



Winnipeg Regional Health Authority  
Office régional de la santé de Winnipeg  
*Caring for Health À l'écoute de notre santé*

Winnipeg Regional Health Authority

CARDIAC SCIENCES PROGRAM

2007/2008

YEAR IN REVIEW

*Excellence in patient centered cardiac care, education and research*



# Table of Contents

Directors' Message

3

About Us

4

Patient Centered Care

5

Research

10

Education

11



Photo Credit: Joel Ross Photography

## DIRECTORS' MESSAGE

On behalf of the Winnipeg Regional Health Authority (WRHA) Cardiac Sciences Program, we are pleased to provide an overview of key developments for the period April 1, 2007, to March 31, 2008.

The WRHA Cardiac Sciences Program continues to experience significant growth. With the many successes and challenges over the past year, we remain committed to achieving clinical and academic excellence by providing the highest standards in cardiac patient-centered care, education and research. Our patients have clearly benefited from this shared vision and the substantial investments made in our people, infrastructure, processes and partnerships.

The successful consolidation of cardiology and cardiac surgery at St. Boniface General Hospital was an important milestone. Integrating aspects of patient care required considerable time, energy and resources and has had significant implications for cardiac patients and staff alike. This transition went smoothly thanks to our exceptional team of multidisciplinary professionals. Positive clinical, research and administrative developments also contributed to this seamless move.

As expected, there are questions and issues that arise with any change. These concerns and the fact that heart disease affects more Canadians than any other illness, raises public expectations and the need for meaningful solutions. Opportunities to improve accessibility, patient satisfaction, workforce planning, resource management and value for money are ever present. Our increased collaboration, both internally and externally, is essential to achieving our goals together. We are continuously assessing how we can improve what we deliver across the continuum of cardiac patient care.

The expansion plans are underway for the Bergen Cardiac Care Centre and the I.H. Asper Institute. The WRHA Cardiac Sciences Program will continue to maintain this positive momentum by delivering excellent patient-centered cardiac care, research and education to people of Winnipeg, the province of Manitoba and surrounding regions. We are grateful to our cardiac patients, their families, physicians, staff members and partners for making this all possible.



Dr. Alan Menkis, Medical Director

Francis LaBossière, Program Director

Ken Rannard, Administrative Director

## ABOUT US

**VISION** Be recognized for clinical and academic excellence (locally, nationally and internationally), by providing the highest standard of patient-centered cardiac care, education and research within a professional organization that fosters respect, collaboration and open communication.

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**VALUES** Caring, Excellence, Innovation, Collaboration, Accountability

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**MANDATE** Deliver comprehensive, integrated cardiac patient care for Winnipeg, the province of Manitoba and surrounding regions. Patient-centered cardiac care includes comprehensive diagnostic, ambulatory, inpatient, outpatient and rehabilitation services. Education and research activities are focused on the prevention, care and treatment of heart disease.

The Medical Director, Program Director and Administrative Director are jointly accountable for managing WRHA Cardiac Sciences Program clinical, research, education and administrative activities. Several hundred highly-skilled, multidisciplinary clinicians, researchers, administrative and support professionals work together to implement this mandate.

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**HISTORY** Heart disease kills more Canadians each year than any other illness and will be the leading cause of disease burden worldwide by the year 2020. This trend, in association with an aging population, places significant demands on Manitoba's health system and economy. Innovative and effective solutions are needed to meet these patient care requirements.

In September 2003, Manitoba Health announced the approval for a Cardiac Sciences Program which would integrate Cardiac Surgery, Cardiology, Cardiac Anesthesia, Cardiac Intensive Care and Cardiac Rehabilitation patient care, education and research into one coordinated structure.

Between November 2006 and January 2007, the majority of cardiac patient care was consolidated at St. Boniface General Hospital. Cardiology became the centerpiece of the newly constructed Bergen Cardiac Care Centre. Select cardiology services continue to be available at the Health Sciences Centre and other Winnipeg-based community hospitals. The integration of Cardiac Surgery, Cardiac Anesthesia and Cardiac Intensive Care at St. Boniface General Hospital soon followed. Cardiac Rehabilitation services are delivered by the Reh-Fit Centre and the Seven Oaks Wellness Centre.

