

Quality, safety and efficiency

Medicines management policy developments across Northern Ireland were discussed at a recent Northern Health and Social Care Trust conference. Christine Clark reports

Although it is often suggested that quality, safety and improved outcomes and efficiency are competing goals, they are in fact part of a “virtuous triangle” in which one leads to another and a cycle of continuous improvement is set in motion, said Andrew McCormick, Permanent Secretary, Health, Social Services and Public Safety Department, Northern Ireland Executive. Over the past four years, £4m has been committed to pharmaceutical staffing in Northern Ireland in response to robust evidence of the benefits arising from re-engineered pharmacy services (see Panel). Dr McCormick highlighted the return on investment (£5–8 for every £1 spent), reduced length of hospital stay and reduced readmission rates as being particularly persuasive results. The changes that have been made to pharmaceutical services are fundamentally about improved patient care. “It is hard to argue against that position, but it is even harder when we see that the approach benefits not only patients but also Government, health service organisations and healthcare professionals,” he concluded.

— Clinical effectiveness

Norman Morrow, chief pharmaceutical officer for Northern Ireland, defined pharmaceutical clinical effectiveness as “the outcome of the application of pharmaceutical skills directed to providing a systematic approach to rational product selection and use, consistently applied across secondary and primary care”. He said it must take into account clinical need, product performance and presentation, safety characteristics and economic factors. In essence, he argued, investments in quality and safety, such as protecting patients from adverse drug events, reduce the length of stay in hospital and avoid additional costs, in turn leading to health gain and efficiency.

Enhancing the quality and efficacy of treatment and improving safety required a “more substantive process” than that which operated in the past, he said.

The Northern Health and Social Care Trust conference entitled “Quality, safety, improvement, efficiency — a new medicines management paradigm” was held in Dunadry, County Antrim, Northern Ireland on 17–18 January. **Christine Clark** is a freelance journalist.



(Left to right) Norman Morrow, Andrew McCormick and Mike Scott at the conference in Dunadry

Dr Morrow outlined the key “ingredients of success”. The first is “sowing [seeds] in the right conditions,” ie, starting projects where attitudes are positive and elements of the appropriate infrastructure already exist, he said.

The second is using evidence to develop ideas and also collecting evidence to drive further developments. It is important to challenge the old ways of doing things and

to innovate. It is also important to set targets and to monitor them. “People need to know what they are striving to achieve,” he said. Leadership and collaboration with other healthcare professionals are both critical to success and resilience is an essential element. Finally, the new practices and results must be reproduced in other sites. “It’s about mainstreaming new practice, otherwise we have not achieved anything,” he concluded.

The integrated medicines management project

The integrated medicines management (IMM) project in Northern Ireland (*Hospital Pharmacist* 2004;11:295–6) set out to re-engineer pharmacists’ activities to provide a standardised pharmaceutical service to patients across the country. The IMM process involves the compilation of an accurate drug history on admission to hospital and intensive monitoring and patient education during the hospital stay. At the time of discharge, medicine is prepared and a written summary of medication changes and intended outcomes is sent to the GP and the community pharmacist.

The initiative has been shown to reduce length of stay, increase medication appropriateness reduce readmissions and give a return on investment of £5–8 for every £1 invested (*Hospital Pharmacist* 2006;13:218).

A means of recording clinical pharmacy interventions was needed and a PDA-based system — the electronic pharmacy intervention clinical system — was developed in collaboration with Yarra Software (see overleaf).

In order to standardise medicines across primary and secondary care, a reliable, transparent system for medicines selection that got “buy in” from doctors was critical. The system of objectified judgement analysis (SOJA) was an attractive starting point. The IMM team collaborated with pharmacists from The Netherlands who had extensive experience with SOJA and developed the safe, therapeutic, economic pharmaceutical selection (STEPS) process (*The Pharmaceutical Journal* 2005;275:738)

Another major challenge was rolling out IMM to other hospitals in a way that ensured that the positive results obtained in the study site were replicated. To improve medicines handling at ward level, individual patient medication lockers were designed, incorporating several new features. The lockers are deep enough to house all medicines, have a dispensing tray on which nurses prepare doses and are activated by transponder rather than using conventional keys, allowing a record of openings to be kept.

