

## CASE STUDY

### Electronic Prescribing Improves Patient Safety at Doncaster and Bassetlaw Hospitals NHS Foundation Trust

In 2000, the Pharmacy Department at Doncaster Royal Infirmary (DRI) started work on an electronic prescribing project to improve patient safety and to reduce the number of clinical errors within the trust. DRI selected JAC's electronic prescribing system in order to manage clinical risk, improve operational efficiency and introduce the use of electronic patient records.

The JAC prescribing system incorporates the Multilex Drug Data File (Multilex DDF) from First DataBank Europe, which provides active clinical checking against the patient's medical record. The hospital has rolled out the system across a number of wards and it has proved of benefit to both patients and clinicians.

## SECONDARY CARE

"We chose to work with JAC and First DataBank Europe because of the combined expertise in the field of electronic prescribing and patient safety. We were using the JAC pharmacy system already and it seemed the logical step to use their electronic prescribing system because it is the most advanced in the marketplace."

**Andrew Barker,**  
Clinical Director  
– Pharmacy  
& Medicines  
Management at  
Doncaster Royal  
Infirmary

#### Staying ahead of the game

In 1999, DRI identified a need to implement an electronic prescribing system within the hospital trust to improve clinical risk management, enhance operational efficiency and comply with national standards. Reports have shown that the introduction of electronic prescribing and associated online decision support can reduce serious adverse drug events by 55 per cent (Bates et al, JAMA 1988).

Andrew Barker, Clinical Director – Pharmacy & Medicines Management at DRI comments: "We chose to work with JAC and First DataBank Europe because of the combined expertise in the field of electronic prescribing and patient safety. We were using the JAC pharmacy system already and it seemed the logical step to use their electronic prescribing system because it is the most advanced in the marketplace."

#### Prescribing in practice

The first phase of the project began in July 2002 at Montagu Hospital, part of the Doncaster and Bassetlaw Hospitals NHS Foundation Trust. Following the success of the initial implementation, the electronic prescribing and administration was rolled out to a further three wards over the next year. The system, which counts nurses, doctors, and pharmacy staff among its users, is currently being implemented in an additional six medical wards at Bassetlaw Hospital.

In July 2003 DRI started using Multilex DDF within the electronic prescribing system. When linked with a patient medical record, the clinical decision support functionality within Multilex DDF checks information in the patient record against medication about to be prescribed or dispensed and generates an alert message if there are potential problems.

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First DataBank Europe is the UK's leading provider of drug knowledge bases and active clinical decision support.

Through the effective integration of our products into clinical systems, we enable safer prescribing, dispensing and administration.

NHS Connecting for Health has chosen First DataBank Europe to provide drug-related clinical decision support.

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DRI chose to implement Multilex DDF's clinical checks for allergies, drug interactions and duplicate therapy. This decision support provides prescribers with timely, relevant information and is vital for patient safety.

Throughout the rollout, the project team monitored results, with particular reference to the decision support. One of the key improvements recognised was compliance with trust policy. The transcription of accurate prescriptions rose from 37 per cent to 96 per cent and the quality of medicines administration increased from 65 per cent to 100 per cent.

An initial audit of decision support identified how many times a warning or alert made a prescriber reconsider their decision. On 74 occasions (1 in every 97 orders) the prescriber did not complete their initial prescribing intention. A further audit of the effect of electronic prescribing and associated clinical decision support has shown that the system can reduce potential adverse drug events by up to 60 per cent.

The DRI's results and analysis of the electronic prescribing system have shown clear and measurable benefits. Most importantly, it has been proved to enhance patient safety. The introduction of electronic prescribing has reduced clinical risk by producing clear prescriptions and administration records and links to the hospital's formulary, protocols and pathways. The clinical decision support within Multilex DDF has provided integral safety checks against the patient medical record, as well as access to useful monographs providing more comprehensive information about UK drugs and appliances.

David Flavell, Managing Director of First DataBank Europe comments: "These results clearly demonstrate the vital role IT systems such as e-prescribing and clinical decision support play in reducing medication errors and improving patient safety."

Rob Blay, Chief Executive of JAC concludes: "Doncaster and Bassetlaw is one of the first hospital trusts in the UK to provide data proving the benefits of electronic prescribing and clinical decision support systems. We are delighted to be working on such a dynamic project."

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