



Sunnybrook

HEALTH SCIENCES CENTRE

Sunnybrook Magazine: Information for Life, 2008



60 YEARS

OF TRANSFORMING HEALTH CARE

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SUNNYBROOK HEALTH SCIENCES CENTRE MAGAZINE



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Sunnybrook
HEALTH SCIENCES CENTRE



A Message from Board Chair David A. Leslie and President and CEO Barry A. McLellan



It is our pleasure to share with you the fourth edition of our *Sunnybrook Magazine*. This is a particularly special year for Sunnybrook Health Sciences Centre as we celebrate our 60th anniversary.

In 1948, the hospital opened its doors as the largest facility in Canada dedicated to caring for our country's war veterans. Sunnybrook proudly retains this designation and over our dynamic 60-year history, we have added expertise in a wide range of patient care areas to become one of Canada's largest hospitals.

Today, more than 11,000 staff, physicians, volunteers and students work to improve the lives of the one million people who come through our doors each year and are committed to achieving our vision of transforming health care. The care of our veterans and community continues to be a priority and in addition, we have leading programs in cancer, musculoskeletal, heart and stroke, high-risk mothers and babies as well as trauma, emergency and critical care.

Sunnybrook is fully affiliated with the University of Toronto and our teaching and research missions remain core expressions of our organization's purpose in the health care system. Our research institute is growing exponentially to become one of the largest in Canada, conducting in excess of \$100 million in research annually. Each year more than 2,600 students from a wide variety of health professions choose Sunnybrook for their educational experience.

We continue to expand as an organization. During the past year, we've made great strides with construction. In January, the first half of our new Emergency Department (ED) opened its doors to the public and the second half is due to open by the end of 2008. One of the highlights of

our new ED – part of the John and Liz Tory Regional Trauma Centre – is a new state-of-the-art trauma room that can handle four seriously injured patients at one time, double the previous capacity.

We are adding four floors on top of M-Wing at the Bayview Campus to provide a state-of-the-art home for our mothers and newborns that will include a new Neonatal Intensive Care Unit (NICU) and labour and delivery suites. Our M-Wing expansion will be home to Canada's largest and most comprehensive breast cancer research centre, and also home to new facilities for leading-edge research in cardiac imaging and intervention. In addition, we are creating a centre of excellence in hip and knee replacement surgery at the Holland Orthopaedic & Arthritic Centre, our campus in downtown Toronto, that will nearly double its surgical procedures over the next three years to become the largest program of its kind in North America.

At Sunnybrook, we are honouring a rich past and transforming the future of health care. Within the pages of this magazine, you will see the breadth of service we provide, and the talent and commitment of our staff.

We would like to thank you for your support and partnership as we continue to build our new organization. As members of our community, you are an important part of how we will achieve even greater success in future.

Sincerely,

David A. Leslie
Chair, Board of Directors

Barry A. McLellan
President and CEO



Rich Past Exciting Future

It was 1948. The world was swinging to Frank Sinatra's music. The average cost of a Canadian house was \$13,500. The World Health Organization (WHO) was formed and Bobby Orr was born. Tennessee Williams was enjoying success on Broadway with *A Streetcar Named Desire*. The Toronto Maple Leafs hoisted the Stanley Cup above their heads.

It was quite a year on the political front, too: the Cold War was on, Indian pacifist and leader Mahatma Gandhi was killed, and the United Nations General Assembly adopted the Universal Declaration of Human Rights.

In September of that year, Canadian Prime Minister William Lyon Mackenzie King retired as the longest-running reigning Prime Minister in the Commonwealth. But before he did, he attended the grand opening of what was then known as Sunnybrook Hospital, the largest war veterans hospital in Canada.

Three years had passed since the Second World War ended, during which time it became apparent that the Christie Street Hospital in downtown Toronto was no longer appropriate for the care of Canada's First World War veterans and therefore could not provide the level of care returning soldiers would need. In response to this, a petition was circulated around the city and throughout Ontario, requesting the government to consider the proposition of a better hospital for veterans.

The case was convincing and Ian A. Mackenzie, minister of the Department of Pensions and National Health

became a supporter of the cause. By 1943, the site of Sunnybrook Farm was selected as most appropriate and Mackenzie and his committee advised the government that the city would offer the farmlands as a gift. On Remembrance Day, 1944, the first cornerstone was laid.

When it opened, Sunnybrook was described as a 'magnificent sight.' A *Maclean's* magazine story reported: "It's a miracle that one of Canada's worst-wounded soldiers is alive today – a miracle called Sunnybrook...." A reporter from the *Toronto Star* wrote, "Sunnybrook – gigantic architectural beauty and structural masterpiece, has as its immediate object the care of Canadian war veterans. This hospital will make an impression on medical practice throughout the Dominion."

