

Cardiology

Researchers in Capital Health’s Division of Cardiology are seeking new and better ways to treat patients with heart disease. At the same time, they are exploring innovative ways to help patients manage their disease, to keep them out of hospital and as healthy as possible. And, they are developing new ways to help people reduce their risk of cardiovascular disease. Their ultimate goal: longer, healthier lives for Nova Scotians.

Acute Care

The Heart Rhythm Group saves lives and improves heart function in patients with arrhythmias

Most of us take the steady beating of our hearts for granted. But people with irregular heart beats don’t have this luxury. Some arrhythmias are extremely dangerous and can put people at risk of cardiac arrest and sudden death.

Capital Health’s Heart Rhythm Group is dedicated to preventing such deaths, and improving heart function and quality of life for people living with offbeat heart rhythms. Four cardiac electrophysiologists form the core of this group: Drs. John Sapp, Martin Gardner, Magdy Basta and Ratika Parkash.

“Some arrhythmias are life-threatening, while others can seriously compromise quality of life,” says Dr. Sapp. “They are often caused by heart attacks, which can leave scar tissue that disrupts the electrical activity of the heart. In such cases, patients may develop heart failure as well. We want to know if arrhythmias contribute to heart failure, or if perhaps heart failure can lead to arrhythmias.”

Pacemakers, arrhythmia and heart failure

Drs. Sapp and Parkash are leading a major study to examine the relationship between heart failure and arrhythmias. They, their Capital Health colleagues, and clinicians in seven other centres across Canada, are monitoring the effects of a newer kind of pacemaker, called a ‘re-synchronization defibrillator,’ on arrhythmias in patients with heart failure. Unlike regular pacemakers, these

improve the heart’s pumping capacity by helping the four chambers of the heart beat in sync with each other.

This Canadian study (funded by the Heart & Stroke Foundation) is part of a worldwide study (funded by the Canadian Institutes of Health Research) to see if re-synchronization defibrillators can prevent or slow the progression of heart failure. The Canadian researchers are examining heart rhythm data from 1,800 patients – collected around the clock through computers imbedded in the devices – to shed light on arrhythmias’ role in heart failure.

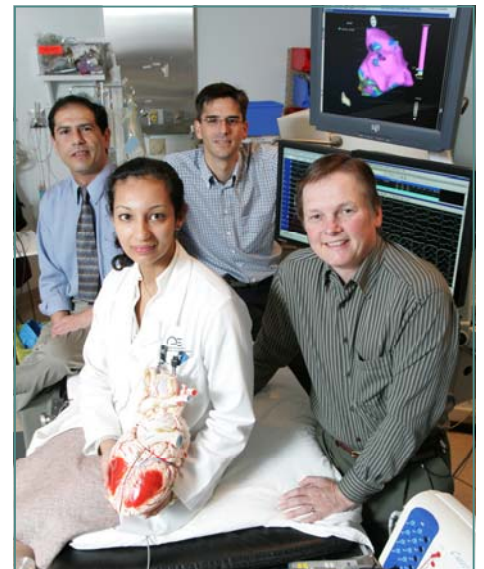
Saving lives with implantable defibrillators

Pacemakers of all kinds can be lifesaving devices. For example, ventricular tachycardia, a rapid heartbeat in the lower chambers that commonly occurs after heart attack, can kill the very first time it happens. Even when patients do not have existing arrhythmias, they may be candidates for preventive defibrillators.

That’s why Dr. Gardner is running a preventive defibrillator clinic at the QEII Health Sciences Centre. His research through this clinic found that wait times to receive an implant were too long. Based on these findings, he re-designed the clinic so a nurse assesses patients before they see him. They have reduced the average wait time by 66 per cent.

Of course, it’s vital that patients receive the defibrillator that’s right for them.

Dr. Basta is involved in clinical trials testing various defibrillators and new ways to program them for maximum benefit.



The Heart Rhythm Group: (back, left to right) Drs. Magdy Basta and John Sapp; (front, left to right) Drs. Ratika Parkash and Martin Gardner.

