

# Helping to avoid hospital admissions

Various initiatives, supported by the National Prescribing Centre's medicines management collaborative programmes, are seeking to address how better medicines management can help avoid hospital admissions. **Zoë Gross** reports on three of them

**A** number of initiatives and pilot sites have been set up in hospitals and primary care trusts across England to address how better medicines management can help reduce the number of medicines-related hospital admissions. The initiatives are supported by the National Prescribing Centre (NPC) medicines management team and are mainly aimed at patients at high risk of readmission. It is known from the national service framework document "Medicines and older people" that problems with medicines are implicated in between 5 and 17 per cent of hospital admissions. In vulnerable groups, such as people over 75 years of age, the number may be even higher.

According to Richard Seal, director of medicines management, NPC: "Better medicines management in both primary and secondary care can help reduce the number of people admitted to hospital as a result of a problem related to their medicines". Although it is sometimes difficult to attribute an admission to medicines, the primary reason may be medicines-related, he says. For example, a patient fractures a hip as a result of a fall that was precipitated by the drugs being taken.

Mr Seal also points out that people are not only "admitted to hospital as a result of medicines-related problems but they are also readmitted." Patients spend a few days in hospital, their "medicines are perhaps not sorted out in a way that would be best for them and they end up coming back shortly after discharge," he explained. This has a knock-on effect on blocking beds and access to services. However, in terms of the initiatives that are under way in cooperation with the medicines management collaboratives to improve the situation, Mr Seal added: "What will surprise some, perhaps, is the amount of good work that is already going into making sure that these vulnerable people do not end up being readmitted again and again for similar problems."

Elizabeth Witherington, a doctor at Nottingham City Hospital, has been working alongside pharmacist Emma Grace, in collaboration with the Hospital Medicines Management Collaborative (HMMC), to try to reduce the chance of patients over 75 years

of age being readmitted to hospital after discharge because of medication issues. Dr Witherington said that the readmission audits she has been involved in showed that patients were running into problems with their medicines within four days of discharge.

### Better records

The audits carried out so far at Nottingham City Hospital show that at every step of the admissions and discharge process, health care professionals are making assumptions about patients' medicines (eg, when reviewing drug histories or writing a TTO). This results in opportunities for error not only during the patient's stay but also when the patient goes home. Dr Witherington said that better ways of recording medication changes as people go through their hospital stay are needed so that it is easier to compile on discharge an accurate record of which medicines have been started or stopped. She encourages TTO forms to be thought of as "a referral to primary care" rather than a record of a patient's stay.

In addition, discharge information should include base line parameters. For example, for patients taking antihypertensives, blood pressure readings before discharge should be included so that GPs can continue to monitor the patient appropriately.

Another problem is that TTO forms could "be processed in GP practices by receptionists who have little or no knowledge of drugs" and are unaware of medicines being stopped or doses changed, she said. Other medicines management issues that need addressing include medication compliance — found in one audit to be a contributory factor in 12 out of 41 readmissions — and identifying on admission whether or not people are taking over the counter products such as herbal medicines.

At George Elliot Hospital NHS Trust, Warwickshire, a patient's own drugs (PODs) scheme is running on five wards. Patients are being encouraged to bring their own medicines into hospital and the use of a green bag is being promoted to help them. Bags are available free on hospital wards and from the

trust's pharmacy and accident and emergencies departments, in local ambulances, nursing homes and shelters, local Age Concern shops and social services. According to Melanie Liggins, HMMC project facilitator for the trust, the bags help achieve proper drug history taking on admission, which is one way hoped to avoid readmissions.

Another aim at George Elliot Hospital NHS Trust has been to increase patients' knowledge about their discharge medicines. Thirty patients were followed up at home one month after discharge to assess how much knowledge they retained about their medicines. According to Mrs Liggins, the audit identified that patients are not told much about their medicines when they leave hospital, unless they are on a PODs scheme ward. To help rectify this, a medicines information card, which is completed by a pharmacist or pharmacy technician when counselling patients on discharge, has been piloted on these wards.

