

Safety first

More than 17,000 delegates attended the 37th American Society of Health-System Pharmacists Midyear Clinical Meeting in Atlanta, Georgia in December 2002. Christine Clark reports

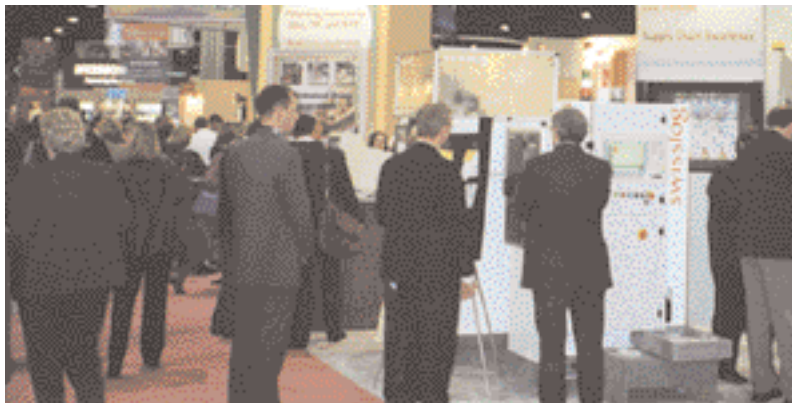
More than one-third of hospitals in the United States have not considered the inclusion of medication safety in their overall hospital plan, according to JUDY SMETZER (vice president, Institute for Safe Medication Practices [ISMP]). In a session entitled "Medication safety — strategic planning", she pointed out that this was one of the findings from a self-assessment survey conducted by the ISMP that had prompted the development of pathways for medication safety — a set of tools for reducing medication errors.

One of the tools is a package entitled 'Leading a strategic planning effort'. This is designed to help hospital executives work together to identify specific medication safety initiatives. By incorporating medication safety objectives into the organisation-wide strategic plan, the hospital leadership sends a clear message — that this is an important goal, said Ms Smetzer. More than 50 per cent of respondents in an earlier survey said that they saw no evidence of leadership commitment to patient safety, she noted.

'Leading a strategic planning effort' comprises three sections, a brief background, a model strategic plan and a guide to show



Judy Smetzer: a strategic plan defines an organisation's intentions



Delegates visiting stands at the medical exhibition

how to use the model to design an organisation-specific strategic plan for medication safety, explained Ms Smetzer.

The model strategic plan contains seven examples of long-term goals (see Table 1). Ms Smetzer explained that there might be barriers to the realisation of long-term goals that have to be tackled in the short term. For example, in relation to the use of technology, there might be interfacing problems, absence of bar-coding facilities or worker resistance. Projects for change might involve, for example, evaluating the different types of computerised physician order entry (CPOE) systems or performing a readiness assessment for bar-code use. The example goals are broad in perspective and are applicable regardless of hospital size, she said.

The key steps in designing a plan are shown in Table 2, p124.

The tools contain a number of other supporting documents that have been designed on the basis of the earlier survey; for example, there is a sample job description for the post of patient safety officer. There is also a "cheat sheet" listing questions to ask when investigating a medication error. Many respondents felt that they do not do this well, she added. There is an example of a blame-free reporting policy and a chemotherapy maximum dose list. Only 6 per cent of survey respondents reported having one of these, said Ms Smetzer.

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Mr KEN JOSEFCZYK (director of pharmacy, Memorial Health Center, Savannah, Georgia), who has used the tools commented that they have been particularly helpful in dealing with the press and helping to explain medication safety plans in a non-sensational way. He also said that they have helped his hospital to identify weaknesses in a blame-free environment.

Another pharmacist who has used the tools said, "It reaffirms what you are doing and helps to identify the gaps".

The self-assessment survey identified a lot of weaknesses — hospitals still need help with the assessment of risk in everyday practice, said ALAN VAIDA (executive director, ISMP). The second tool in the package is

Panel 1: Pathways for medication safety

'Pathways for medication safety' is a package that has been produced by a partnership of the American Hospital Association, the Health and Research Educational Trust and the ISMP.