Dr. Parkash wants to know if patients who need defibrillators are receiving them. She has developed a database to track patients in Nova Scotia and Prince Edward Island who have been referred to a specialist to be assessed for a preventive defibrillator.

“We can link this rich registry to other databases to learn what factors influence whether or not a patient receives a defibrillator,” notes Dr. Parkash. “If we identify barriers, we can work to remove them to ensure equitable access to care.” The database will also reveal how patients fare over time, with or without a defibrillator, and who benefits most from these devices.

Finding and fixing arrhythmias at the source

Many arrhythmias can be cured through catheter ablation. This procedure uses a catheter – a flexible wire inserted into the heart via a blood vessel in the groin – to deliver a surge of energy to short circuits in the heart’s electrical system.

Dr. John Sapp and his colleagues are developing innovative ways of locating short circuits. With Dalhousie University’s Dr. Milan Horacek, they are pioneering non-invasive body surface mapping, which uses electrodes on the skin to pinpoint the short circuit. At the same time, they are testing new catheter equipment designed to look for short circuits deep within the heart. “You need to find the short circuits to ablate them,” notes Dr. Sapp. “We’re also investigating how much ablation is required for optimal results.”

Dr. Parkash has launched a trial to see if a drug commonly used to treat hypertension can improve the cure rate of ablations in patients with atrial fibrillation. Whether testing equipment, procedures, medications, or ways of delivering care, the Heart Rhythm Group is using research to lead the way to better care.

When heart disease is genetic

Some families have inherited heart rhythm abnormalities that can lead to sudden death. Dr. Martin Gardner launched the Inherited Heart Disease Clinic to better treat and study these conditions. He and his colleagues work closely with the medical genetics and pediatric cardiology groups at the IWK Health Centre – and with centres across Canada – to develop and test better ways of identifying people whose arrhythmia puts them at risk. They’re investigating gene mutations, causes of sudden death and new ways to diagnose Arrhythmogenic Right Ventricular Cardiomyopathy, while trying to identify a heart-disease-causing gene that affects a number of families in Nova Scotia’s Eskasoni First Nations community.

Disease Management

Carefully managing patients’ heart disease has proven to dramatically improve longevity, symptoms and quality of life. STARTEL is an innovative research project that uses telehomecare to manage heart failure and keep patients out of hospital.

STARTEL takes heart failure management into patients’ homes

Capital Health is pilot testing Nova Scotia’s first telehomecare venture through STARTEL, a multi-year research project that aims to transform heart failure management across Canada – from crisis response to proactive intervention.

STARTEL is putting sophisticated monitoring and communications equipment into 100 heart failure patients’ homes across Nova Scotia and New Brunswick (in partnership with the Atlantic Health Sciences Corporation). Patients check in daily, using the equipment to record their weight, heart rate and blood pressure measurements and send them to a central station where experienced heart failure nurses interpret the data. The nurses monitor the patients’ input and contact them immediately if the results indicate a problem is brewing.

“In essence, we’re taking the heart function clinic into people’s homes, with added benefits,” says Michelle Currie, Capital Health’s STARTEL coordinator. As she notes, there is only a handful of heart function clinics in the province. “It’s difficult for many patients to travel to these clinics – they may be a long distance from home, and some patients may be too ill or lack the resources to get to the clinic often or easily.”

Unlike ‘bricks and mortar’ heart function clinics, STARTEL provides patients with daily professional monitoring of their key disease indicators. It also provides them with ongoing education, through scheduled bi-weekly telephone or videoconference ‘clinical visits’ with the nurses. The nurses work closely with

cardiologists, as well as the patients’ family doctors, to adjust the patients’ care plan as needed. They also stay in close contact with patients to ensure patients understand and follow their treatment – so they are more likely to avoid crisis situations.

“One of STARTEL’s unique elements is the inclusion of the primary care physician,” says Dr. Jonathan Howlett, the Capital Health cardiologist who developed the project. “We send patients’ bi-weekly reports to their physicians, to keep them in the loop and give them a say in their patients’ cardiac care. We also notify them of any non-cardiac problems the patient may be having, so they can follow up. We’re creating specialist-primary care teams, as opposed to parallel and possibly conflicting care from two isolated groups.”

