# Pharmacists save lives and reduce drug and health care costs

The contribution of pharmacists in reducing patient mortality and medication errors was among the subjects covered at the joint Guild of Healthcare Pharmacists and United Kingdom Clinical Pharmacy Association spring conference. Rachel Graham reports

**Numerous** pieces of research indicate that pharmacists make a difference to patient care, according to Cab Bond, professor of pharmacy practice at the School of Pharmacy Practice, Texas Tech University. The problem is that many of these studies relate to individual hospital sites only. This means that those planning services often do not believe that they can reap the same benefits at their particular institution.

There was, therefore, a need to carry out large scale-research to determine the differences to patient care that pharmacists can make and to establish which services that pharmacists provide give most benefit to patients in all types of hospitals. Such studies can also provide a benchmark by which service provision can be gauged, Professor Bond added.

Professor Bond and colleagues have spent the last eight or nine years collecting data from 3,763 US hospitals (78 per cent of the total US hospitals) covering 23,879,998 admissions, to establish how staffing numbers for 14 different types of health care professionals affected patient mortality. They found that pharmacists were associated with reduced mortality rates. For example, hospitals where there were three pharmacists per 100 occupied beds had an almost 50 per cent greater mortality rate than hospitals where there were 11 pharmacists per 100 occupied beds. Other professions associated with reduced mortality rates included medical residents (doctors in training) and registered nurses. Professions associated with higher mortality rates included lesser trained nurses (presumably because they are replacing registered nurses) and higher numbers of hospital administrators.

Professor Bond: pharmacists can make a difference to patient care in any type of hospital

Professor Bond then went on to look at which types of services provided by pharmacists reduce patient mortality the most. Over 1,000 hospitals were involved in this phase of the research, which concluded that drug information, taking admission drug histories and having pharmacists as an integral part of the cardiopulmonary resuscitation were among the most beneficial services to offer.

Drug costs and medication errors were also reviewed. Services such as pharmacist-provided drug information and admission history-taking were associated with reduced drug costs. Employing a high number of clinical pharmacists was also associated with reduced drug costs, whereas employing a high number of hospital pharmacy administrators was associated with increased drug costs.

Looking particularly at high-risk therapies, Professor Bond said that his research showed that having pharmacists manage, for example, heparin, resulted in 4,664 fewer deaths and saved $651m (over approximately 1,000 hospitals). There were similar results for warfarin. In hospitals that did not have pharmacists managing vancomycin and aminoglycosides, hearing loss was 46 per cent higher and renal impairment was 34 per cent higher than in those that did.

Resistance to pharmacists providing these types of extended clinical services is much less than it was ten years ago, Professor Bond added. In fact, most of the reluctance these days comes from pharmacists themselves, rather than doctors, he added.

# Limiting formularies limits impact of pharmacist prescribing

**Allowing independent prescribing**, but with a restricted formulary, has resulted in only a limited uptake of pharmacist prescribing, according to Jatinder Harchawol, chief pharmacist at Ealing Hospital NHS Trust.

When setting out the status of pharmacist prescribing in the US, Mr Harchawol explained that Florida was the only state to have brought in this model of pharmacist prescribing. Even though it was the third state to allow pharmacists to have prescribing privileges (back in the early 1980s), the uptake there among pharmacists had not been as high as in other states such as California, where there are over 400 pharmacists with prescribing privileges, Mr Harchawol said. "This is something to be aware of when looking at independent prescribing [in the UK]," he added.

Taking up this point, Gillian Hawksworth, immediate past president of the Royal Pharmaceutical Society and the Society's lead for independent prescribing, commented that of the seven options available in the Department of Health's consultation, her personal preference was for suitably trained pharmacists to be entitled to prescribe independently from the "full BNF", regardless of in which setting they work. Patient safety must be paramount, she asserted and pharmacists should only prescribe within their own individual competencies. "It is a given that independent prescribers take full clinical responsibility for their decisions", she added.

The first joint meeting of the Guild of Healthcare Pharmacists and the United Kingdom Clinical Pharmacy Association was held in Glasgow from 15 to 17 April 2005. **Rachel Graham** is staff editor, *Hospital Pharmacist*.

# New all-Wales drug chart looks set to increase patient safety

**Welsh hospitals** are set to be safer, thanks to the development of a new all-Wales drug chart, prescription writing standards and an e-learning tool, developed by a team led by pharmacists Dave Roberts and Sara Gage, from Cardiff & Vale NHS Trust, Jenny Harris, from Pontypridd & Rhonda NHS Trust and Suzanne Scott-Thomas, from North Glamorgan NHS Trust.