The tools can be viewed and downloaded at no charge from the website www.medpathways.info

Table 1: Long-term goals

- 1 Create, communicate and demonstrate a culture of safety
- 2 Improve error detection, reporting and the use of information
- 3 Evaluate where technology can reduce the risk of medication error
- 4 Reduce the risk of errors in high-alert medications
- 5 Establish a blame-free environment
- 6 Involve the community
- 7 Establish a controlled formulary

called 'Looking collectively at risk' and is designed to help the multidisciplinary team tackle medication safety issues. In particular, it focuses on the roles of five key groups: administrators, physicians, nurses, pharmacists and risk managers. The authors had debated whether or not to include patients and IT staff, but had decided that the five above were the most critical, said Dr Vaida. "We wanted to improve the team functioning of these five groups by giving them a way to look at risk in practice," he said.

The tool is designed not for finger-pointing but for analysis of an event, regardless of whether it is a prescribing error or administration error, said Dr Vaida.

The final tool in the set is concerned with the assessment of bar-code readiness. (Reported in *Pharm J* 2003;270:130.)

During the discussion that followed, LAURENCE GOLDBERG (member of the board of the National Patient Safety Agency, UK), said that the term "blame-free" has been used to encourage reporting of errors by practitioners, but is not well-accepted by the general public, courts or media. He asked if it should now be replaced by "open and fair blame". Ms Smetzer replied that they are now changing the language used so that the expression "blame free" is used only in the context of practitioner reporting whereas fair accountability is emphasised in all other situations.

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Table 2: Key steps in designing a plan

Number	Step	Action
1	Involve key people	Establish a core team to review the model strategic plan and to develop an organisation-specific strategic plan for medication safety
2	Assess your current position	Arrange for the core team to discuss the organisation's current strengths and weaknesses related to medication safety
3	Review the model strategic plan	Core team to review the model strategic plan and compare the suggested long-term goals with the organisation's strengths and weaknesses
4	Map a strategy for the future	After review of the model plan, the core team should select long-term goals related to medication safety that are most applicable to the organisation
5	Select change projects	For each long-term goal, the core team should select projects that are most likely to lead to achievement of the goal
6	Implement the strategic plan	The core team should establish a communication plan to disseminate effectively the strategic plan to everyone who needs to know about it and to secure a commitment to making it happen
7	Monitor performance	The core team should work out a timetable to review periodically the medication safety strategic plan and monitor the progress toward achieving each goal

Another delegate commented that patients commonly interpret patient safety as having to do with personal security rather than medication or medical procedures, and that much more explanation is required.

Pharmacists and the treatment of migraine

Many US physicians get no more than three hours' education about migraine and yet it is a condition that affects 12 per cent of the population — more than asthma and diabetes combined, said MERLE DIAMOND (associate director, Diamond Headache Clinic, Chicago).

"There are problems with the diagnosis of migraine," said Dr Diamond. "The International Headache Society (IHS) criteria (see panel 2) are useful because they are authoritative and provide a common language for research but they do not assess the impact of migraine.

An estimated 28 million Americans have migraine, 8.4 million are undiagnosed and 4 million of these believe they have "sinus headaches". Sinus headaches are relatively common in the USA because the concept is widely marketed by analgesic manufacturers, said Dr Diamond. Many people believe that they suffer from migraine, "sinus headaches" and tension headaches and the result is that they take multiple analgesics and become candidates for analgesic rebound.

Patients commonly try a mean of 4.6 different treatments over a period of three years before getting effective treatment for migraine. "Compare this with treatment for diabetes", said Dr Diamond. More worrying is the tendency to prescribe barbiturates for women with migraine symptoms, in spite of the absence of evidence of their effectiveness.