After an initial assessment at the QEII Health Sciences Centre, patients enrolled in STARTEL are assigned to a control group or the telehomecare group for a one-year period. Half of this second group receives a video-equipped device and half receives a device with audio only. The researchers want to learn which device is most effective, and how patients in the telehealth group fare compared to those who receive the ‘usual’ care from their family doctor and heart function clinic.

“We are using blood work to determine changes in kidney function, fluid retention, hemoglobin, clotting factors and other heart failure indicators,” notes Ms. Currie. “At the same time, we’re reviewing health records to see how many visits patients made to their family doctor or local emergency department, and whether or not they were hospitalized for their heart failure symptoms. This will give us a clear picture of the benefits and cost-effectiveness of the telehomecare system.”

Canada Health Infoway and Astra-Zeneca are funding the STARTEL research project, which Dr. Howlett envisions will roll into a clinical program – and not just in Nova Scotia and New Brunswick. “We’re receiving national and international attention for this project,” he says, adding that major health care centres in Alberta are moving to launch telehomecare systems based on the STARTEL protocols.

“Capital Health and Atlantic Health Sciences Centre are leading the way in heart failure telehomecare in Canada,” Dr. Howlett says. With shortages of nurses, family doctors and specialists across the nation, the STARTEL approach offers a way to extend the reach of limited resources, while providing proactive health care. The ultimate aim: healthier heart failure patients, at home, not in hospital.



STARTEL project coordinator Michelle Currie shows study participant Vere Brydon how to use the home blood-pressure equipment.

Each morning, Vere Brydon’s STARTEL heart-health monitoring device chimes a greeting and asks him how he’s feeling. That’s his cue to go to the unit and touch the screen to enter his answer – the same, better, or worse than yesterday. The voice then asks him to take his blood pressure with the attached cuff, providing step-by-step instructions and displaying the score on the screen. After weighing himself on the attached scale and entering some more information, he presses the spot on the screen that sends his report to the hospital, where STARTEL project coordinator Michelle Currie and/or heart failure nurse Kim Bentley review it.

At 85, Mr. Brydon has seen his share of heart troubles. The WWII veteran had his first of more than a dozen heart attacks at the age of 44. He’s since had a quadruple bypass, several stents, and now a re-synchronization defibrillator. He lives independently in spite of his heart failure, and credits STARTEL with a newfound peace of mind.

“Being in this project gives you confidence,” says Mr. Brydon, the first Nova Scotian patient to receive a STARTEL device. “It’s like having a nurse in the house who can take your blood pressure anytime. It makes you feel a lot more comfortable.” Yet his main motivation for joining the study was to help others in the future. “This is the kind of research that will help keep people independent, and out of hospital or nursing homes, longer. It’s a wonderful program.”

Heart Failure Facts

- ♥ Heart failure is the leading cause of disability and hospitalization in the Maritimes and the most costly condition in North America; 80 per cent of the costs are due to hospitalization.
- ♥ Heart failure is the progressive wearing down of the heart muscle which results in inadequate filling or pumping function. Heart transplant is the only cure—and this is a temporary solution.
- ♥ Most often, heart failure develops as a result of high blood pressure or after a heart attack has damaged part of the muscle. It can also be caused by such factors as viral infection, chemotherapy, and drug abuse.
- ♥ As the heart loses its pumping ability, kidney function declines and fluid builds up in the chest and extremities, causing shortness of breath and extreme fatigue.
- ♥ Most heart failure hospitalizations are preventable with diligent management of the disease.

Clinical Trials

Capital Health cardiologists are actively involved in local, national and international clinical trials. Through their ongoing commitment to clinical trials, they have shed light on important new developments while improving patient care and outcomes.

In the rapidly evolving field of cardiology, patient care cannot advance without rigorous clinical testing – of new drugs, procedures, devices, and approaches to delivering patient care. Over the past decade, Capital Health cardiologists have participated in more than a dozen landmark trials.

