Case Study – MEDI*Vista*™

"Empowering clinical computing at the point of care"

ROYAL VICTORIA HOSPITAL - Barrie, Ontario, Canada

Introduction

Royal Victoria Hospital is a 299-bed community hospital in Barrie, Ontario, located 80 kilometres north of Toronto, Canada.

As the largest hospital in the region of Simcoe Muskoka, it provides specialty services to almost half a million Central Ontario residents. RVH's team of over 200 physicians, 2,200 employees and 1,100 volunteers provide exceptional health care, specialising in emergency services, cancer care, surgical services, intensive care, mental health, interventional radiology and rehabilitation.

In April 2009, RVH embarked on a Phase 1 Expansion Project which will double the size of the existing hospital, while adding 101 new inpatient beds and the Simcoe Muskoka Regional Cancer Centre.

Challenge

In 2004, RVH undertook a project to review its IT infrastructure at the point of care. RVH's principle aim was to integrate clinical application technology into the daily workflow routines of its care givers.

In order to determine the most appropriate point of care technology, RVH undertook a review of the alternatives. RVH began by evaluating Wireless Tablets, which were deemed too heavy for medical staff to carry throughout a shift. In addition, Computers on Wheels (COWS) were found to be too cumbersome to manoeuvre and often remained outside of wards instead of being utilised at the point of care as intended. RVH soon decided that by integrating workstations at every bedside they would be able to achieve a more comprehensive uptake of computing as part of the care delivery process. However, with over 330 patient beds across the hospital network this option needed to deliver additional use capabilities beyond clinical computing for it to be considered financially viable.

In addition to the clinical computing project, RVH also wanted to enhance patient services to incorporate telephone, television and Internet access from one bedside point. During this period of review, the phone system at RVH was moving to VoIP (Voice over IP) and a contract for their existing television sets was coming to an end. Combined with this, RVH also wanted to channel income for chargeable patient (Television and Internet) services back into the hospital revenue stream, which would typically have gone to third party providers.

In consideration of their requirements, RVH determined that a dual-purpose integrated bedside device would answer their needs and in July 2008 RVH selected Lincor Solution's MEDI*Vista* clinical computing and patient entertainment solution.

Solution

Lincor Solutions' MEDIVista technology is today deployed at over 330 acute care beds as well as dialysis and chemotherapy care points at RVH.

According to Liane Coates, ICT Director the MEDI*Vista* solution was selected because it delivered on the following key features;

Compact MEDI*Vista* monitor

The MEDI*Vista* solution is comprised of a 15" flat-screen monitor on an articulating arm, which can be compactly stored out of the way when delivering medical care or viewing clinical applications and data and easily returned to the patient's side to recommence entertainment or communications services. The monitor has a simple to use touch-screen interface with large, clear buttons helping to navigate patients through the system.

Digital entertainment & communications

With MEDI*Vista* patients can view multiple television channels, surf the Internet and view the latest hospital information. In addition, patients can receive and make outgoing VoIP telephone calls direct from their bedside. Patients can activate entertainment and communications services by placing credit on a unique Patient Card from any of the hospital's pay-machines which can then be inserted into the MEDIVista monitor.

Clinical computing at the bedside

RVH began roll out of its clinical functionality and data in January 2009. Staff can now access RVH's MEDITECH information system containing complete Electronic Medical Records (EMRs). In addition, medical users can view and discuss the latest patient imaging (X-rays, CT Scans) via RVH's Siemens MagicWeb PACS (Picture Archiving and Computing System) service.

Secure clinical access

The MEDI*Vista* monitor has a secure Single Sign-On (SSO) identification process enabling access to RVH's clinical data and applications. The monitor's inbuilt RFID (Radio Frequency Identification) proximity reader activates a clinical log-on screen enabling staff to enter their unique username and password. Should a clinical user forget to log-out, the system will quickly time-out if inactive ensuring data security remains uncompromised.

Payment Solution

RVH has a network of payment stations within its hospital complex that allow patients to place credit onto their MEDI*Vista* patient services card. Once credit has been applied, the card can be reinserted to activate the system's patient services. In addition, patients can track their

***Above:* RVH Patient Menu Screen** enabling TV and Internet access as well as direct dial telephone from each bedside monitor.

***Above:* RVH MEDITECH Clinical Access Screen** providing clinical staff with secure and direct access to RVH's complete EMR database.

credit balance and manage spend on entertainment or telephone calls.

In addition, the individual patient cards mean greater flexibility for RVH in terms of administering the service. As can happen, patients can at time require a bed/ward move during their hospital stay and so instead of manually re-programming each monitor to enable/disable services, patients simply bring their services card to the new location and re-activate use, meaning no further IT administration or loss of service.

Remote Management

The MEDI*Vista* solution is a robust, centrally managed service that enables the IT team at RVH to efficiently resolve queries, apply system upgrades or add applications and data from a single, centralised back office location. The solution is also founded on a stable architecture and back-office arrangement that minimises system down-time or expenditure of IT management time in maintaining the system.