## PATIENT CENTERED CARE

Cardiology, Cardiac Surgery, Cardiac Anesthesia, Cardiac Intensive Care and Cardiac Rehabilitation are the five patient care components of the WRHA Cardiac Sciences Program. There were significant developments in each of these areas during the 2007-2008 reporting period. Some of the highlights include:

### Accreditation

The WRHA Cardiac Sciences Program was formally surveyed by the Canadian Council of Health Services Accreditation (CCHSA) in November 2007. This accreditation process evaluated the quality of the Program's services by comparing them to nationally accepted standards. A comprehensive self-assessment followed by a CCHSA survey visit, included a documentation review, team interviews, facility tours and focus group meetings with stakeholders. This was the first opportunity for all Program areas to participate in this exercise. The CCHSA report, in February 2008, concluded the Program's quality and patient safety record was excellent and provided only two specific recommendations for follow-up.

### Recruitment and Staffing

With the increasing demand for cardiac patient care, the Program made significant progress in multidisciplinary recruitment. There is a continuous need to fill vacancies and ensure appropriate staffing options are in place. The number of medical staff has almost doubled since the Program's inception in 2004. Several new cardiac physicians, surgeons and several internationally recognized research experts were recruited in cardiology, cardiac surgery, cardiac anesthesia and cardiac intensive care. Progress is also being made in addressing cardiac intensive care nursing and echocardiography technologist staffing vacancies.

Many health care professionals fulfill important roles in managing the continuity and quality of cardiac patient care. Within Cardiac Sciences, clinical assistants, nurse practitioners and clinical nurse specialists join others in this important endeavour. The Program has explored new staffing approaches and has distinguished itself nationally by having a team of clinical assistants assume significant responsibilities with cardiac surgery patients receiving treatments in hospital. With the goal of enhancing transitional care for outpatients, nurse practitioners have focused on bridging the gaps with cardiac patients who are entering or leaving the hospital. For example, the cardiac surgery anticoagulation clinic supports primary care by daily monitoring post-operative patients on blood thinning medications.



## PATIENT CENTERED CARE *cont'd*

### Outpatient Cardiology Services

Outpatient cardiology procedures and clinics have increased in conjunction with the establishment of the state of the art Bergen Cardiac Care Centre. As one of the largest nurse-run clinics in Canada, the pacemaker clinic had over 10,000 visits.

- Pacemaker implants doubled since 2006/2007.
- Defibrillator implants have more than tripled since 2006/2007.
- Echocardiography procedures have more than doubled since 2004/2005.

An echocardiography database and scheduling software are in development to improve efficiency in this area. The recruitment of highly trained physicians and nursing staff led to expanded electrophysiology services. Overall, the growing demand for outpatient cardiology services has required careful monitoring and follow-up. Program managers, physicians and staff have worked diligently to ensure patient accessibility and waitlist priorities are managed in a timely and appropriate manner. Satisfaction ratings in outpatient cardiology have been extremely positive with 85% of patients indicating the care they received was very good or excellent.



### Heart Failure Initiatives

Outpatient heart failure clinic activities expanded with new patient referral visits doubling since last year. Patient follow-up visits tripled since 2002/2003. Inpatient heart failure care was enhanced and three clinical protocols for Coronary Care Unit (CCU) patients were developed. A mechanical circulatory support initiative was established for ECMO (extracorporeal membrane oxygenation) and VAD (ventricular assist device) cases. Several important heart failure partnerships are also underway, including a referral program with Manitoba Health/Health Links for patient telephone monitoring, a community heart failure referral program with the WRHA, working with the Canadian Heart Failure Network and patients consenting to participate in local and national heart failure databases.



## PATIENT CENTERED CARE *cont'd*

### Intensive Care Cardiac Sciences (ICCS) Model of Care

ICCS is an innovative, dedicated critical care unit for cardiac surgery and eligible cardiology patients. The ICCS team, including a newly appointed ICCS Medical Director and Program Team Manager, made great strides in managing cardiac surgery patient flow. The ICCS facilitates the operating room slate with efficient throughput of cardiac surgery cases. This unit is continuously staffed by attending cardiac intensive care physicians who provide in-house coverage 24 hours per day/7 days per week. These Intensivists work with cardiac anesthetists, nurses and other health care professionals in post-operative care as part of the facilitated recovery (fast-track) model. This practice strives for early patient extubation and has been implemented in more than half of post-operative cardiac surgery cases. The advantage is that these patients are typically transferred within a 12 to 24 hour time frame or sooner to the Cardiac Surgery Inpatient Unit for further recovery.



### Cardiac Surgery Wait Times

(source: WRHA)

The WRHA Cardiac Sciences Program is a nationally recognized leader in its management and delivery of cardiac care. The Canadian Institute for Health Information recognized Manitoba as having the shortest wait time for cardiac bypass surgery - with no wait time for the most serious cases. The National Wait Time Alliance also awarded the province the best possible grade in this area.