“We were one of the top recruiters in the COURAGE study,” notes Dr. Lawrence Title, an interventional cardiologist. More than 2,300 North American patients with coronary artery disease took part in this trial. “Half of the patients received balloon and stents to open their narrowed arteries, while the other half were aggressively treated with medications to reduce risk factors like cholesterol and blood pressure, instead of proceeding directly with the stent. We found the stent added no benefit in terms of preventing death or heart attacks, although it did produce a small improvement in quality of life.”

Now, he says, cardiologists may be more likely to try reducing risk factors and symptoms with medications before inserting a stent: “This may prevent the need for additional stents down the line.”

Cardiology is nothing if not complex. While one Canadian study (HOPE) found that ACE inhibitor medications prevented death in heart attack and stroke, a subsequent study (PEACE) found that a drug in this class had no benefit. In this case, however, patients were more likely to be taking cholesterol-lowering drugs, called statins, which may have improved their outcomes.

Nova Scotia’s Emergency Health Services is adopting a new approach to heart attack care, thanks to the WEST study. “Paramedics treated acute heart attack patients with clot-busting drugs on the way to hospital,” explains cardiologist Dr. Iqbal Bata. “These results were compared with those of patients who received traditional treatment with stents upon arriving in hospital.” The paramedic care was so effective, this new protocol is rolling out province-wide.

“Clinical trials can render surprising results,” Dr. Title remarks. “The fact that our assumptions are often shattered highlights the importance of trials.”



Dr. Lawrence Title and research assistants (left to right) Lisa Carroll and Nancy Fitzgerald examine ultrasound images of a patient’s coronary arteries to determine which cholesterol-lowering medication can best prevent plaque build-up.

Advantages of Clinical Trials

- ♥ Clinical trials are the foundation of evidence-based patient care.
- ♥ They provide patients with early access to new treatments that could make the difference between life and death.
- ♥ Patients receive medications free of charge.
- ♥ Physicians doing trials become familiar with study methodologies and can better assess the scientific merits of studies and their results.
- ♥ Physicians gain early understanding of the benefits and side effects of new drugs.
- ♥ Clinical trials test procedures, devices and approaches to health care delivery, as well as medications.

Cardiac Rehabilitation

Patients who've been hospitalized due to heart disease are typically referred to a cardiac rehabilitation program. However, only 10 to 15 per cent make use of these 12-week supervised exercise programs. Of those who do, fewer than 40 per cent continue to exercise after the program is over. Dr. Chris Blanchard, Canada Research Chair in Cardiovascular Disease and Physical Activity, wants to know why, and what can be done to help cardiac patients be more active.

Research chair explores impact of gender, geography and social networks on physical activity of cardiac patients

Physical fitness is the strongest predictor of longevity in people with heart disease. Yet, fewer than 20 per cent of people with diagnosed heart disease are active enough for health benefits. This disparity drives Dr. Chris Blanchard in his quest to help cardiac patients be more active. He has launched a series of studies to uncover the factors behind the dismal statistics.

“Once someone has had a heart attack, bypass surgery, or other cardiac event, the fear factor comes into play,” notes Dr. Blanchard, a health psychologist who joined the Department of Medicine at Capital Health and Dalhousie from the University of Ottawa in 2006. “So that’s a psychological barrier we need to help people overcome – but there are others, not only in people’s minds but in their lives.”

Common reasons patients cite for not exercising are lack of time (due to work, family and other commitments), lack of resources, and a lack of facilities.

Many patients – especially women – lack confidence that they can overcome barriers they feel make it difficult to exercise. “Only 50 per cent of women I’ve surveyed are confident they can overcome barriers, compared to 85 per cent of men,” Dr. Blanchard says. “And women are 20 to 30 per cent more likely than men to drop out of cardiac rehabilitation programs.”

Dr. Blanchard recently launched a study to follow 600 women and 600 men across Atlantic Canada, to record their health, exercise behaviour and the factors that influence whether or not they stick with their prescribed cardiac rehabilitation programs.



Chris Blanchard shows research assistant Angela Stewart how to program a challenging cardio workout in his exercise research facility at the QEII’s Dickson Centre.