Redditch and Bromsgrove Primary Care Trust has been working with vulnerable patients to enable them to take their medicines appropriately and to understand them better. Such patients are identified just before discharge from the local community hospital by an acute trust pharmacist, a PCT pharmacist or a pharmacy technician. Post-discharge, a medication review may be undertaken by the PCT pharmacist. If a compliance aid, such as a medicines reminder chart or medicines dosage system, is required, the patient is admitted onto a vulnerable patients' scheme whereby a community pharmacist of the patient's choice is asked to take over his or her pharmaceutical care. An audit carried out at the end of last year showed that interventions were made for 91 out of the 111 referrals to the scheme. Sue Bosworth, the PCT medicines management project and development manager, told *The Journal* that through this scheme hospital medicines-related readmissions have been prevented. It has enabled health professionals to work in partnership with patients, which helps reduce the risk of problems with patients' medicines, Ms Bosworth added.

# Prescribing for hypertension and more

Mohammed Ahmed, a prescribing practitioner at Doncaster West Primary Care Trust, shares his experiences of supplementary prescribing

Years of frustration with not being able to prescribe dissolved with the news that pharmacists were to be allowed to become supplementary prescribers. Before this, my medical colleagues would almost always follow my recommendations (I worked as a practice pharmacist) but I could not implement them myself. Comments like "Mohammed, you know drugs more than me" were common.

In March 2004, after training at the University of Bradford, I became one of the first supplementary prescribers. Once I registered with the Royal Pharmaceutical Society, and notified the Prescription Pricing Authority, my primary care trust (and its print department, in order to get my prescription pads), I was keen to put my skills into practice. I am lucky to work at a forward-thinking surgery (where I did some of my training) which, once I had my qualification, promptly took the opportunity to set up a supplementary prescribing hypertension clinic. I started with a weekly two-hour clinic with 15-minute appointments and saw my first patient in May 2004. Fortunately I received my prescription pad the same day.

## Hypertension clinic

My PCT had the vision of a single centralised computer system and funded the EMIS PCS system in all its surgeries. This allows a paperless system. Clinical management plans (CMPs) are electronic and can be easily produced because there is no requirement for a physical signature from either the independent or supplementary prescriber as long as the agreement is recorded on the patient's record. A CMP can be sent to the independent prescriber who can agree it in a few minutes while the patient is in the consultation room. A single centralised system means that CMPs can be implemented across the PCT.

CMPs are based on Doncaster West PCT guidelines which, in turn, are based on clinical guidelines from authorities such as the National Institute for Health and Clinical Excellence and the Scottish Intercollegiate Guidelines Network. The PCT's formulary group, which consists of three GPs and three pharmacists, looks at current evidence and guidelines and makes recommendations for approval by prescribing subgroups.

The whole practice team was made aware of the new clinic and my new role. Patients with hypertension, identified either at a routine blood pressure check or during a visit to the GP for another reason, are referred to me. New patients have tests (eg, full blood count, glucose, urea and electrolytes, liver function tests, thyroid function tests and electrocardiography) to rule out underlying causes. There are



**Mohammed Ahmed: forward-thinking practices should make full use of pharmacists' ability**

no exclusion criteria and home visits are offered to elderly patients who cannot come to the practice.

At each initial consultation, I make it clear to the patient that attending the clinic is voluntary and that he or she is free to see the independent prescriber at any time. I try to answer any questions and record everything discussed. I perform a clinical review and take appropriate actions — options include writing a prescription and requesting further tests, such as 24-hour BP monitoring — before agreeing the next appointment date (usually in four to eight weeks). The quantity of drugs I prescribe depends on the date of the next appointment, but I can make provision for a repeat prescription in case the patient cannot make the next appointment.

Once blood pressure is stabilised, patients are discharged to practice nurses. This allows me to see more patients with uncontrolled hypertension. A patient can be redirected to the clinic if his or her blood pressure becomes uncontrolled. In past 15 months two patients have had a sudden increase in blood pressure after good control for nine months. A new CMP has to be agreed for redirected patients.

Electronic CMPs and different interventions are allotted Read codes. Read codes can be used to retrieve information for audits. Using them allows me to find out how many patients have had their doses increased or decreased, drugs started or stopped, and what advice (eg, about side effects) and test results they have been given.

All my prescribing decisions are evidence based. Other benefits of the clinic include better interprofessional relationships, greater compliance, more effective use of my pharmacy skills and fewer drug errors, although I have not audited these. So far, the clinic has not received any complaints.

Since starting the clinic, I have seen 92 patients. We have only needed to send one reminder letter to a patient, who attended at a later date. No patients have refused to attend the clinic. I have only suspended one patient's CMP because of non-compliance — the patient was adamant that she took her medicines but when I checked with her pharmacy, she had not had any prescriptions dispensed for three months. This was backed up by 24-hour blood pressure monitoring.

