

# NPSA set to issue four alerts in 2006

Worldwide patient safety initiatives were described at a recent conference. **Christine Clark** reports the highlights on this and the following page

No fewer than four safe practice alerts (NPSA patient safety alerts) concerning medicines will be issued during 2006, David Cousins, head of safe medication practice at the National Patient Safety Agency, announced. They will focus on safer use of anticoagulants, safe measurement and administration of oral liquid medicines and enteral feeds, safer preparation and administration of injectable medicines and safer use of infusions in children. The draft documents will go out for consultation during the first quarter and the final documents will be published in the second quarter.

These four topics had emerged as a result of the rigorous NPSA prioritisation process. Reports sent to the national reporting and learning system (NRLS) help to identify major areas of risk. The NRLS now has 500,000 incidents reports logged and is receiving new reports at the rate of 17,000 per month. Between 4,000 and 5,000 of these reports involve medicines; the majority cause no harm but a small number cause death or severe harm. The most commonly reported incidents relate to the administration of medicines. The most common categories are wrong dose, wrong strength, wrong drug, wrong frequency or omitted dose. All 607 organisations in the NHS are now reporting incidents to the NRLS.

The NPSA has published a risk assessment of anticoagulant therapy. The report provides the detailed background evidence for the safer practice recommendations that will be made later this year.

Information gathered by pharmacy and medical defence organisations and the NHS Litigation Authority shows that between 1990 and 2002 there have been 480 cases of harm or near-harm from anticoagulants in the UK. Over the same period 120 deaths have been reported, 92 (77 per cent) of which were attributable to warfarin and 28 (23 per cent) to heparin. The use of anticoagulants has increased considerably between 1977 and 2002, largely as a result of the routine use of warfarin in patients with atrial fibrillation, and there has been a corresponding rise in the numbers of incidents reported, commented Professor Cousins.

The report identifies 15 key areas of risk, many of which relate to poor systems. A fundamental issue is the failure to perform adequate clinical audits of anticoagulant services or failure to act on audit findings. Although the British Society for Haematology has made recommendations for audit these are often not followed and, as a result, risk man-



**David Cousins: risks identified and tackled by new patient safety alerts**

agers are frequently unaware of the risks posed by anticoagulant therapy. Another important factor is that many of the staff who prescribe and monitor anticoagulation therapy have not received adequate training and do not have the required competencies, said Professor Cousins.

Safety recommendations have been drafted to tackle each of the risks identified. These are intended to help health care workers in the field to correct the deficiencies of poorly designed systems and suboptimal medicines.

Turning to safe measurement and administration of oral liquid medicines and enteral feeds, Professor Cousins pointed out that there have been numerous reports of death and harm arising from accidental intravenous administration of oral liquid medicines or feeds. Water or air flushes, intended to clear nasogastric feeding tubes, have also been given intravenously by mistake. These errors have usually involved the use of syringes with connectors that were compatible with both intravenous and nasogastric lines. Safe practice recommendations will emphasise the use of devices for oral medicines, feeds and flushes that are not compatible with intravenous devices.

A fatal incident in an X-ray catheter laboratory in the US had drawn attention to the dangers relating to intravenous doses. At this centre, the X-ray contrast medium was poured into an open cup and then drawn up for administration. Povidone iodine was routinely used for skin preparation and this was also poured into an open cup. When the povidone iodine was replaced by chlorhexidine in

alcohol, a colourless preparation, this was accidentally drawn up in place of the contrast medium and injected.

A major problem with injectable medicines is that they now do not always have product information for professionals in the packs. They contain patient information leaflets but nothing to tell staff how to prepare or administer the product. Moreover, this information is rarely in the British national Formulary and so it is hardly surprising that accidents occur, said Professor Cousins.

Recommendations from the NPSA will include rigorous risk assessment for injectable products and the provision of adequate technical information to staff in the areas where it will be needed. In addition, attention to safe purchasing — giving preference to products that are designed to be safe in use — and staff training to achieve the required competencies will be covered.

Paediatric infusions represent a particular area of risk and worldwide there have been more than 50 cases of death or neurological injury from hyponatraemia associated with the use of hypotonic intravenous solutions in children since 1993. There have been at least five deaths in the UK associated with hypotonic intravenous solutions, said Professor Cousins. It is likely that there have been more unreported deaths and injuries, but the development of fluid-induced hyponatraemia may not always be well-recognised by clinicians, he added.

A contributory factor appears to be the ready availability of the hypotonic dextrose 4 per cent and sodium chloride 0.18 per cent infusion fluid, and so one of the recommendations will be restriction of access to this product in paediatric critical care areas. Improvements in training of clinicians with regard to prescribing and monitoring of intravenous fluids and improved documentation will also be recommended.

The consultation documents will be available shortly on the Safer Healthcare website ([www.saferhealthcare.org.uk](http://www.saferhealthcare.org.uk)).

## Co-operation with ISMP-Canada

Documenting the stories of adverse incidents is a useful way to identify the root causes of adverse medication incidents according to David U, president and chief executive of the Institute of Safe Medication Practices (ISMP) in Canada. This had been useful when there were reports of an injectable product on which the generic name had been omitted altogether. The full story was explained on the report that was sent to the ISMP and this enabled staff at the centre to understand that confusion was arising because the vials had only a brand name and many users were unaware of active ingredient.

■ The 2006 National Patient Safety Agency conference took place in Birmingham on 1 and 2 February

# Goal should be to have no avoidable infections

A hospital-acquired infection should be regarded as an adverse incident and our goal should be to have no avoidable infections, according to Janice Stevens, programme director of the MRSA/cleaner hospitals team at the Department of Health. Our current culture expects infections to occur in hospital and accept this as the norm. The targets are a 50 per cent reduction in methicillin-resistant *Staphylococcus aureus* bacteraemias by 2008 and to increase public confidence. The biggest challenge is to achieve behavioural change and this demands strategies that go beyond mere technical guidance, she said.