“We don’t yet know why women heart patients don’t exercise as much as men,” he says “We need to identify the physical, social, environmental and psychological barriers that prevent them from exercising, even when they know it will improve their health. Once we know what the barriers are, we can work to remove them.”

Funded by the Canadian Institutes of Health Research and the Heart and Stroke Foundations of Nova Scotia and New Brunswick, the \$700,000 project is the world’s most comprehensive study of gender differences in exercise behaviour of cardiac patients.

In addition to following the 1,200 patients over three years, Blanchard and his team are interviewing families, cardiac rehabilitation specialists, physicians, hospital administrators,

policymakers and others. They are also examining patients’ communities to see how factors such as crime rates, side-walks, fitness facilities and parks may impact how well they follow their prescribed exercise programs.

Social supports are key to overcoming barriers – but what works for men does not work for women. “Men are more likely to be influenced by their spouse and family to exercise,” explains Dr. Blanchard. “Family pressure has the opposite effect on female heart patients, but friends can play a major role in helping them be active. I’m looking at ways to engage a woman’s social networks in supporting her to complete cardiac rehab and stay active afterwards.”

As with all his research, Dr. Blanchard will use these findings to design more effective approaches to cardiac rehabilitation. Taking cardiac rehab programs into communities is a big focus, which is why he is working with Community Cardiovascular ‘Hearts in Motion’ (see page 6) to develop and test programs in three Capital Health communities. He sees potential for home-based programs, as well.

“Exercise is vital to heart patients’ survival and quality of life,” he says. “My mission is to spread this message, bridge the gender gap between men and women, and work with the health care system and communities to support better physical fitness for heart patients, and everyone else, in Atlantic Canada.”

Physical fitness is the strongest predictor of longevity in people with heart disease.

Risk Management and Primary Prevention

The majority of common cardiovascular diseases can be prevented or delayed. And, people with cardiovascular disease can reduce risk of future problems by exercising, eating healthier foods and taking prescribed medications. Effective ways of identifying people's degree of risk – and supporting them to reduce their risk – are crucial in this era of aging populations and diminishing health care resources. Research projects like 'Hearts in Motion' and ANCHOR are pioneering such transformative programs.

'Hearts in Motion' takes cardiac rehab and preventive medicine into the community

Until Community Cardiovascular 'Hearts in Motion' launched in 2006, cardiovascular patients in the Capital Health District had to travel to the QEII Health Sciences Centre for supervised cardiac rehabilitation programs. As a result, less than a quarter attended.

By taking cardiac rehabilitation programs into communities throughout the district, and involving more than a hundred family doctors, 'Hearts in Motion' has nearly doubled participation.

Cardiac and stroke patients, people with or at risk of hardening of the arteries, and people with risk factors like diabetes, high blood pressure and high cholesterol, are all welcome in the research program.

As of spring 2008, more than 600 people had completed three-month supervised exercise programs at one of three locations: Shopper's Drug Mart in Spryfield, the Cobequid Community Health Centre in Sackville, and the Dartmouth Sportsplex. "We designed the study to test feasibility in different settings," explains Capital Health cardiologist Dr. Nicholas Giacomantonio, the force behind 'Hearts in Motion.' "We have to learn what works best in each community and what's most cost effective across our province."

Shoppers Drug Mart, AstraZeneca Canada and Manulife Financial funded the first three years of 'Hearts in Motion' through the QEII Foundation. The next, five-year phase is in the planning stages.

A team, consisting of a nurse, dietitian, physiotherapist and pharmacist, assesses participants' risk and works with them to create personal progress plans. Participants receive a 'passport to heart health,' to help them track how much they are reducing risk factors like weight, cholesterol or blood pressure, or improving exercise capacity.

Unless there is a pressing need, 'Hearts in Motion' makes no changes to participants' medication regimens. "It is important to test the program effect, alone," says program manager Wanda Firth, a clinical dietitian who is also analyzing participants' nutrition profiles to see which eating patterns best manage risk. "It's the impact of changes in behaviour, not medication, we want to measure."