Fast forward 60 years to 2008. The hospital has grown in size and scope, especially since its transfer to the University of Toronto in 1966. Sunnybrook continues to make an impression on medical practice and transform health care in Ontario, Canada, and around the world, boasting an impressive list of national and global 'firsts' – and always ahead of the times.

Honouring a rich past and transforming the future of health care...Sunnybrook celebrates 60 years.

Visit an interactive Sunnybrook historical timeline at www.sunnybrook.ca

Architectural rendering courtesy of G+G Partnership Architects / HOK Canada Architects



Sunnybrook Takes Shape

Sunnybrook began to take shape in May 1928, when Mrs. Alice M. Kilgour, widow of Toronto businessman, noted horseman Queen's Own Rifles Major Joseph Kilgour, announced the gift of her 150-acre Sunnybrook Farm estate. It was to be the largest gift of land to the city in its history. In September of that year, Mayor Sam McBride officially opened the former rural setting as Sunnybrook Park.

In 1942, the Greater Toronto Veterans Hospital Committee recommended Sunnybrook Park as the best location for a new 1,590 bed veterans hospital. The existing Christie Street Hospital, originally an old cash register factory, was less than adequate to meet growing needs.

Years earlier, Mrs. Kilgour had stipulated that the farm be used as parkland, and thus permission by the Kilgour heirs was sought and obtained. In 1946, the Department of Veterans Affairs purchased the land.

The architectural firm of Allward & Gouinlock was enlisted to build a hospital of great magnitude and the cost to build was \$25 million. The sod was turned on Remembrance Day in 1943 and construction to build one of the finest veterans hospitals in the world began. Because of the huge demand, patients were admitted in 1946, two years prior to the official opening. To honour the Kilgour family, a new facility for our veterans was opened in 1974 – what is known today as Kilgour or K-Wing.

Above: Toronto businessman Joseph Kilgour (right). Alice Kilgour, announced the gift of her 150-acre Sunnybrook Farm estate to the city of Toronto in 1928

'SURGICAL CEMENT'

Offers Pain Relief and Restored Mobility for Cancer Patients

Right page: Dr. Joel Finkelstein, at the right, orthopaedic surgeon
Below: Patricia Bracken and Dr. Finkelstein



For Patricia Bracken, who had struggled with breast cancer earlier the same year, the news was a blow. The active 56 year old, who loved to play golf, ski and cycle, learned in late 2006 that her cancer had metastasized, or spread, to her spine.

"It started with some back discomfort and muscle pain and I recall thinking that I just needed to go to the spa for a massage," says Bracken, who lives in Collingwood, Ontario. "But the pain became progressively worse, so much so that when I was stepping out of the car I felt a strong muscle contraction down my whole torso. I was barely able to breathe, couldn't walk and had to get down on all fours to feel any sort of relief."

After visiting a local hospital, Bracken travelled to Sunnybrook and had a CT scan and X-rays, which showed a tumor on her spine. A tumor growing in the bones of the spine can sometimes start to press on the spinal cord and eventually fracture vertebrae, as in Bracken's case. Symptoms can include back pain, numbness or tingling sensations in your legs or arms, muscle weakness, bladder or bowel problems and problems walking.

Dr. Joel Finkelstein, an orthopaedic surgeon in Sunnybrook's Holland Musculoskeletal Program who specializes in spinal surgery and treatment, estimates that more than one third of cancers spread to the spine. Tumors that commonly metastasize, or spread, to the bone include breast, prostate, lung, kidney and thyroid cancers.

After a consult, another specialist initially suggested that Bracken consider having rods and screws surgically placed to stabilize the spine. Around this time, she also became aware of some of the work of Dr. Finkelstein's spine team at Sunnybrook.

"When I first heard the words 'surgical cement', I wasn't sure what to think. Then Dr. Finkelstein explained more about vertebroplasty, a treatment for compression fractures of the spine that could offer me substantial pain relief and improve my mobility," says Bracken.

Closed vertebroplasty is a minimally invasive procedure performed under local anesthetic while the patient remains conscious. A needle is inserted into the patient's back at the point of the fracture, guided by X-rays to ensure accuracy, and a quick-setting bone cement is injected into the tiny crack in the vertebra. The hardened cement, which is also used in other procedures such as hip replacements, stabilizes the fracture, helping to eliminate pain.





Stroke Recovery Research at Sunnybrook

Working to Bring Promising Treatments from the Lab to the Patient

As one of three leading health care centres that make up the Heart & Stroke Foundation Centre for Stroke Recovery (HSFCSR), Sunnybrook is part of a cutting-edge stroke recovery and rehabilitation research initiative in Canada.