Panel 2: IHS criteria for migraine without aura

- A At least five attacks fulfilling B–D
- B Headache lasting four to 72 hours (untreated or unsuccessfully treated)
- C At least two of the following:
 - Unilateral location
 - Pulsating quality
 - Moderate/severe pain
 - Aggravation with routine activity
- D At least one of the following
 - Nausea and/or vomiting
 - Photophobia and phonophobia
 - No evidence of organic cause

Panel 3: Migraine prodrome

- Mood disruption
- Sensory disruption
- Constitutional changes
- Cognitive changes
- Food craving
- Muscle tension
- Nasal stuffiness/drainage
- Yawning

The medical view of headache is largely "after the cow is out of the barn" according to ROGER CADY, (Headache Care Center, Springfield, Missouri). Effort is concentrated on chronic daily headache, which affects 4 per cent of the population whereas other types of headache, including migraine affect many more people.

Patients describe their headaches in many ways and, as a result, are referred to a range of specialists including neurologists, ENT specialists and allergists. The important question is whether headache sufferers are affected by three or more different headache mechanisms or whether there is just one pathophysiology with many different expressions. Current thinking among experts favours the convergence theory, he explained.

The theory defines headache as an event that occurs in the central nervous system. A variety of external changes such as weather change, alcohol intake or flickering lights and internal changes such as hormonal variations, stress or changes in sleep habit give rise to biochemical changes.

Approximately 70 per cent of migraine sufferers experience a prodrome — although it is not always recognised as such, he said. The prodrome (see Panel 3) can precede the headache by as much as one or two days. Carbohydrate craving is a common feature of migraine prodromes. Dr Cady suggests that the apparent association between chocolate and migraine is more likely to be a feature of intense carbohydrate craving rather than a cause in itself.

Dr Cady went on to detail the processes involved in migraine and said that the major difficulty is identifying which headaches are going to become migraines and which will not. The prodromal phase can go on for days in some patients and presents a set of symptoms that often makes them "perfect candidates" for selective serotonin re-uptake inhibitor (SSRI) medication. This results in yet more inappropriate treatment.

An interesting study in patients with confirmed IHS-migraine attempted to answer the question, "What if we treat all headaches with migraine treatment?" Patients were randomly allocated to receive sumatriptan or placebo for all headaches. The results show that all the headaches (migraine, migrainous and tension-type) responded to the triptan. What is important is when the treatment is taken, said Dr Cady. Early studies with triptans waited until patients had "good-going headaches" — but some patients broke the protocols, took their doses early and got better responses, he said.

Chronic daily headache (CDH) — a condition in which patients typically take large amounts of analgesics with little relief — takes years to develop. Critical factors in avoiding the development of CDH are

aborting the process and getting complete relief from pain (ie, not taking inadequate doses of analgesics), treating attacks early and "preventing the nervous system from memorising pain". An important rule of thumb is "no more than two days per week" for use of acute migraine treatment. Use above this threshold puts people on the way to overuse, said Dr Cady.

One of the most important goals of managing migraine in clinical practice is to prevent episodic migraine from transforming into CDH. He advocates the use of triptans, which have been shown to improve health-related quality of life considerably and to provide high levels of patient satisfaction. In conclusion he noted that there is now routine screening for hypertension and hyperlipidaemia, which have a lower impact than migraine. "Pharmacy is the point of contact for migraine sufferers and pharmacists can do a lot", he said.

Migraine sufferers want the information that a pharmacist can deliver, said RICHARD WENZEL (Diamond Headache Clinic inpatient unit and University of Illinois). Their number one desire is to have an explanation of why the pain occurs, but 33 per cent want more information about medicines and 66 per cent do not feel that they have up-to-date knowledge of the disease. Many patients express dissatisfaction with their treatment for "sinus headaches", which is not surprising as most of these are receiving the wrong treatment for an incorrect diagnosis, he said.