After completing the three-month program, participants return for follow-up assessment over the next year.

Preliminary data shows the program is working. On average, participants have increased exercise capacity by 20 per cent, decreased weight by 5 to 10 per cent, dropped inches off their waist measurements and significantly lowered their blood pressure and LDL (low density 'bad') cholesterol. Perhaps even more significantly, their confidence in their ability to make and sustain healthy changes has grown by leaps and bounds.

In Dartmouth and Cobequid, participants stay in touch with a wellness coordinator through an online electronic 'wellness record.' Those who use this frequently show the most improvement. At the Spryfield site, the pharmacist discusses the importance of new medication recommendations for people who have not met their targets by the end of the program. As a result, more than 70 per cent of 'Hearts in Motion' patients continue taking their prescribed medications, compared to usual care models with adherence rates of 30 per cent. Coupled with the program effect, these patients are significantly more likely to reach their targets.

"It's all about behaviour," notes Dr. Giacomantonio. "People won't change anything if they don't have the mindset. By assessing readiness to change, working through barriers, building confidence, and measuring results, we're laying the groundwork for effective solutions to a looming health care crisis."



Community Cardiovascular 'Hearts in Motion' participants pump up the volume – of their hearts, that is – at twice weekly exercise sessions.

Motivation: The heart of behaviour change

The key to preventing cardiovascular and other chronic diseases lies in human behaviour. People on a path to disease must change their behaviour, but to do so they must be motivated and they must have confidence they can overcome barriers.

The risk management/prevention studies featured on these pages draw on the expertise of two Capital Health/Dalhousie University psychologists. Dr. Chris Blanchard, in the Department of Medicine, and Dr. Michael Vallis, in the departments of Psychiatry and Psychology, are both experts in health behaviour. Through 'Hearts in Motion' and ANCHOR, they are validating new, effective ways to help people make lasting changes to improve their health.

Health professionals involved in these studies have taken training with Dr. Vallis, so they understand how motivation works and how to talk to people in ways that will kindle true self motivation. To make long-term behaviour changes, people must:

- ♥ know their risk profile and targets
- ♥ be ready to change
- ♥ accept personal responsibility for change
- ♥ have personal reasons for changing
- ♥ be willing and able to do the work
- ♥ set goals that are SMART (specific, measurable, achievable, realistic and timely)
- ♥ start with easier changes to build success and confidence
- ♥ be aware of situations that trigger unhealthy behaviours
- ♥ accept lapses and get back on course
- ♥ manage stress



ANCHOR project coordinator Krista Courtney-Cox takes a patient's blood pressure, a key measure for the baseline health risk assessment.

ANCHOR weighs in with an effective approach to managing risk

Nova Scotians are lowering their risk of cardiovascular disease through ANCHOR (A Novel approach to Cardiovascular Health by Optimizing Risk management). Launched in 2006, this groundbreaking study quantifies people's risk of developing cardiovascular disease and works with them for a year to set and achieve realistic goals to cut their risk.

About 1,500 patients at two family practice clinics will participate over the three-year study period. Duffus Health Centre in Halifax is Capital Health's partner, while Sydney Family Practice Centre is working with Cape Breton District Health Authority on the project. Patients over the age of 30 are eligible, although the average age in the study so far is 54. Three quarters of participants who entered the study in its first year began with a moderate to high risk of developing cardiovascular disease.

Preliminary analysis suggests that about a third of the participants without established heart disease dropped an entire risk category – from high to moderate, or from moderate to low. Another third lowered their degree of risk, within their risk category. These positive early results provide a glimpse of the transformative potential of well-designed risk reduction programs.

Toward a provincial program

"Our goal is to see if we can uncover risk more effectively and manage it better at the primary health care level, to prevent people from developing heart disease," says Capital Health cardiologist Dr. Jafna Cox, co-principal investigator on the study with Dr. Brendan Carr, Capital Health's VP of Medicine, Dr. Blair O'Neill, Head of the Division of Cardiology, and Dr. Michael Vallis, a behavioural psychologist. "We also want to know how sustainable the model we're developing through ANCHOR would be, rolled out as a provincial program."

