medicines, prescribers need to be aware of the issues and believe or be persuaded, that they are important. Prescribers need to know what to do, and have confidence and familiarity in doing the right thing. They need to be able to recognise when they have to act, and how they should act. The system should make doing the right thing easy.

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An education program for junior medical officers about the quality use of medicines could include

- interactive meetings – group problem solving, role playing, workshops
- repeated sessions
- focusing on one clinical problem at a time
- training and practice at the work site
- using detailers and opinion leaders

Therapeutic Guidelines: Antibiotic Version 11, 2000

The new version of Therapeutic Guidelines: Antibiotic has been published.

It includes information covering more than 300 common infections, arranged in clearly titled chapters and sections. Recommendations for antimicrobial therapy – the main feature of the text – are outlined in chapters covering infections of the various systems. These include the respiratory tract, urinary tract, skin, genital tract, eyes, central nervous system, cardiovascular system and gastrointestinal tract.

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