Setting out the details of their project, which won the United Kingdom Clinical Pharmacy Association's "Pfizer patient safety award", Ms Gage explained that the "old" all-Wales drug chart (developed around 1969) had largely been abandoned by the 1990s, because by that time, a wide variety of drug charts were in use in Welsh hospitals. This increased the risk to patients, especially at medical staff rotation times.

Deficiencies in the old drug chart included insufficient space, which led to the use of multiple drug charts, and no means of indicating an altered route, dose or frequency. A group was therefore set up in 2000 to update it, which used feedback at all stages from pharmacists and other health professionals at each Welsh trust in the development. The new chart was approved in 2004, Ms Gage added.

As well as a new chart, prescription writing standards were also developed. Ms Harris explained that these included general requirements, such as prescribing by approved drug name, avoiding unnecessary decimal points (ie, writing 3mg and not 3.0 mg) and writing out "micrograms" in full. Chart-specific requirements, relating to completing the allergy section, discontinuing drugs and making dose changes were also developed. There are plans in place to audit compliance with the new standards.

An e-learning package was also developed to accompany the new chart and prescription standards. According to Ms Scott-Thomas, this approach was chosen because it is "flexible, consistent, accessible 24 hours a day, seven days a week and can be used as an assessment (as well as a learning) tool." The package uses established learning techniques, with each section being set out in a standard format and including interactive elements. Staff can complete individual sections as and when they have time, and do others at a later date, Ms Scott-Thomas explained. It is now installed on the intranet systems in Welsh trusts and is included in medical degree teaching at the University of Wales.

The e-learning package is accessible on **www.learningindustries.com/drugchart** until the end of June.

Pfizer award winners: Sara Gage, staff pharmacist, Cardiff & Vale NHS Trust, Jenny Harris, principal pharmacist, Pontypridd & Rhondda NHS Trust, Dave Roberts, chief pharmacist, Cardiff & Vale NHS Trust and Suzanne Scott-Thomas, chief pharmacist, North Glamorgan NHS Trust

# Pharmacist-led e-learning supports medical prescribing

**Work by pharmacists** in Lanarkshire to develop a computerised medical educational tool won them the 2005 United Kingdom Clinical Pharmacy Association's "Wyeth education and training award".

Presenting the project, Gail Richardson, head of pharmacy services at Wishaw General Hospital, Lanarkshire, explained that pharmacists at the trust were traditionally involved in educating junior doctors about prescribing but were not able to devote enough time to this activity. Moreover, doctors were given a lot of information during their induction, and so prescribing advice was often "lost". Pharmacy representatives from each of the three acute sites in Lanarkshire therefore worked with medical education and information technology staff to develop an online induction package on prescribing for junior doctors.

Doctors are asked various prescribing-related questions, which they are expected to complete with the aid of the British National Formulary. Their scores are then generated automatically, with a "full walk-through" of any questions they answered incorrectly being provided. Doctors scoring less than 70 per cent receive individual feedback from a clinical pharmacist. The package does not all have to be done in one sitting. Completion is tracked and enforced by the medical postgraduate tutors.

Ms Richardson explained that the package, which took two years to develop, is structured around the various sections in the BNF, so that junior doctors become familiar with the book's contents, particularly sections that they otherwise might not know exist, such as that on prescribing in renal impairment. It also incorporates the Lanarkshire formulary and prescribing guidelines. Data on the impact of the scheme is still being collated, although pharmacists have noted, for example, that the prescribing of Controlled Drugs has improved since it was introduced.

# Encouraging pharmacy staff to develop their audit and research skills pays dividends

**Creating an environment** for audit and research work has been achieved by pharmacists at Northumbria Healthcare NHS Trust and has won them the UK Clinical Pharmacy Association and Guild of Healthcare Pharmacists IVAX leadership award.

Wasim Baqir, a pharmacist at the trust, explained that a pharmacy and audit research group (PARG) was set up with links to the trust's research department and academia. Members of PARG encouraged all staff in the pharmacy directorate to get involved in audit and research, and in particular, to complete audit cycles. They also helped with issues such as devising protocols, obtaining ethics approval, and writing up and publicising work. Pharmacy jobs have been redesigned so that audit and research are now core functions for pharmacists and technicians working at the department. Since the setting up of PARG, 31 projects have been registered — 22 audits (including seven completed cycles) and nine research projects. Audits have included those of antibiotic prescribing and cancer services, and research projects have included those relating to pharmacist's input into cardiac rehabilitation. Future plans include carrying out joint projects with medical staff and becoming a recognised centre for medicines management research.