A number of instruments have been devised to measure the impact of migraine, including the headache impact test (HIT) and the migraine disability assessment scale (MIDAS). They do not diagnose migraine but they do illuminate the "real world" impact. They could be used in pharmacies and also in headache diaries, he suggested.

For moderate-to-severe attacks, the recommendation in the United States is to treat them with a triptan (by any route) or by intranasal dihydroergotamine. Treatment with butorphanol nasal spray or paracetamol-codeine combinations is possible but should be limited due to the risks of rebound and dependency. Mild-to-moderate attacks should be treated with aspirin, ibuprofen, naproxen or tolfenamic acid. Failure to respond to one triptan does not mean that all triptans will be ineffective, warned Dr Wenzel. The most important thing to tell patients, regardless of the medication selected, was to treat early, he emphasised.

There is no consensus among doctors about when to avoid using triptans due to "excessive" cardiac risk factors, said Dr Wenzel. Post-marketing surveillance data on sumatriptan show that in the treatment of 236 million migraine attacks, 451 cardiovascular events have been recorded.

Nevertheless, about 3 per cent of triptan users experience transient chest, neck or throat symptoms. Patients should be warned about this and advised to seek medical attention if they do not resolve within 30-45 minutes. An alternative approach is to give a test dose in the doctor's consulting rooms.

Studies suggest that it is safe to use SSRIs and triptans in combination. In one series of more than 240,000 patients taking triptans, 20 per cent had also been taking an SSRI. No cases of serotonin syndrome have been reported.

Narcotics are "woefully over-utilised" for migraine, and should never be used as first line treatment, although they have a place in some patients said Dr Wenzel. Barbiturates, however, have no place in migraine treatment — and they are well-established causes of dependency and withdrawal symptoms.

Pharmacists can ask four basic questions that would enable them to gather enough information to offer useful guidance to patients complaining of headache who might be migraine sufferers. They are:

1. What percentage of your headaches prohibit or limit your ability to perform daily tasks?
2. How many days per month are you completely headache-free?

3. Describe the symptoms of your attacks. (A-U-S-T-I-N, see below)
4. How effective have over-the-counter (OTC) treatments been in the past?

If more than 50 per cent of headaches inhibit daily activities, or more than 20 per cent are associated with vomiting, the patient should be referred to a doctor, he recommended.

When asking about the symptoms the mnemonic "AUSTIN" is useful — it stands for: aggravation by activity, unilateral location, sensitivity to light and sound, throbbing, intensity moderate-severe and nausea/vomiting.

If any of these symptoms are reported then a short trial of a suitable OTC product can be suggested. But a history of failure to respond to two or more distinctly different types of OTC treatment should prompt referral to a doctor.

WORKFORCE SHORTAGES

The 2002 ASHP national survey of hospital pharmacies in the United States showed increases in both hours of service and vacancy rates (compared with 2001) prompting concerns that pharmacists may be less able to ensure medication safety than previously. Other key findings in the report

were that two-pharmacist checking systems were used by 53 per cent of hospitals for high-risk therapies, such as chemotherapy, and by 30 per cent for high-risk patient groups, such as paediatric patients. Overall, 10 per cent of hospitals reported outsourcing all pharmacy operations and approximately 20 per cent outsource some or all preparation activities. Total parenteral nutrition was found to be the most commonly outsourced item, followed by pre-loaded syringes for patient controlled analgesia and epidural injections.

More than 40 per cent of respondents reported an intention to develop more decentralised drug distribution systems, suggesting that the widespread centralised unit-dose distribution systems may no longer be responsive to the needs of acutely ill patients with shorter length of stay whose drug therapy changes too frequently for a 24-hour cycle system. The authors commented that vigilance will be needed to avoid returning to floor stock systems that were shown to be unsafe 40 years ago.

The report concluded that certain technologies are underused, including pharmacy-linked point-of-care dispensing cabinets, computer-generated medication administration systems and bar-code bedside drug administration documentation systems.

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