CASE STUDY: LAKELAND HEALTH

i-Health

At Lakeland Health, a regional New Zealand hospital and health service serving the country's central North Island, the first implementation of the i-Health Clinician View module is attracting major interest from other hospitals - in New Zealand, Australia and further afield.

« Lakeland Health's Rotorua Hospital

" The patient care improvements and resource use efficiencies possible through a Clinical Intranet solution such as i-Health are compelling," he says.

" Simple in concept, but dramatic in terms of the potential impact."

Dr Fred Nagel

Lakeland Health is believed to be the first hospital in the South Pacific region to go live with such a sophisticated Clinical Intranet system: a web-based solution giving hospital clinicians fast, easy, single-click electronic access to all the key records, documents, databases and applications required for patient diagnosis, treatment and associated administration.

"The patient care improvements and resource use efficiencies possible through a Clinical Intranet solution such as i-Health are compelling," says Project Champion, Paediatrician Dr Fred Nagel. "Simple in concept, but dramatic in terms of potential impact."

Hospital clinicians, he says, make an average of six decisions per patient per day. In Australia it has been estimated that 16.1 million patient decisions are made by doctors each year. These decisions determine both the health care outcome for the patient as well as the costs. It is estimated that 80 percent of hospital costs are driven by doctors, either directly or indirectly.

He says that although clinicians make the best decisions they can in the circumstances, the current mix of poorly-integrated computer systems with traditional paper-based communication and record keeping is the biggest single barrier to clinicians maximising health care dollars in the best interests of their patients.

Lakeland's i-Health implementation is set to reduce the 'deficit', he says, actively improving health care outcomes by providing a "real time system for real time patients with real time problems": A system organised around the clinical process and the clinical encounter.

" The system is already enabling clinicians to work far more efficiently and effectively - and while this has cost benefits, the implications for improved patient care are far more significant."

« Dr Fred Nagel

i-Health in Action

Immediate, real time access to information, presented and available in a way that is compatible with how a clinician works. Sounds simple, but quite dramatic in terms of its impact, says Dr Nagel.

"For example, today I'm back in the ward after four days absence," he says. "I'm facing around 50 separate urgent tasks. Before the implementation of i-Health, this would have involved sorting through piles of letters, case sheets, reports and patient notes, while dealing with rising stress levels from basically having too much of the wrong information, and the right information being incomplete or in the wrong place.

"With i-Health, I log on and go to my 'Priority Patients' folder. There, I review the status and progress of each patient whose need for close management is most urgent. Both inpatients and complex outpatient cases with ongoing conditions such as diabetes, epilepsy, or rare chronic conditions such as Paroxysmal Nocturnal Haemaglobinuria and childhood Crohn's Disease are included.

"The patient name is the trigger. From the single patient entry I can access easily the latest laboratory results, radiology results, outpatient follow-up arrangements if the patient has been discharged, and I can check medication - what has been prescribed and by whom.

"What used to be a series of separate tasks, with delays of literally days in between, now becomes a single, real time, process. This means more effective, efficient treatment and huge time savings."

Dr Nagel illustrates his points with a specific example:

"One of my patients has a potentially life threatening renal mass. This is monitored with bi-weekly ultrasound scans, the results of which are crucial to a decision as to whether to operate.

"Returning from leave, just two mouse clicks gives me the latest scan results, another mouse click gives me related laboratory information, another checks the outpatient appointment has been made, yet another gives me medication records which I check to see the prescription is still current. I then send the relevant results to a colleague at Starship Children's Hospital in Auckland. He replies within the hour.

"In just a matter of minutes I've completed a series of urgent patient management tasks which before the implementation of i-Health would have taken literally days. You just can't do this over the phone and with paper-based records."

The i-Health Journey

Lakeland Health Information Systems manager Alex Wheatley says the 'journey' towards the i-Health solution began two years ago with a Clinical Information Project, prompted by several near-miss incidents caused by paper records of Laboratory and Radiology information being lost.