I have needed to prescribe outside a CMP on one occasion. One patient was intolerant to beta-blockers, already taking bendroflumethiazide 2.5mg and felodipine 20mg and drugs acting on the angiotensin system were contraindicated. I wanted to prescribe doxazosin but it is not on the hypertension CMP. In order to deviate from the CMP, I e-mailed the independent prescriber, giving the rationale for deviation, and asked for agreement.

Most local community pharmacists are aware that I can prescribe any drug, including Controlled Drugs, from the British National Formulary as long as a CMP exists. I can also write private prescriptions under a CMP, where necessary. However, two patients told me that one pharmacist had refused to dispense my prescription. Later I found out that this pharmacist thought I was only allowed to prescribe antihypertensive drugs.

## Progress

The clinic has since been extended and I now hold four sessions in three practices. Anyone at a practice who wants a supplementary prescriber's input can refer any patient to me. I have seen patients with hypercholesterolaemia, hypothyroidism, epilepsy, ischaemic heart disease and diabetes. I have also dealt with pain management and more complex patients who can have many of the above conditions. In addition, I look into other issues, for example, quality and outcome framework indicators.

Supplementary prescribing is about enhancing quality of care for patients with chronic conditions through cost-effective, evidence-based treatment. I believe the number of "non-medical prescribers" will continue to grow because the supplementary prescribing system supports the new general medical services contract. It also enhances the role of pharmacist in a clinical team.

The lead pharmacist at the PCT monitors my prescribing using PACT data and is satisfied with my prescribing. Although I have anecdotal evidence of satisfaction with the clinic from patients, independent prescribers, practice nurses and other staff, my next step is to carry out an audit in the form of a patient questionnaire.

# Thoughts on independent prescribing

In this article, **Hugh McGavock**, visiting professor of prescribing science, University of Ulster, Northern Ireland, explains why he supports supplementary prescribing but not independent prescribing

I have spent most of the past 25 years researching prescribing by GPs and seeking ways of making it safer and more effective. Despite my work and that of about 150 other dedicated doctors, pharmacists, sociologists and psychologists in the UK Drug Utilisation Research Group, prescribing continues to be a major source of sickness and death across the developed world.

The only country to conduct a continuous national research programme into drug-induced harm is the US. There, preventable prescription-related death is now the fourth cause of mortality after heart disease, stroke and cancer and equal to the mortality caused by road traffic accidents.<sup>1,2</sup> This appalling statistic is almost certainly replicated in the UK. In a recent report from the National Patient Safety Agency there are 840 deaths due to safety lapses in acute trusts in England each year but, as the agency admits, this is probably an underestimation. By far the most innovative researchers and thinkers in this field are Charles Hepler and Richard Segal, of the department of pharmacy health care administration at the University of Florida, whose seminal text<sup>3</sup> exposes, in depth, the many factors contributing to prescription-related deaths.<sup>3</sup> To quote Professor Hepler and Professor Segal: "Relatively safe and effective drugs are released into a very unsafe prescribing, dispensing and consumption environment." Their conclusion and solution is that nobody, whether doctor, pharmacist, or nurse, should be permitted to prescribe solo. In an activity so fraught with danger to the patient, it is essential that at least two qualified and experienced professionals, preferably a doctor and a pharmacist, should have joint ownership of most prescriptions, whether for acute or chronic conditions.

Why do I say that? Simply because safe and effective drug therapy depends on three things:

- Accurate diagnosis
- Comprehensive knowledge of the basic pharmacology relevant to therapeutics
- Accurate compliance by the patient

There is only a limited amount that professionals can do to ensure patient compliance. Many studies have indicated that approximately 30 per cent of all preventable prescription-related morbidity is caused in a variety of ways by poor compliance. However, this is not central to the this article.

In respect of diagnosis and knowledge of pharmacology, the situation in the UK is that doctors receive three years of intensive undergraduate training in diagnosing illness, including the essential element of the differential

diagnosis. This is followed by at least three further postgraduate years training in a specialty. If a good doctor can do anything well, it is diagnosis. But this intensive training contrasts with the under-teaching of pharmacology and therapeutics in almost all UK medical schools. Less time is now devoted to the teaching of pharmacology than was the case 30 years ago, even though since then pharmacology has increased its knowledge base about 50 fold. Moreover, in many medical schools, students can qualify in medicine having failed their pharmacology examination. The General Medical Council, the universities, and the Department of Health, appear to be unwilling to remedy this imbalance in training. With the exception of anaesthetists, postgraduate doctors do not have to pass a pharmacology examination, so there is no stimulus to learn it. Hence, according to my initial definition, doctors cannot achieve adequate efficacy or safety alone.