- March 2008: 13 days
- March 2007: 22 days
- March 2006: 31 days

Ninety-five percent (95%) of all scheduled cardiac surgery patients (cases that do not require emergency or urgent treatment) get their operation within the nationally established benchmarks. Any patient who waits beyond the benchmark is treated as an urgent case and is scheduled accordingly.

### Cardiac Surgery, In Hospital Length of Stay

Canadian Institute for Health Information (CIHI) data suggests progress has been made with in-hospital patient flow over the past year. Average Acute Length of Stay for Cardiac Surgery, in typical cases, has decreased by one entire day since last year. Also, the Program's Average Acute Length of Stay in Cardiac Surgery falls well below national estimated length of stay standards, most notably with elective Coronary Artery Bypass Graft (CABG) procedures.

## PATIENT CENTERED CARE *cont'd*

### Cardiac Rehabilitation

Cardiac rehabilitation is integral to comprehensive patient centered cardiac care. Patients are encouraged to make positive long-term lifestyle changes while reinforcing prescribed medical and pharmacological therapies. Advanced nurse practitioners, physiotherapists, dietitians, pharmacists, psychologists, cardiac rehabilitation case workers, among others, are members of the multidisciplinary team. This year 934 patients participated in the four month cardiac rehabilitation program jointly offered at Seven Oaks Wellness Institute and the Reh-Fit Centre. The majority of Program participants were people recovering from heart attacks and cardiac surgery. Winnipeg continues to exceed most other Canadian jurisdictions in participation rates per capita. However, opportunities for improvement exist as only 28% of all eligible patients formally registered in the cardiac rehabilitation program. Financial assistance and other incentives continue to be offered as means to offset direct costs to patients. Monthly information sessions are held at St. Boniface General Hospital for newly discharged patients to promote the importance of cardiac rehabilitation and the community resources available.



### Facilities Expansion

The Program's physical expansion within the Bergen Cardiac Care Centre and the I.H. Asper Institute at St. Boniface General Hospital continues. After extensive consultations with user groups, the design and development stage is complete and construction will begin upon completion of the tender document phase. Three floors of the I.H. Asper Institute will be used for cardiac inpatient and outpatient care as well as administrative space. As part of their work with the Cardiovascular Health and Research in Manitoba (CHaRM) group, several cardiac sciences' physician-researchers and staff have already moved to the third floor of the I.H. Asper Institute. The third floor of the Bergen Cardiac Care Centre will be completed to integrate key administrative, medical and educational requirements.

## PATIENT CENTERED CARE *cont'd*

### Program Vision

On January 12, 2008, a diverse group of Cardiac Sciences physicians and staff were invited to provide feedback about the Program's future direction. Dr. Jerry Gray, Dean Emeritus and Senior Scholar at the University of Manitoba's I. H. Asper School of Business, facilitated this event to build upon the results from the first Program vision session held in March 2005. The strategic priorities which emerged reflect the excellent work that is in progress and include:

- Providing the continuum of cardiac patient care in a comprehensive, timely and appropriate manner;
- Delivering multi-disciplinary cardiac research and education to improve evidence-based practice;
- Undertaking continuous quality improvement;
- Ensuring job satisfaction and achievement of individual potential;
- Recognizing and communicating progress and successes, to both internal and external audiences;
- Establishing an internationally recognized heart institute.

These recommendations are currently being incorporated into the Program's planning and implementation strategies.

### Partnerships across the Continuum of Cardiac Care

Over the course of the last year, the WRHA Cardiac Sciences Program, in conjunction with the Heart and Stroke Foundation of Manitoba, Manitoba Health and Healthy Living, the Institute of Cardiovascular Sciences and other partners, took a leading role in the Manitoba Heart Health Think Tank. This group assembled heart health specialists, researchers, regional health authorities and interested agencies with the goal of improving heart health in Manitoba. Recommendations included:

- Finding tangible ways for key organizations and relevant sectors to work together more effectively;
- Identifying key priorities in areas such as healthy living, chronic disease prevention, public policy, education, primary, secondary and tertiary care (intervention), rehabilitation, palliation, research, population studies, Aboriginal issues and rural care.

The Manitoba Heart Health group is now working on potential implementation strategies and will incorporate themes which have emerged from the Canadian Heart Health Strategy and Action Planning exercise.



