

**Geelong Cardiology Practice**



Equipmed recently assisted Victoria's largest regional health care provider, Barwon Health, to implement a new state of the art Cardiac Image and Information Management System for Geelong Cardiology Practice.

The Medcon system has substantially improved image and data management for Geelong Cardiology Practice, and has given the organisation an excellent platform from which to further enhance its computer and IT systems.

Barwon Health is Victoria's largest regional healthcare provider. Through its extensive range of services and programs, it provides general and specialist hospital, rehabilitation, residential and community services for over 90% of the Geelong community, and to an increasing number of residents across the Barwon South-Western region.

Community health, mental health, maternity services, aged care, rehabilitation, medical and surgical services are also provided to communities through to the South Australian border. These services include cardiology, open-heart surgery, cancer services, palliative care and a range of mental health services.

*Front row from left to right - Christine Arch (Equipmed: Sales Representative), A/Prof. Alexander Black (Director of Cardiology), Anton Selvakumaran (Director of Biomedical Engineering)*

*Back row from left to right - Luke Watson (Equipmed: Mennen Product Manager), Stene Marshall (Equipmed: Cardiology Sales Manager), Noam Rozen (Equipmed: Medcon Product Manager).*

## *New Echo and Cath Lab information management systems improve image and data handling*

### **The Challenge**

Barwon Health and, in particular, Geelong Cardiology Practice, needed to upgrade its echocardiography and Cath Lab equipment due to the age of some of that equipment. Geelong Hospital has two Cath Labs, one manufactured by Philips (Flat Panel) and one by Toshiba. The labs are housed in two different buildings and had to be networked to facilitate image management and archiving. Echocardiography is conducted at five different sites, from Werribee to Colac, some 150 kilometres apart. It is therefore important that Echo exams performed at sites outside of Geelong Hospital be easily downloaded into one central image storage and reporting system.

### **System Requirements**

All the imaging equipment produced DICOM-compliant images so it was imperative to implement a reporting system that could store and generate reports in this format.

The clinicians also specified that:

- Image quality must be high
- Many users must be able to use the system concurrently
- Images need to be shared throughout the Geelong Hospital
- Reports must be written and finalised from both the doctors' offices and their homes.

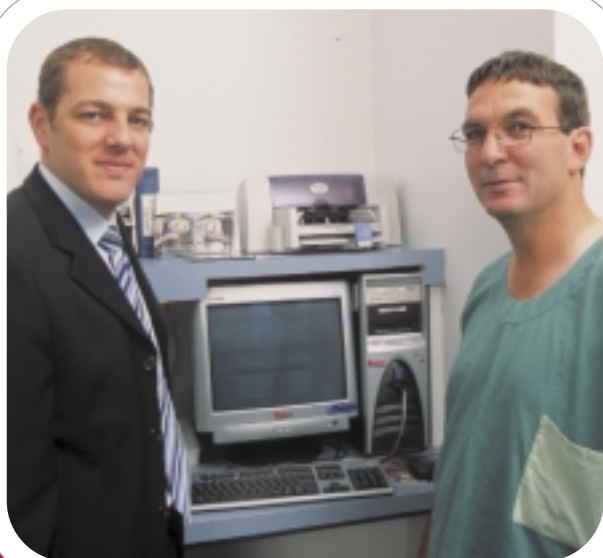
From an administrative perspective, the system had to be easy-to-use for all staff: nursing; technical; and administrative. Customising the reporting system to suit Geelong Cardiology Practice's particular needs was another crucial requirement.

### **Selecting a supplier**

Geelong Cardiology Practice evaluated a number of suppliers before selecting the Medcon Telemedicine Technology solution presented by Equipmed. Factors that influenced the decision to accept Equipmed's integrated hardware and software solution were product maturity, customisability and cross-platform support.

The Medcon system includes:

- 4 x multimodality workstations offering powerful network review capabilities for the Cath & Echo Labs, as well as for additional cardiac modalities, which include diagnostic DICOM viewing, report generation, advanced image processing, digital subtraction and professional quantitative analysis, along with built-in telecardiology.
- 2 x Cath Reporting software modules are seamlessly integrated into the Medcon environment and database. They run a clinical database and integrate images and analysis results with haemodynamic information.
- 8 x Echo Reporting software modules enable rapid generation of clinical comments, measurements, calculations, wall motion scoring and a final summary report. Echo Reporting runs a clinical database and integrates Medcon images and analysis results.
- Unlimited web-based viewings are accessible throughout the Geelong Hospital using the existing network, or from anywhere outside the hospital using a secure connection over the Internet.



*Noam Rozen (Equipmed: Medcon Product Manager), Dr Challon Murdock (Cardiologist)*



*A/Prof. Alexander Black (Director of Cardiology), Noam Rozen (Equipmed: Medcon Product Manager)*



*Dr Alan Appelbe (Cardiologist), Dr Elizabeth Ryan (Cardiologist)*



*Kym Batt (Practice Manager)*

- All procedures and finalised reports are automatically archived on a DVD jukebox and can be retrieved seamlessly in less than 30 seconds. The DVD mass storage device will enable Geelong Cardiology Practice to efficiently store and retrieve patient data and records for many years to come.

One of the features of the Medcon system that appealed to Geelong Cardiology Practice was its flexible reporting options, which utilise standard Microsoft Word templates. These were easily customised to suit Geelong Cardiology Practice's needs and functional requirements. The Medcon data entry fields can also be fully customised, so that dropdown lists suit the organisation using the system.