Project Consultancy

A key feature of MEDI*Vista*'s deployment was Lincor's weekly project management calls and consultancy. RVH's IT team were safely guided through the project's initial requirements phase and today RVH continue to receive support from the Lincor team in relation to it's migration toward future application developments.

MIS Reports

MEDIVista can quickly run use-analysis reports that provide RVH with invaluable insight into patient and clinical use patterns so they may improve ongoing service delivery. In addition, RVH can quickly pull financials on income generated from MEDI*Vista*'s patient services to analyze how performance levels and view which pay-stations need topping up.

"At RVH, our core business is healthcare and our choice of IT systems is critical to achieving a superior standard in care delivery. We want to make the customer experience as streamlined as possible and the stability of the MEDIVista infrastructure; quality of programming; and knowledge of the project team at Lincor helps us achieve this.

Ultimately, MEDIVista enables the staff at RVH to deliver better patient care."

Liane Coates, ICT Director
Royal Victoria Hospital (RVH)

Future Plans for MEDI*Vista at RVH:*

- **New Patient Services** – RVH is looking at adding audio books, games and video on-demand as well as incorporating medical education videos for patients as part of MEDI*Vista*'s Patient Services offering.
- **New Clinical Applications** – In addition to its existing clinical applications, RVH is planning to enable a computerised drug and patient verification feature using the MEDIVista terminal's inbuilt barcode reader.
- **Additional beds** – By 2011, RVH will have completed construction of a new 400,000 sq. ft. expansion in which they expect to deploy over 100 new MEDIVista terminals.
- **Management Tools/Reporting** – RVH is also looking at integrating 'room ready' indicator to enable more efficient bed administration and management.

Results

- ***Increased patient care & satisfaction:*** By implementing MEDI*Vista* at every bedside, RVH has increased each patient's care experience and boosted morale by engaging patients in a greater range of entertainment services. Patients can choose which TV channels to watch, surf the Internet and check on emails; catch up on the latest hospital information; and take and make direct personal calls from their bedside.

  In addition, each care technician's patient-interaction is enhanced with more informative care delivery – patients receive more up to date information regarding their health status as medical staff are now empowered to access, view and explain test results, observations and patient's medical images (X-rays, CT Scans) directly at every bedside.

- ***More efficient clinical workflows:*** MEDI*Vista* provides a fast and efficient gateway to RVH's MEDITECH EMR data and Siemens Web Magic PACS imaging. Medical staff can eliminate time-consuming requests for test results and scans to be sent to them in time for patient-rounds. Now, staff can simply log-on at each bedside and use the most up to date patient data to make more accurate care decisions. In addition, clinical staff can enter observation notes directly into the patient's EMR, saving laborious note taking and updating of records once patient rounds have been completed. Data can now be recorded in real-time at the patient's bedside saving time and improving the quality of the hospital's HIS.

- ***Realisable ROI:*** RVH is tracking to offset its investment into the MEDI*Vista* solution within a five year period. Using revenues generated from chargeable patient services, RVH plans to reinvest this income into future developments of the solution as well as offsetting the initial outlay.

- ***Efficient IT Administration:*** To date the IT team at RVH has experienced a significant reduction in IT administration time in relation to the MEDI*Vista* solution. The monitors can be continuously monitored and issues resolved from a remote back-office location thereby eliminating individual on-site reprogramming and enabling swift batch fixes or upgrades.

- ***Scalable for growth:*** ME*DIVista*'s modular and open architecture enables RVH to easily phase the integration of new clinical/patient applications and data. RVH's goal is to achieve complete adoption of the MED*IVista* tool so that it becomes an integral part of patient care at RVH.

Fast Facts

- **Over 330 bedside terminals** across entire RVH's in-patient bed network, and dialysis and chemotherapy care points.
- **101 new beds** planned for 2011
- Gateway to **MEDITECH EMR Data, Siemens Web Magic** and **PACS Images.**
- **Multi-channel TV service** and **Internet access** at every bedside
- **Integrated VoIP phone handset** enabling both inward and outbound direct telephone calls
- **Flexible Payment Card Solutions** allow patients add credit to their service card at any pay station as well as monitor remaining credit.
- **Single Sign-On (SSO) Access** – Secure RFID (Radio Frequency Identification) proximity reader & unique user log-on.
- **Compact, arm-mounted** dual-purpose clinical computer and patient entertainment monitor at every bedside

Conclusion

Since deploying MEDI*Vista*'s dual-device technology across its 330 bed hospital network in 2008, RVH has quickly realised many of the IT objectives it set out to achieve for both its clinical and patient user base. RVH expect to achieve long-term benefit and scalability from the MEDI*Vista* solution and today see it as core to the hospital's clinical care ethos and in keeping with the RVH mission statement - ***"Delivering Exceptional Care that embraces the individual while promoting a Healthy Community."***