One of the factors that has contributed to the current situation is varied ownership of issues. Infection control has been made into a specialty and this has led others to believe that it is not their responsibility. Another is mixed compliance with essential elements of care, for example, during hand washing and catheter insertion. In many cases, people think they are doing the right thing but they are not. High reliability and compliance is required.

## "Saving lives" — high impact interventions

- Preventing the risk of microbial contamination
- Central venous catheter care
- Preventing surgical site infection
- Care of ventilated patients
- Urinary catheter care

There is also a plethora of guidance, some based on limited evidence, and there is little to help practitioners to distinguish between the essential and the merely desirable elements of guidance. These observations led to the "Saving lives" campaign — a programme designed to make infection control into everybody's business. So far, 85 per cent of trusts have signed up to the initiative and, after the first eight months, MRSA rates have already fallen by 30 to 40 per cent, said Ms Stevens. Five high-impact interventions form the core of the programme (see Panel below). These are presented as a "care bundle" that

links the evidence for the intervention, a measuring tool and a strategy for improving the clinical process. The measuring tool is checklist of the critical elements of the procedure with spaces for "yes/no" answers. The measuring tools are applied and a compliance score (percentage) is derived.

In order for this approach to work there has to be commitment from the chief executive and good clinical engagement. Infection control teams become challengers and enablers rather than owners of the infection problem. Antibiotic specialist pharmacists are useful here because they can also challenge and provide help, she added.

Trusts that do well tend to use their data well, know where the infection hot spots are and focus on these areas. Their reward is often good bed-management and high occupancy.

The "Saving lives" campaign is aimed at acute trusts. It is now being adapted to other care settings and guidance should be available by June 2006. Another important development will be a two-hour MRSA test in place of the current test, which takes three days.

## Benefits of single rooms Preventing infections

Single patient rooms are associated with lower infection rates, lower medication errors and fewer falls.

Roger Ulrich, faculty fellow of the centre for health systems and design at Texas A&M University, explained how there is a growing body of evidence to support the notion that many safety problems could be alleviated by good design of hospital buildings. Single patient rooms have been dismissed as being expensive to build and to staff, but the truth is more complex.

Single rooms do not require extra nurses. If nursing stations are decentralised there can be better observation of patients than in wards of traditional design. In addition, the amount of nurse time available for each patient can increase if nurses do not have to walk long distances for supplies. One study had shown that nurse walking could be reduced from 6km per shift to 2.9km per shift. In many hospitals it is not unusual for nurses to walk 12 to 20km per eight-hour shift, he noted.

Another important aspect of single patient rooms is that fewer transfers are needed and each time a patient is moved (to another ward or area) half a day is added to the overall length of stay.

Single patient rooms contain contamination and this is particularly relevant in the context of MRSA. Surfaces, such as worktops, computer terminals, handles and bed rails are commonly contaminated with micro-organisms. In addition, there is a "microscopic snow of skin scales" that also carry micro-organisms in ward areas. Studies have shown that these can travel as far as 60 feet in open wards.

Single rooms would also be beneficial in emergency departments, said Professor Ulrich. This had been underlined by experiences during the SARS outbreak in Toronto, where 75 per cent of cases contracted the disease in emergency room and multi-bed intensive care areas with inadequate ventilation. At one hospital, contractors were brought in at night, during the epidemic, to partition rooms in order to control cross-infection.

Most British patients would like single rooms and there would be numerous advantages in terms of improved safety and care. There is an urgent need to create safer, less stressful better hospitals — and we already have enough research evidence to do a much better job than in the past, concluded Professor Ulrich.

No health care system has solved the problem of hospital-acquired infection and in the UK it accounts for an estimated 5,000 deaths at a cost of £1bn annually, said Didier Pittet, director of the infection control programme at University of Geneva hospitals.

Prevention strategies reduce infection rates everywhere they are used and most of the solutions are simple. Several approaches have succeeded although gaps still exist and this is almost always because the existing interventions are not universally implemented.

One of the primary tools in this field is hand washing. When measured, compliance with hand washing requirements among health care workers is less than 40 per cent. "If people tell you it is higher, then it is not true," said Professor Pittet. The main reasons for this are time and systems constraints. In any situation where frequent hand washing is required there will be poor compliance. The use of soap and water is unrealistic because it takes up to one and half minutes to wash in this way. An intensive care nurse might need to wash 20 times per hour and so up to half her time could be taken up with the washing procedure alone. The application of alcohol-based hand rub takes 15 to 20 seconds and, if it is made available at the bedside, then compliance is also good. Alcohol-based hand rub was introduced as the standard hand cleansing procedure at the University Hospital of Geneva, supported by a vigorous staff education campaign. There is now good compliance with the policy and there has been a 50 per cent reduction in hospital-acquired infections and an 80 per cent fall in cross transmission of MRSA.

The factors that made this campaign successful were strong leadership, education of health care staff and monitoring of performance combined with regular feedback. The message that the chief executive needs to hear is that hand washing saves money, said Professor Pittet.

Hand washing is the primary measure to prevent hospital acquired infection and the spread of multiresistant organisms. The World Health Organization Guidelines on Hand Hygiene in Health Care (advanced draft) have been published as part of the WHO Global Patient Safety Challenge, with the theme "Clean care is safer care" (launched in October 2005). The aim of the guidelines is to provide tools to help overcome the obstacles to implementation that are commonly encountered.

## Correction

The national reporting and learning system is receiving new reports at the rate of 70,000 per month and not 17,000 per month (p180).