#### **Implementing the system**

Implementation of the Medcon reporting system improved the Geelong Cardiology Practice's workflow.

Commenting on the project, Kym Batt, the Practice Manager, said: "The reports can now be finalised by the physicians immediately after the case. In the Cath Lab, our nurses are in the practice of phoning patients the day after their procedure to ask follow-up questions on their condition. This information can be entered into the database."

#### **Service and Support**

"The service that we received, and continue to receive, from Medcon and Equipmed is very impressive. The assistance we received from Medcon to customise the report templates was excellent and the ongoing dial-in support we receive from both Medcon and Equipmed here in Australia cannot be faulted – overall we are happy with our decision," added Kym.

#### **Future Expansion**

Geelong Cardiology Practice's workflow can be further improved by linking other existing systems to the Medcon system, including:

- ADT Link between the HIS and Medcon
- HemoLink with a DICOM-compatible haemodynamic system
- Multimodality Acquisition from Cardiac CT & MRI and also CR
- Scheduling & inventory management
- Billing interface exporting to the booking and billing system.

"We look forward to continuing our positive working relationship with Medcon and Equipmed," said Kym.

# Medcon Telemedicine Technology

## Cardiac Image & Information Management

- HIS connectivity (ADT)
- DICOM Store SCP/SCU
- DICOM Q/R SCP/SCU
- DICOM Worklist/MPPS
- Scheduling
- Reporting
- Inventory
- Billing Connectivity

Hemodynamics and Cath Images

Echo Images and Measurements

Nuclear Cardiology

Radiology

Server & RAID

Hemolink™

TCS Multimodality Review and Report Workstations

Long term DICOM 3.0 multimodality archive

Cath Reporting

Echo Reporting

Exercise and Non-invasive Reporting

NM Reporting

Internet Consultations

Web Publication

Telecardiology to Remote Hospitals

TCS Symphony orchestrates images and patient information from all cardiology imaging modalities and information sources in one central system. It simplifies the natural cardiology workflow and improves cost-effectiveness so that healthcare professionals can focus on what they do best, helping people.

### TCS Symphony does it all:

#### Administer

TCS Symphony is your solution from pre-admission for cardiac patients through discharge and follow-up. TCS Symphony integrates with HIS and other information systems to simplify ADT management, tracking and billing. The scheduling module improves overall efficiency and cost-effectiveness by implementing careful management of critical resources, such as personnel and lab facilities.

#### Acquire

TCS Symphony acquires multimodality images including cath, echo and nuclear cardiology in DICOM format from DICOM and non-DICOM compatible imaging systems. It also supports the acquisition of haemodynamic information and waveforms, as well as measurements and analysis results. Each workstation can import data from external sources, including CDs, DVDs, or over the network.

#### Store

TCS Symphony delivers sophisticated DICOM archiving with the latest technology advances. Multimodality procedure retrieval is instantaneous, so valuable information is there when you need it. The TCS Symphony deep storage archive delivers results in less than 30 seconds. The archiving process is automatic and accessible by all TCS Symphony workstations. Data is stored on CD-R's, DVD-Rs, MOs, tapes, SAN or NAS, ensuring unlimited storage capacity. Medcon places high emphasis on data redundancy and disaster recovery to ensure long-term integrity and reliability of archived data and full compatibility with HIPAA regulations.

#### View

TCS Symphony supports multimodality viewing on local network computers and over the Internet. Images from multiple modalities are viewed simultaneously, so physicians can efficiently review, diagnose and report procedures. TCS Symphony supports advanced image processing tools for medical grade image enhancement, manipulation, comprehensive loop control tools and voice-activated commands. The high quality images can be adjusted and annotated for quantitative coronary measurements.

#### Report

TCS Symphony offers a wide range of cardiology reporting options designed to support the unique requirements of each cardiac modality. Drop-down menus and pre-formulated sentences can be modified and re-designed as required. The reporting modules acquire data such as measurements, analysis results and haemodynamic information for insertion into the final summary report.

#### Export

TCS Symphony easily integrates with HIS, billing and other hospital information systems to simplify ADT management, tracking and billing. Final patient records and procedure status are automatically exported directly to the systems and to national registries such as ACC/NCDR, STS, BCIS/CCAD and BQS.

#### Research

TCS Symphony lets you create advanced queries. Results can be applied to administrative research, to improve efficiency and to optimized cost-effectiveness. In addition, case studies for use in research and teaching files can be generated after confidential patient information is deleted.

#### TCS Symphony Supports Industry Standards:

- DICOM 3.0
- IHE
- HL7
- CCOW
- HIPAA compatible

#### Medcon Telemedicine Technology

Medcon Telemedicine Technology, Inc. is a global leader in cardiac image and information management with hundreds of installations worldwide, including the U.S., Europe, Asia/Pacific and South America. It develops and markets a complete line of turnkey solutions diagnostic filmless image management, cath, echo, and nuclear medicine lab archiving, as well as the exchange of cardiac images and information (telecardiology) over Internet/Intranet communication lines. Medcon is committed to the support of industry standards including DICOM, Worklist/SR, HL7 and CCOW and is HIPAA compliant. [www.medcon.com](http://www.medcon.com)

#### Equipped

Equipped is one of the world's leading independent suppliers of complete cardiology solutions. Drawing on world's best technology, Equipped tailors cardiology solutions from diagnostic equipment to integrated information management systems. [www.equipped.com](http://www.equipped.com)