Wesley Private Hospital computerises clinical information system

IBM transforming health

Overview

The challenge
To develop a system that is reliable and accessible with higher performance to improve patient health outcomes and provide the most up to date patient medical records.

The solution
IT infrastructure which partners two servers together for reliability and storing patient information in a single secure electronic repository so there is reduced potential for medication or treatment errors.

The benefits
Provide access to vital patient data at the point of care in real time, to make more informed decisions and to provide the highest standard of patient care.

Recognised as one of Australia's most technologically advanced healthcare institutions, the Wesley Private Hospital in Brisbane has rolled out a hospital-wide, computerised clinical information system to improve patient care. When completed, the multi-million dollar project will span five hospitals and at least two other health facilities in the Wesley Group.

Powered by the IBM RS/6000 UNIX server and the HNA Millennium suite of clinical applications from Cerner Corporation, the new system gives Wesley clinicians and healthcare providers access to vital patient data at the point of care. Even in remote locations, they will be able to make more informed decisions and provide the highest standard of patient care.

Dr Jennifer King, General Manager of the Wesley Hospital, said the pilot projects were already showing an improvement, documenting their medical history.

> ***"Integrated clinical technology allows us to operate as a system, as opposed to multiple stand alone facilities,"*** said Dr King.
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> ***"Patient information is one of any hospital's key resources. Research shows that this is critical to best practice in clinical management funding and risk management"*** she said
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> ***"In a hospital, you may interact with many people, so the information about you is dispersed around the institution, with different people and different systems. Consolidating all of that into one place makes all the information the hospital has about you available wherever it is needed and reduces the risk of errors,"*** said Dr King .

Patient care is number one
IBM, our business partner Data#3, and the Wesley Hospital have a relationship of 23 years' standing. On this project, there were four entities working together, IBM, Data#3, Cerner and

the Wesley, with one common mission: using technology to provide operational excellence and fully enable health workers and clinicians to deliver the highest quality care.

Dr King explained this is essentially a project in three parts. The first part of the project, the patient information and administration system, provides the critical backbone on which the other systems rely. The second part is the clinical information system, and the third integrates all the elements.

All patient information is stored in a single secure electronic repository, so there is reduced potential for medication or treatment errors as a result of discrepancies between multiple records or information lost between systems. With different departments entering their information directly into the central repository, medical, nursing and allied health staff always have access to a patient's complete medical record and can view it in real time.

In the maternity unit including labour and delivery wards, the new system allows clinicians to monitor and document patient care on line, using customisable personal electronic care plans. Patient safety and quality of care are enhanced by "reminders", which automatically prompt staff to follow agreed best practice and "alerts", which flag any special patient condition. The progress of each patient is continuously tracked and the care plan adjusted as needed.

In the physiotherapy department, physiotherapists enter the procedures they have performed in the Cerner Order Management application, which tracks the type of service provided. This improves the accuracy and ease of billing and also allows the Wesley's management team to track staff workloads and the level of specialty resourcing required to meet patient needs.

Capturing medical expertise

The next step was to take the patient information and apply it to the hospital's other key resource - the medical expertise of its people - and develop clinical paths and clinical protocols. This workflow system helps co-ordinate hospital functions and applies the knowledge of its experts. Cerner developed clinical paths for other hospitals and worked with IBM and the Wesley to tailor these workflow processes for the hospital.

"The Wesley appointed a working group of doctors and other staff to develop the workflow process. After all, they will be working with the finished system and it needs to provide the benefits they are looking for,"

said Jim Flynt, Managing Director of Cerner Australia.

A review of the clinical path pilot showed strong acceptance among the clinical staff.

"That is the key. This can't be a system that is applied from the top down. Our experience shows that the clinicians need to take ownership for it to work," says Flynt.

"It also needs to be flexible at both the macro and the micro level. It must give a doctor the ability to vary it according to patient requirements, and the hospital must be able to make changes in the overall path as it evolves."

According to Dr King, this kind of expert system means that the knowledge and expertise of the hospital's best and brightest minds can be applied in a treatment situation.

Another project links the automated clinical path with a drug database, making it simple for doctors to find the drug they want and any information on it. The system can also tell them whether the drug is on the Pharmaceutical Benefits Scheme.

Importantly, the new system has enabled the hospital to develop web-based links with some of its key suppliers.

> **"At this stage, we have electronic links to pathology labs, which gives us faster turnaround for diagnosis. In time, we will have the ability to expand the system to also link to our key providers and to other suppliers, like catering and cleaning contractors,"** said Dr King.

Reliability and availability are vital

> ***"The servers provide the backbone of our IT infrastructure. We cannot afford them to go down - it's literally a question of life and death in our case. We chose the IBM RS/6000 as the UNIX server platform, because it is superior in terms of reliability, availability, performance and scalability,"*** said Dr King .

> ***"IBM hardware, software and services play a critical role in improving patient health outcomes."*** said Fiona McMaster, Public Sector Executive, IBM.

> ***"IBM worked with us and with Cerner to provide a system which partners two servers together, so that in the unlikely event of an outage in one, the other takes over automatically. That kind of reliability and availability was a key requirement."*** said Dr King.

The new clinical information system puts the Wesley at the forefront of Australian hospitals, concluded Dr King.

> ***"IBM and Cerner have provided us with a system that allows us to grow and increase functionality over time. For example, it will be possible in the future to allow a doctor to monitor a patient's progress from outside the hospital by accessing vital information and results in real time from the web."***

About Cerner
Cerner Corporation designs, develops, installs and supports clinical and management information and knowledge systems for the healthcare industry worldwide. In Australia, Cerner Corporation Pty Ltd has offices in Sydney, Melbourne and Brisbane. The head office in Sydney includes a local service centre dedicated to supporting Asia Pacific clients. For more information, contact Cerner on 02 9900 4800. Or visit the Cerner website at: www.cerner.com