Formed to allow experts in stroke to share knowledge and collaborate on research initiatives aimed at discovery and translation to improve the lives of stroke patients and their families, the HSFCSR this year officially received an incredible \$15 million investment from the Government of Canada as a National Centre of Excellence – the largest investment ever provided to stroke recovery and rehabilitation research in Canada.

“The Heart & Stroke Foundation Centre for Stroke Recovery is a unique public-private partnership devoted to optimizing stroke recovery,” says Dr. Sandra Black, site director, HSFCSR and Medical Director of the Regional Stroke Centre for North/East GTA at Sunnybrook Health Sciences Centre. “This investment by the Government of Canada will continue to position the Centre as a beacon for the rest of the stroke community internationally.”

The Centre brings together the expertise of three institutions – Sunnybrook, Baycrest and the University of Ottawa/Ottawa Health Research Institute to understand and improve the process of recovery after stroke. The Centre is developing new ways to repair the brain after stroke and is unique in the world in bringing together basic research, clinical research and patient care toward the common goal of reducing disability in stroke patients.

The recovery process after stroke is often slow and not well understood. New advances in cognitive rehabilitation, physical rehabilitation and cellular and molecular therapies mean new hope for the 70 per cent of stroke survivors who are left with disability.

Sunnybrook clinical researchers are designing novel rehabilitation therapies to improve the control and function of hand and arm as well as balance and walking. Researchers are investigating the importance of post-stroke aerobic exercise in collaboration with the Toronto Rehab Institute, including designing new equipment and exercise programs. To better understand recovery in the community, Sunnybrook and Toronto Rehab researchers

are developing wireless measurement systems that will enable monitoring of physical activity and vital signs as people pursue their daily lives.

Sunnybrook researchers are also using pharmaceutical interventions to see if they can stimulate the person’s own brain stem cells to accelerate brain repair. Together with researchers from Baycrest, Sunnybrook is completing a clinical trial investigating three types of cognitive rehabilitation for patients with transient ischemic attacks (TIAs) or silent stroke disease occurring in the brain’s white matter.

To help understand the impact on the brain’s circuitry from cerebrovascular disease, Sunnybrook researchers are examining the effects of damage to the brain’s white matter on mental abilities and the interactions of stroke and Alzheimer’s disease using advanced brain imaging techniques.



Left page: L to R, Mr. Michael LeClair, Heart & Stroke Foundation of Ontario, Sunnybrook’s Dr. Sandra Black, the Honourable Jim Flaherty, Federal Minister of Finance, the Honourable Tony Clement, Federal Minister of Health, Mr. Walter Gretzky, stroke survivor, Dr. Richard Straines at a Sunnybrook press conference

The Centre’s work is already helping to alleviate the personal, social and financial burden of stroke.

According to the Heart & Stroke Foundation, research funding into stroke rehabilitation and recovery programs needs to grow exponentially to keep up with the rising number of stroke survivors in Canada. Over 15,000 Canadians die as a result of stroke every year – and currently 300,000 are living with its effects. Statistics also show that more than 70 per cent of stroke survivors are left with some degree of disability, and two thirds of strokes occur among people over 65.

To focus on neurosciences and image-guided therapeutics at Sunnybrook, the \$9.5 million Centre for Advanced Neuro-Imaging and Dynamic Interventions (CANDI) will occupy 10,000 square feet of new research space on M6. The Centre will build on the work of many researchers, including Dr. Sandra Black, to better understand neurodegenerative disorders (including Alzheimer’s disease, vascular dementia and ALS) as well as the neuropsychiatric aspects of stroke, head trauma and mood disorders.



A VETERAN'S STORY

Frank McCully

Second World War, Merchant Navy

Frank McCully has always had a passion for the sea. In his youth at age 16 when McCully first acquired his sea legs, he went to work on his uncle’s oil tanker off the east coast of Canada. During the Second World War, while with the Merchant Navy, he spent four years (1941 to 1945) on the North Atlantic convoys.

In the early 1950s McCully was the chief officer on the Sunwhit, a freighter that landed lumber in Port Alberni, Vancouver Island, through the Panama Canal and then up to New York. In total, McCully spent 13 years at sea working on various ships.

Today, McCully extends his love for the sea by building model ships in the creative arts woodworking program at Sunnybrook. “It keeps me busy. It’s challenging but also relaxing at the same time,” says McCully.

Even though he has suffered some health setbacks, including a stroke that has left him paralyzed on his left side, McCully hasn’t stopped and he is just as ambitious as ever. After first completing a model of the Bluenose, the famous Canadian schooner, he has completed two other intricate models of the famous clipper ships, the Flying Fish and the Flying Cloud.