" Clinicians described (Lakeland's previous) system access as akin to scuba diving where you had to log into laboratory, check the results, log out and then log into radiology and check those results - a very tedious process 'diving and resurfacing' in and out of different systems - particularly with hundreds of patients to look after," Wheatley recalls.

IS Manager Alex Wheatley ››

After extensive consultation involving clinicians as well as administrative, IT and departmental staff, the major issues were identified as:

- Too much information. A mix of electronic and paper information, arriving often out of order or context, resulting in inefficient use of clinician time, frustration, and important information being lost.
- Systems designed around departments and functions, rather than around the patient, and the information and patient management needs of clinicians.
- No tools to help manage a growing flood of disorganised information.
- No consistent clinical pathways with consistent treatment routines, methodologies and supporting information.
- Too much clinician time spent on administration rather than looking after patients.

A clear consensus emerged for an information system designed to work the way clinicians work: A system which could support clinical practice and empower the clinical staff to be able to make fully informed decisions at the work face, and at the time of patient interaction.

The Partnership

Cap Gemini Ernst & Young - which had been contracted to write a detailed specification and costing to build the new system - identified a new Clinical Intranet software solution called i-Health, then in beta development.

The i-Health software was being developed using industry standard web-based technology, was designed to 'overlay' existing hospital systems and - most important - had been designed from the outset to support clinicians, rather than being an adapted departmental or administration system.

For Lakeland Health, the development partnership means that the implementation of a "leading edge" clinical information system became affordable.

Approval from the Board

With a solution identified, approval was sought from the Lakeland Health Board. This process, Wheatley recalls, was more difficult given that other major public sector projects were under close scrutiny following IT system failures, in Health and other areas of Government.

<< View of Lake Rotorua from Lakeland Health

With the aid of Cap Gemini Ernst & Young, likely cost and efficiency benefits were estimated. However, an independent risk analysis focusing on patient outcomes was the determining factor in getting board approval.

"We were able to draw on our own 'near miss' examples," Wheatley says. Project sponsor Dr Fred Nagel made a powerful presentation illustrating the problems with paper records and the increasing workload carried by clinical staff.

Dr Nagel also had written support from Senior Medical staff expressing both their support for the project and their willingness to participate and use the system.

Primary care representatives (GPs or General Practitioners) were involved throughout and continue to be represented on the Steering Committee. Their involvement will increase once the project's base foundation for communicating with the community is complete.

Key Success Factors

Alex Wheatley says the key success factors for the i-Health project have been:

- A project sponsor who is also a clinician.
- Buy-in from clinical staff.
- A clear project vision and buy-in at all levels of the organisation, including CEO, CFO, IT Manager, the Hospital Board and Hospital executive.
- A robust strategy for dealing with any issues arising during the implementation.
- An implementation team completely committed to the project, particularly a dedicated Systems Administrator with high-level skills and full commitment.

The Cap Gemini Ernst & Young perspective

Cap Gemini Ernst & Young's Vice President for Health in the South Pacific region, Roger Hatrick-Smith, says the new i-Health software provides a web-based environment ideally suited to the new models of care delivery which cross the traditional boundaries between primary healthcare in the community and secondary healthcare in hospitals.

"We believe that i-Health has the potential to dramatically increase the value that health organisations derive from their IT investment - and I'm talking about a new product which costs 'thousands of dollars, rather than millions of dollars'."

Hospitals - in New Zealand and around the world - have invested heavily in traditional software applications that are expensive to buy and implement and invariably fail to deliver significant reduction in cost or improvement in healthcare outcomes, Hatrick-Smith says.

"New web-based applications - such as i-Health - adopt a different approach. They're designed to unlock the data inside existing applications, to integrate it and to build on it so that it is readily available to all who need it - whenever and wherever that may be.

"Instead of replacing existing systems, i-Health unifies and combines the data inside an easy-to-use web environment within which clinicians and administrators can be more effective and patients can be given direct information access and self-service."

i-Health Limited Level 17, Tower 2, Shortland Centre, 55–65 Shortland Street
PO Box 105 354, Auckland Central, New Zealand
PHONE + 64 9 377 1789 FAX + 64 9 377 1787 EMAIL info@i-healthviews.com