Creating a wound management formulary

Postcode prescribing of wound care products was associated with a total (primary and secondary care) expenditure on wound management products of £7.1 million in Northern Ireland in 2005, said Anne Witherow, assistant director of nursing, governance and performance, Western Health and Social Care Trust. Detailed analysis showed that there was considerable variation in wound care protocols between primary and secondary care. In 2005, 773 different products were prescribed in the community compared with 136 in hospital. There were serious governance and safety issues including the absence of a clear rationale for decision-making and inadequate knowledge and skills in relation to wound care products. Sales representatives often inappropriately influenced nurses and it was often possible to chart their routes by the pattern of prescribing, explained Ms Witherow.

A multiprofessional project group comprising tissue viability nurses from all sectors (including private nursing homes), a podiatrist, a pharmacist and a representative of the Surgical Dressing Manufacturers



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Anne Witherow: a clear rationale is needed

Association was established. The STEPS process (see p65) was applied and a list of clinical evaluation parameters was devised. Manufacturers were asked to mark the parameters relevant to their products and to provide the single best published paper or supporting evidence for each relevant parameter. This was done to avoid being

swamped with irrelevant information, said Dianne Gill, assistant chief pharmacist, Northern HSC. The starting list of 127 products was systematically whittled down to 97 products for inclusion in the formulary. In addition to the formulary itself, a pocket-sized "ready-reckoner" (quick reference guide) and a patient information leaflet were produced.

Commenting on the problems encountered, Ms Gill said that much of the evidence received from manufacturers was of poor quality — often in-house data or promotional material. On occasions, illegible, poor quality documents were provided and some material was not translated from the original language. There was a noticeable lack of randomised controlled trial data, she added.

The wound management formulary was implemented in primary care in July 2007. Early results suggest that it has improved the continuity of care and that efficiency savings targets are likely to be met. A robust framework for decision-making has been developed and the project group continues to undertake ongoing evaluations of new products, summarised Ms Gill.

Standardising product use across the country

Historically, a mixture of generic products and parallel-imports was used in primary care and different agents within a therapeutic class were often used in hospital and primary care, according to Mike Scott, head of pharmacy and medicines management, Northern Health and Social Care Trust. Changes in the appearance of medicines when elderly patients were admitted or discharged from hospital caused confusion. Standardised product use across the primary and secondary care sectors was proposed as the solution and the STEPS methodology was adopted in order to ensure that there was full ownership (of the final choices) by both

general practitioners and hospital consultants, said Dr Scott.

Whereas the SOJA process involves the construction of a matrix in which criteria for drug selection (eg, clinical efficacy, tolerability and interactions) are listed and assigned weighting points in a single stage, the STEPS process sequentially evaluates clinical effectiveness, safety and finally budgetary impact. At each stage unsatisfactory products are eliminated from the list. The safety evaluation is concerned with risks and safety in use and includes consideration of issues such as packaging and labelling, explained Dr Scott. So far this

approach has been applied to statins, proton pump inhibitors, ACE inhibitors, angiotensin receptor blockers and selective serotonin reuptake inhibitors. Evaluations are under way for erythropoiesis stimulating agents for patients with renal failure and biologicals for rheumatoid arthritis. Prescribing guidance has also been produced for these groups. At present the guidance is paper-based but electronic versions will be piloted shortly.

The STEPS process has recently been applied to other products, including wound dressings, point-of-care testing devices and dietary products, added Dr Scott.

Using PDAs to record pharmacy interventions

The electronic pharmacy intervention clinical system (EPICS) enables pharmacists to record interventions and "near miss" events in real time using a hand-held personal digital assistant (PDA), Peter Beagon, regional EPICS project manager (NI) told a workshop group. Wireless-enabled pocket PCs (HP iPAQ) were chosen for the task and these can be used throughout the hospital. Pharmacists make entries using a stylus to select menu options. The data entry process was designed for bedside use, although Mr Beagon admits that

some pharmacists prefer to record interventions after ward visits. No data are held on the PDAs — they are all recorded directly on to a central server. This means that performance reports can easily be generated.

The devices contain an electronic version of a previous paper recording form. In addition, the National Patient Safety Agency potential future risk matrix has been built in to the software so that when an adverse event or near miss is noted, the severity of the episode and the likelihood of recurrence can

be recorded. All interventions are graded on a scale of one to six, where six is potentially life-saving and two is "of no significance to patient care". Grade one is used for interventions that are detrimental to patient care.

In the nine-month period from 1 December 2005 to 31 August 2006 just under 28,000 interventions were made by pharmacists at Antrim hospital. Although the majority fell into grades three and four, 2.3 per cent were potentially life-saving (grade six). There was also a large increase in "near-miss" reporting, noted Mr Beagon.