Using routine data to improve patient safety

Electronic data routinely gathered in hospitals can be used as a warning system for missed doses of prescribed medicine and can help to improve patient safety (Dixon-Woods et al, 2013).

A team from the Universities of Leicester and Birmingham found that the secondary use of data from an electronic prescribing and decision support system in an English hospital led to a 'substantial and sustained' reduction in rates of missed or delayed doses of medicines.

Professor Mary Dixon-Woods, Professor of Medical Sociology, Department of Health Sciences, University of Leicester, Leicester

Roughly one in five patients in NHS hospitals miss a dose of prescribed medication or get it late. The National Patient Safety Agency has shown that omitted or delayed doses of essential drugs were responsible for 27 deaths, 68 severe injuries and 21 283 patient safety incidents between 2006 and 2009 in the UK. But effective solutions for monitoring and reducing the problem have been hard to find.

The electronic system in the study hospital could be programmed to trigger a series of emails if, for example, a patient missed more than two doses of antibiotics. If no action was taken, these emails would be escalated upward, from ward nurse through the layers of the hospital, eventually to the chief executive.

Professor Mary Dixon-Woods, Professor of Medical Sociology at the University of Leicester Department of Health Sciences, said: 'This is one element of what we call "technovigilance" – turning data into intelligence which can then be put into effective action. Other elements include using the electronic system to find examples of where care did not seem to meet the required standards, and holding high-level care omissions meetings with staff on clinical areas to find out what happened.'

Dixon-Woods M, Redwood S, Leslie M, Minion J, Martin G, Coleman J (2013) Improving quality and safety of care using "technovigilance": an ethnographic case study of secondary use of data from an electronic prescribing and decision support system. *Milbank Q* **91**(3): 424–54

Surgery more effective than physiotherapy for treatment of stress urinary incontinence

A new study, headed by University Medical Center Utrecht, has shown that in women with moderate-to-severe stress urinary incontinence, surgery is more effective than physiotherapy (the current standard treatment) (Labrie et al, 2013). The researchers propose discussing the options of surgery as well as pelvic floor therapy with patients and then selecting the option that best suits the individual patient.

In the PORTRET study (Physiotherapy OR Tension free tape Randomized Efficacy Trial), 460 women aged 35 years and older suffering from moderate-to-severe stress urinary incontinence were divided equally into two groups. One group was given pelvic floor therapy by certified pelvic floor physiotherapists. Women in the other group underwent surgery by an experienced surgeon, who placed a plastic mid-urethral sling below the urethra to support it, thus preventing involuntary urine loss.

After 1 year, surgery was more effective than pelvic floor therapy. A subjective improvement occurred in 90.8% of the women who had had surgery, compared to 64.4% of the women who had started pelvic floor physiotherapy (of this group, 49% was also operated on within a year). In the group who had undergone surgery, there were also more women who were completely cured (85.2%) than in the pelvic floor therapy group (53.4%).

About 1 in 10 women had mild complications (e.g. bruising or urge incontinence), which was entirely caused by the surgery. While the complications did not have any permanent adverse effects, there were no such complications with pelvic floor therapy.

Labrie J, Berghmans BL, Fischer K et al (2013) Surgery versus physiotherapy for stress incontinence. *N Engl J Med* **369**: 1124–33

UK should invest more in research into multi-drug resistant infections

Although emergence of antimicrobial resistance severely threatens our future ability to treat many infections, the amount the UK spends on research targeting this important area is still unacceptably small, say a team of researchers from University College London (Head et al, 2013).

This is the first systematic analysis of research funding for infectious disease research, and for antimicrobial resistance, in the UK between 1997 and 2010.

There were 6165 studies identified that were funded during the 14-year period, covering all infectious disease research, representing a total investment of £2.6 billion. Of those studies, 337 were funded for antimicrobial resistance research, comprising 5.5% of total infectious disease research projects. These were awarded £102 million, only 3.9% of the total spend, with a median award of approximately £120 000. Thirty-four per cent (£34.8 million) of the total funding for antimicrobial resistance was related to global health.

Corresponding author, Mr Michael Head, commented: 'This is very much an international problem.'

Head MG, Fitchett JR, Cooke MK et al (2013) Systematic analysis of funding awarded for antimicrobial resistance research to institutions in the UK, 1997-2010. *J Antimicrob Chemother* Sep 13 (Epub ahead of print)