ANCHOR was designed with this ultimate aim in mind. That's why the Nova Scotia Department of Health is a partner in the project and the Department of Health Promotion and Prevention is a key collaborator. The Heart and Stroke Foundation of Nova Scotia and Cardiovascular Health Nova Scotia collaborate as members of the steering committee.

Pfizer Canada is providing \$1.5 million to the research project.

“Involving key players from the start sets the stage for the ANCHOR approach to be adopted system-wide,” notes Dr. Cox. “For example, senior Department of Health experts sit on the committee that is analyzing the long term economic impact and cost-effectiveness of the project.”

Both ANCHOR and Community Cardiovascular ‘Hearts in Motion’ align with the province’s policy shift toward health promotion and disease prevention.

Putting the patient at the helm

At the heart of the ANCHOR project is a non-judgmental approach that puts patients in control of their health. It all starts with letting them know exactly where they stand in terms of cardiac health – by collecting and analyzing detailed information about daily food intake, smoking and alcohol consumption, physical activity, body composition, blood pressure, heart rate, cholesterol, sugars, and family and personal history of cardiovascular disease.

“We conduct a health risk assessment that tells people their risk of having a heart attack in the next ten years, their risk compared to other people their age, and their ‘cardiac age,’” says Krista Courtney-Cox, a registered nurse and one of the ANCHOR Duffus site project coordinators. “These numbers can be shocking for people, especially those who discover they have the cardiac risk of someone 20 or 30 years older.”

If 30 seems young to be assessed for cardiac risk, think again. “We’re seeing more and more people with cardiovascular diseases in the youngest adult age group – the 20s and 30s – and people this young are being admitted to hospital with coronary artery disease, unstable angina and heart attacks,” says Dr. Cox. “It’s the crest of the wave we’ve been warned about.”

ANCHOR’s health risk assessment is just the beginning of the journey for participants. It points the way forward and provides a series of benchmarks for measuring progress.

“We help patients set goals they feel ready to achieve,” notes Ms. Courtney-Cox. “Instead of telling people what they have to do to be healthier, we’re encouraging them to express what they feel their problems are, what motivates them to make improvements, what barriers they must overcome, and what specific goals they want to tackle. We start with baby steps, so they will succeed and build confidence to go further.”

If needed, patients are referred to other experts in the family practice – dietitians, physiotherapists, social workers, mental health professionals. In addition to meeting with the project coordinators several times a year, patients can attend ANCHOR seminars to learn more about cardiac risk factors, managing blood sugar with diet, getting active, managing stress to stay on track, and cardiac medications they may have been prescribed. The project has partnered with Sobeys in Halifax and Atlantic Superstore in Sydney to provide free heart healthy cooking classes, label-reading tours and weight management courses to study participants.

At six months and one year in the program, patients have another detailed health risk assessment to see how their risk and cardiac age have changed. These results will be compared with health risk assessment data from two control groups – one that receives a baseline health risk assessment and no additional support, and another that receives no initial intervention of any kind.

Patients, physicians and ANCHOR team members are thrilled with the results so far.

“We’re hearing so much positive feedback,” says Ms. Courtney-Cox. “As someone who’s been a cardiac nurse for 15 years, I find it rewarding to work with people in this comprehensive, collaborative way. We’re empowering patients to know and deal with their risk factors... and they’re succeeding.”

An Ounce of Prevention

According to the Public Health Agency of Canada report, *Economic Burden of Illness in Canada, 1998*, cardiovascular diseases cost the Canadian economy nearly \$18.5 billion in 1998 alone.

With among the highest rates of cardiovascular disease and deaths in the country, Nova Scotia bears more than its share of this burden. The average cost of a hospital stay is about \$7,000, not including procedures that may need to be performed. Stents used to widen blocked arteries in angioplasty procedures run \$3,500 each – not including the costs of the procedure. Cardiac bypass surgeries cost approximately \$10,000 each. And, when a person has a heart attack, that event costs nearly \$20,000.

With numbers like these, it’s easy to see that an ounce of prevention is worth a pound of cure.

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