## Other prescribers

Pharmacists, on the other hand, spend about four years learning pharmacology in depth. Their knowledge of the subject is much greater than that of most doctors. However, pharmacists know little about either diagnosis or differential diagnosis. Any diagnosis they do is based on history-taking and some non-intrusive procedures such as urine testing and measuring blood pressure. Above all, pharmacists do not have access to the real evidence — the patient's body. Only the age-old medical diagnostic procedures of inspection, percussion, palpation, and auscultation, followed by other key diagnostic aids when necessary (eg, haematology, blood biochemistry, serology, radiology, etc) can determine whether the diagnosis based on symptoms is likely to be right or wrong. If the diagnosis is wrong, the prescription will incur risk and zero benefit.

Nurse prescribing, above all, is fraught with risk which will, no doubt, become apparent as many thousands of independent nurse prescribers are authorised over the next two years. Training comprises 25 days' teaching, half of it by "distance learning", followed by two weeks' semi-supervision by a GP. Here we have government policy allowing people who have not been adequately trained in either diagnosis or in the complexities of modern pharmacology to prescribe.

The solution to this important problem in delivering pharmaceutical care is simple and logical: doctors need to co-operate with pharmacists for every prescription written, especially in respect of chronic conditions and for elderly patients. Clearly, this is already happening in hospitals on a national scale, with the ac-

ceptance of the clinical pharmacist as an essential part of the clinical team at the bedside. Few medical specialists feel any degree of resentment about the pharmacist's input — quite the reverse; many will not conduct a major ward round without a pharmacist being present.

What about primary care? There is good evidence that clinical pharmacy should now become an accepted part of general medical practice. Perhaps it is not necessary in short-term monotherapy, or indeed for many standard treatment regimens (eg, for managing asthma or hypertension). But for patients on most long-term maintenance therapies, the pharmacist should be involved before any additional treatment is added. This applies particularly in the elderly patient on polypharmacy, where approximately 12 per cent of all acute emergency hospital admissions are caused directly by the prescribed medication.<sup>2</sup>

In summary, my opinion, backed by voluminous research across the world, is that supplementary prescribing by pharmacists fulfils the requirements of diagnostic and pharmacological knowledge, provided there is sufficiently accurate and up-to-date record-keeping and regular exchange of opinions between the doctor and pharmacist. However, I think there is good evidence that independent pharmacist prescribing cannot be clinically justified, just as the present solo prescribing by GPs is not clinically justifiable. Partnership is the way ahead, and is an important way of improving the safety and efficacy of medication. Unfortunately, this does not appear to fit with the requirements of current UK policy, where pharmacists and nurses are increasingly being used to make up for the shortage of doctors. A prime example of the risks of this policy is the switch of chloramphenicol eye drops to a pharmacy medicine. Besides simple conjunctivitis, the red, irritable eye may be due to the following sight-threatening differential diagnoses, which the pharmacist is unlikely to be able to distinguish between: dendritic ulcers, scleritis, anterior uveitis, foreign bodies and acute glaucoma.

The pharmaceutical and medical professions must assert their own pre-eminence and the primacy of patient safety. They should also seek the changes in regulations required to make joint GP-pharmacist prescribing a national reality.

## References

1. Huang B, Bachmann KA, He X, Chen R, McAllister JS, Wang T. Inappropriate prescriptions for the aging population of the United States. *Pharmacoepidemiology and Drug Safety* 2002;11:127-34.
2. Hepler C, Segal R. Preventing medication errors and improving drug therapy outcomes. Boca Raton: CRC Press; 2005.

# How to implement supplementary prescribing in primary care clinics

In this article, **Bola Sotubo**, pharmacist supplementary prescriber at Melbourne Grove Practice, Southwark, and **Karen Acott**, pharmacist supplementary prescriber and partner, Wallingbrook Health Centre, Devon, give tips for successful supplementary prescribing

**P**harmacists working in GP surgeries are not a new phenomenon. Practice-based pharmacists have been involved in audits, developing clinical protocols and medication reviews for some time, but the introduction of supplementary prescribing has increased opportunities and has led to some pharmacists becoming partners in general practices (*PJ*, 5 June 2004, p700).

