

# Integrated IT: laboratory system to patient record

Information technology is at the heart of the government's plans to improve healthcare. Currently, work in the south of England is helping to customise software, as Payam Mohaghegh explains.

The NHS Connecting for Health (NHS CfH) programme supports the NHS in delivering better, safer care to patients via new computer systems and services that link GP and community services to hospitals. The NHS Care Records Service (NHS CRS) will be deployed throughout trusts in the south of England over the next few years, and the Southern Programme for IT (SPfIT) is working with Fujitsu Services to deliver Cerner's Millennium PathNet product, which will be the clinical information system for years to come. Currently, release 2 (R2) is the active development of the base-level system deployed elsewhere around the world, and laboratory staff now have an opportunity to get involved in the design of the service

to ensure that it meets their needs.

In pathology, the laboratory information management system (LIMS) solution integrated with the NHS CRS in the south is Cerner's Millennium PathNet system, and this is now available as an additional pathology module to all trusts in the south of England. Northwick Park Hospital and the Central Middlesex Hospital have been using PathNet for several years, but other trusts are purchasing this LIMS as part of their NHS CRS foundation release (either R0 or R1).

The PathNet suite of applications fully integrates with the NHS CRS and will support hospital order-communications. It offers a unified solution to meet the specific requirements of pathology departments

## TRUSTS CURRENTLY DEPLOYING PATHNET

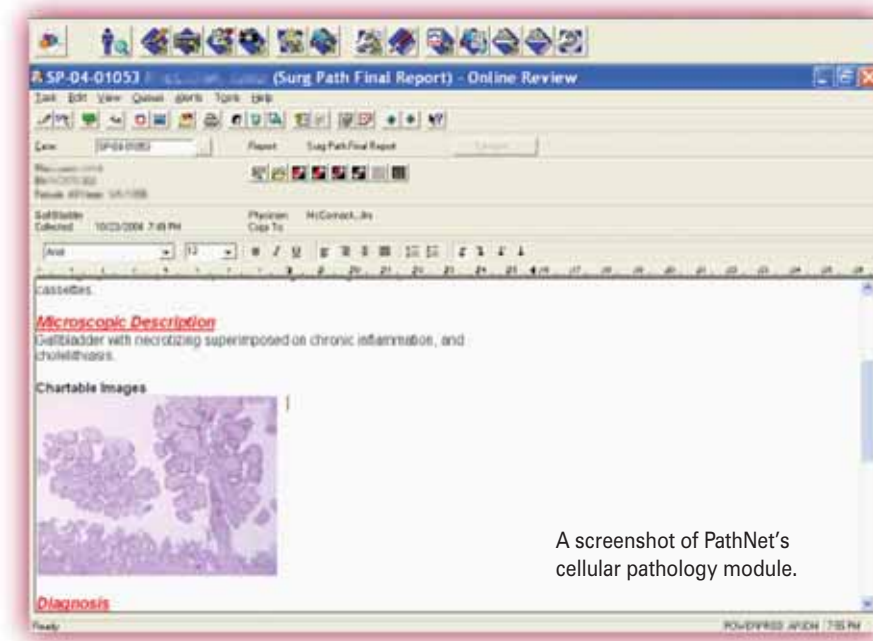
- Gloucestershire Hospitals NHS Foundation Trust
- Dartford and Gravesham NHS Trust
- East Kent Hospitals NHS Trust
- The Medway NHS Trust
- Frimley Park Hospital NHS Foundation Trust

such as microbiology, cellular pathology and transfusion science, and also covers general laboratory functions. In addition, PathNet offers a fully integrated genomics solution designed for the clinical setting, although this is not currently part of the NHS CfH contract.

## MAIN ADVANTAGES OF PATHNET

There are many benefits to the fully integrated PathNet system, and these include:

- a clinician has full access to the entire electronic patient record using a single login name.
- enhanced access for a remote user to the entire electronic patient record using a single login name
- automatic notification of antibiotic resistance to pharmacy and the clinician
- elimination of the problems of interface maintenance, master table synchronisation across multiple systems and interface down time with separate order-communications systems
- a single solution to support point-of-care testing
- the same rules-base is used for NHS CRS Millennium and PathNet, enabling data sharing to be governed by patient context synchronisation
- synoptic reporting for pathology is enabled and supports a move towards standardising pathology reporting, especially in relation to cancer registries
- genetic test results can trigger alerts based on medication order events when the medication is contraindicated by the patient's genotype
- improved delivery and quality of care through better-informed and more consistent decision-making



A screenshot of PathNet's cellular pathology module.



Members of the pathology R2 design team and SMEs at a recent design workshop. Payam Mohaghegh is standing third from the left, and IBMS Council member Andrew Usher (Gloucestershire Hospitals NHS Foundation Trust) is standing sixth from the left.

- creates the opportunity for greater efficiency, reduced risk, increased ability to deliver national policy and helps reduce costs through a reduction in duplication
- a hosted, managed solution negates the need for trust-based hardware
- it offers reduced procurement timescales as part of Fujitsu Services' chosen solution
- provides the ability to achieve increased levels of modernisation
- enables greater interoperability and reduced licence costs through its single database architecture.

Currently, SPfIT is involved in designing the second release (R2) of PathNet, a process led by representatives based in southern trusts. Currently, there are six design team members and 32 subject matter experts (SME) from trusts in the south working on the design of R2 PathNet.

Work being undertaken by SPfIT is linked to several national bodies and national programmes (eg Pathology Modernisation Programme [PMP], Do Once and Share [DOAS] programme), and the design complies

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with guidance to be found in Lord Carter's report on pathology services in England. The aim is to make R2 PathNet the most up-to-date system available, using all national standards and policies, and designed to support PMP best practices.

Items of advanced PathNet functionality currently in the design phase for R2 include the following:

- cervical screening system interface
- cytology history display
- reagent usage of point-of-care devices
- extended pathology imaging
- extended request form image retention rules
- extended patient flagging and flag display
- family linking for haemoglobinopathy
- block booking of procedures
- dynamic function test user-formatable reports
- analyser scattergrams
- extended reference and panic ranges
- period of day-based autoverification
- extended risk status for specimens and patients
- Youden and Cusum plots

- extended previous report filtering
- mortuary support
- extended request screen display elements
- order tariff alerts
- blood transfusion
- National Blood Service support
- electronic stock orders
- anticoagulant dose calculations
- anticoagulant referrals.

#### LOCAL INVOLVEMENT

It is hoped that the above illustrates the important design work being undertaken on Cerner Millennium PathNet. Importantly, opportunities exist for staff to join the R2 design process as SMEs to ensure that all parts of the system to be rolled out across trusts in the south of England have been checked by as wide an NHS audience as possible. This is a very exciting opportunity to contribute to the functional design of the future NHS Care Records Service. ■

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Continuing professional development credits are available from the Institute of Biomedical Science and The Royal College of Pathologists for those interested in being involved with the Southern Programme for IT.