## RESEARCH

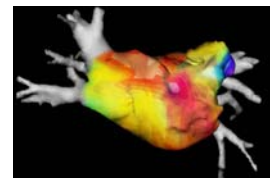
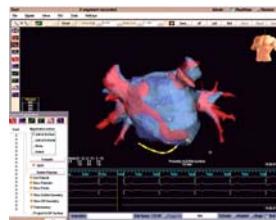
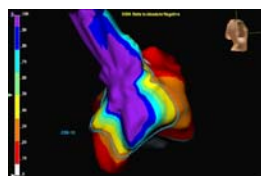
There were noteworthy cardiac sciences research developments with the recruitment of internationally recognized clinician researchers, new research infrastructure, research staffing and increased multidisciplinary research activities. One of the driving forces behind this recruitment momentum was the Cardiovascular Health and Research in Manitoba (CHaRM) group. CHaRM provides a forum for discussion, promotion and collaboration for basic science, clinical outcomes and translational research in Cardiac Sciences. CHaRM members and partner organizations include: cardiac surgery, cardiology, cardiac anesthesia, cardiac intensive care, cardiac rehabilitation, the Faculty of Medicine, Faculty of Nursing, St. Boniface Research Centre, I.H. Asper Clinical Research Institute, National Research Centre, Institute of Cardiovascular Sciences and Manitoba Centre for Health Policy, among others.

A tremendous amount has been accomplished in basic science and clinical research including several Winnipeg-based clinical trials, participation in multi-center clinical trials, the establishment of three laboratories, hiring of technologists, students and research support staff as well as the creation of a heart failure database. Combined research funding for cardiac sciences researchers is now in the multi-million dollar range and continues to grow. Several important peer-reviewed grants were also awarded to cardiac sciences investigators from: the Heart and Stoke Foundation, Manitoba Health Research Council, Manitoba Medical Service Foundation, Dr. Paul T. Thorlakson Fund, University of Manitoba Research Grants Program and Rudy-Falk Clinician Scientist Fund.



Photo Credit:  
A. Downey-Franchuk, Enviroscribe

Cardiac Science Program physicians, nurses, residents, pharmacists and other health care professionals have generated a substantial number of publications, abstracts and conference presentations. In fact, the number of Cardiac Sciences submissions accepted at the Canadian Cardiovascular Society's annual conference has more than quadrupled in the last four years. Cardiac anesthesia investigators are among those making their mark. Their research productivity has more than doubled since last year with ten projects that are currently active or in the final stages of gaining approval. These include several studies with cardiac surgery patients for pain control, fluid therapies to reduce post-operative bleeding and techniques to reduce anesthetic "awareness".



## EDUCATION

Medical education and training continue to be a centerpiece of the WRHA Cardiac Sciences Program. With the successful recruitment of new cardiac sciences' physicians and surgeons, considerable advances in education have followed. The Cardiology Subspecialty Program recently received full approval for its Royal College Training Program and has been recognized with a Clinical Excellence in Teaching Award by the Canadian Cardiovascular Society. There are currently a total of ten trainees in this program.

The Cardiac Anesthesia Fellowship program, now in its fourth year, continues to gain recognition and provide unique education in a popular subspecialty. Fellows are given lectures to cover all pertinent areas within cardiac anesthesia and have exposure to a broader lecture series, highly distinguished visiting professors, journal clubs and lab sessions in which trainees from all other Cardiac Science subspecialties participate. This year, a mini sabbatical in advanced techniques for intra-operative echocardiography was offered at Duke University Medical Center. A partnership was also established with the Montreal Heart Institute to develop an examination in intraoperative echocardiography, with the goal of preparing future candidates for the National Board of Echocardiography Intraoperative exam.

Nursing and allied health professional education also plays an important role in the Program, as demonstrated in the following activities:

- Implemented monthly Cardiac Sciences Nursing Grand Rounds.
- Developed a Cardiac Sciences Clinical Nurse Specialist pamphlet to promote advanced nursing practice roles within the program.
- Organized regular multidisciplinary cardiac surgery educational in-service days for staff development.
- Continued preceptorship of students in the Adult Intensive Care Nursing Program, a University of Manitoba-Faculty of Nursing affiliated educational program.
- Offered community based practicum/rotations in cardiac rehabilitation for nursing, medical rehabilitation, social workers, dietitians, pharmacists, exercise physiologists/kinesiologists and medical students at both Seven Oaks Wellness Institute and the Reh-fit Centre.





The WRHA Cardiac Sciences Program gratefully acknowledges all of those who contributed to developing and publishing this document.

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