As supplementary prescribers (SPs) with a few months experience, we felt it would be useful to share our experience and highlight tips for setting up clinics.

## Setting up a clinic

- Agree clinic times and appointment duration with the independent prescriber.
- Organise your appointments to allow time at the end of the clinic for administrative work.
- Identify which room you will be using. This should be a clinical room (ie, it should have most of the equipment you require). If there is a high demand for space you should be prepared to share or not have a permanent room.
- Brief the clinicians and practice staff of your plans. Provide everyone with a written summary of supplementary prescribing and an outline of your clinic. This can be supported with a flow chart, which can be used as a poster in consulting rooms and at the reception.
- Give copies of your clinical management plans (CMPs) to both doctors and nurses and add them to the practice protocols on the practice computer system.
- Be clear about how patients are to be referred.

## Patient selection

- Use the first few sessions to identify patients (eg, through computer searches, audits or referral).
- Invite patients to clinics in writing or by telephone.
- A patient information leaflet explaining the clinic and supplementary prescribing can be useful.
- You may want to have exclusion criteria, (eg, patients with complex mental health conditions). This will depend on your area of practice and experience
- An alert message linked to a Read code can be attached to patient records and used to identify possible patients.

## Communication

Service success depends on people understanding the service and how they fit in so effective communication is important. You can use practice meetings to update everyone on your progress and developments but you should also identify how best to communicate with different people. Some will prefer emails while others will prefer a note in their post box. Encourage people to give you feedback or suggestions on how to improve service. Never be too proud to take constructive feedback — people giving feedback want you to succeed or they would not bother saying anything. A good way of increasing your knowledge and skills is to participate in practice meetings (eg, audits, clinical team meetings and random case analyses).

**Doctors** Although the independent prescriber may have explained the process to other doctors, the SP should build good working relationships with all doctors and encourage them to refer patients and become independent prescribers.

**Nurses** Nurses should be able to refer patients to you and vice versa. Develop your relationship by understanding nurses' roles within the practice and their clinics. Running an SP clinic alongside a nurse's clinic works well for some SPs, especially where the nurse cannot prescribe. Nurses are usually happy to have support from pharmacists, who are generally more accessible than GPs.

**Practice managers** The practice manager is probably the nucleus of the practice. He or she ensures that the surgery runs effectively and is an important person to know. Practice managers will be skilled at using the computer system and could assist you with developing templates and converting CMPs and patient letters to attachments. He or she could also show you how to use the system and, with time, you will become competent.

**Reception staff** Known as "gate keepers", reception staff can play an important role in identifying potential patients and booking your appointments. Receptionist staff can sell your medication review appointments to patients (eg, "we can offer you an appointment with the pharmacist. She can prescribe just like the doctor and knows a lot more about medicines").

- Organise training or briefing sessions on the SP role and how this can be used within medication review clinics. This could be informal (eg, during a quiet period at reception or in response to a question).
- During the early days use every opportunity to promote your service when passing the reception desk.
- Help staff identify potential patients using a written summary of the service and a flow chart outlining the patient's journey for supplementary prescribing. The flow chart can include examples of conditions for which the pharmacist can prescribe and the medicines he or she can prescribe. However, also ensure staff know your limitations — make sure you are not made to run before you are ready.

**Patients** Patients are your greatest advocates. A positive patient experience will ensure you gain trust and support. When you achieve this, you will find that word of mouth will soon ensure that you have a fully booked clinic. Positive experiences come from listening to needs, understanding fears and removing the mystery of medicines. Use simple analogies for lay people (eg, a diuretic, takes water out of a hosepipe to make it feel slack so decreases blood pressure).

## Conclusion

Supplementary prescribing is an evolving role and taking time out to reflect on your practice is an important activity. This will ensure that you can improve your current practice, critically assess your competencies and learn to manage certain ethical dilemmas. Remember, as prescribers we are inadvertently dipping our toes into a medico-legal maelstrom — you stand or fall by your decision-making.

Our experiences have been positive and enjoyable but we have had to be tenacious and persistent in order to ensure pharmacist supplementary prescribing is a success where we work. This would not have happened if we had not engaged all parties in developing our roles and in the way we work.

The initial challenge is being able to demonstrate your integrity. This means making your own independent clinical judgements in a holistic manner that benefits patient care. Once you have done this, anything is possible.