Age and Gender Play a Role in Critical Care Access and Treatment

Could there be differences in the way men and women have access to and receive intensive care treatment? A highly influential study out of Sunnybrook identifies that this is in fact the case.

Dr. Robert Fowler, a critical care physician at Sunnybrook, assistant professor of Medicine, University of Toronto and lead on the study says: "It has often been noted that in most critical care units there are always more men than women. We wanted to know why."

The study 'Sex-and-age-based differences in the delivery and outcomes of critical care' was published in the December 2007 issue of the *Canadian Medical Association Journal* and looked at a retrospective group of 466,792 patients consecutively admitted to adult hospitals in Ontario, 24,778 of whom were critically ill, between January 1, 2001 and December 31, 2002. Associations were made between sex, age and admission to the intensive care unit (ICU); use of mechanical ventilation, dialysis or pulmonary artery catheterization; length of stay in the ICU and hospital; and death in the ICU, hospital and one year after discharge.

Of the 466,792 patients admitted to hospital, there were more women than men (57.0 per cent vs. 43.0 per cent); however, fewer women than men were admitted to ICUs (39.9 per cent vs. 60.1 per cent). This difference was most notable among female patients age 50 and older, who were 32 per cent less likely than men to be admitted to

the ICU. After adjusting for severity of illness, they were also nine per cent less likely than men to receive mechanical ventilation and 20 per cent less likely to receive pulmonary artery catheterization. Despite a similar severity of illness upon ICU admission, older women received ICU care for a shorter period of time than men, yet had longer lengths of stay in hospital (mean 18.3 vs. 16.9 days). Overall, women aged 50 years and older were 1.2 times more likely to die while in ICU than men.

"We found that there is indeed a difference in the way men and women receive care," says Dr. Fowler. "But the reason for that difference remains unclear and requires further study."

Dr. Fowler indicates that there could be a variety of factors that contribute to the difference. For example, do men get sicker than women and need more intensive care? Do men and women have different ideas about care and therefore make different choices? Do the decision-makers for older women view aggressive treatment as too much to handle? These are the kinds of questions that need to be asked to get a better understanding of what might be at the root of this difference.

"Ultimately, the results should challenge our perceptions of age and gender among patients admitted to hospitals," says Dr. Fowler. "It should stimulate further research, as well as discussion amongst health care providers, patients and their decision-makers."

Above: Dr. Robert Fowler
Photo: Rick Madonik, Toronto Star

Healthy Choices, Healthy Women:

A Look at 'Midlife'

Pinning down the actual start of midlife is a tricky subject. "Midlife can certainly be approached as a state of mind," says Dr. Jennifer Blake, chief of Obstetrics and Gynaecology at Sunnybrook. "If you want to narrow it down to an actual number, the start of midlife is different for everyone. In terms of how we break our lives down, if you approach it in thirds, midlife could be widely defined from age 33 to 66."

Midlife in women is typically associated with menopause, a physiological process that occurs for most women sometime between the ages of 45 and 55, with the average age being 51.3 years. During that time, the body's production of the hormones estrogen and progesterone begin to fluctuate, decrease and eventually cease altogether. The ovaries stop producing eggs and women no longer experience a menstrual cycle.

But menopause can occur earlier, sometimes much earlier than age 40. Considered 'premature menopause', the early onset is typically the result of a genetic predisposition, an autoimmune disorder or a surgical intervention involving the removal of the ovaries. "If you're in your teens or 20s or even early 40s, you don't want to think of it as menopause. It can be a shattering diagnosis as many younger women haven't yet had the opportunity to even make a decision about having children," says Dr. Blake, professor and associate chair, Faculty of Medicine, University of Toronto.

Sunnybrook's Special Menopause Clinic treats younger women with this condition, with the clinic playing a large education and counselling role, helping to alleviate the fears and misapprehensions of women who might be hesitant to take hormone replacement therapy. Dr. Blake notes that much of the data on hormone replacement therapy (HRT) does not apply to younger women with premature menopause.

For those women entering menopause during the average 45 to 55 years of age, the experience and symptoms can vary widely. Most women go through a range of physical and emotional changes, with hot flashes and night sweats being the most common reasons for women seeking hormone therapy.

Dr. Blake stresses that it is best for women to make a decision about how to manage distressing symptoms with all the correct and up-to-date information. Women should consult their health care provider about all the options when it comes to managing symptoms. The Society of Gynaecologists and Obstetricians, in its Menopause Consensus Report of 2006, notes that health care providers should counsel women about healthy lifestyle choices, especially good nutrition and exercise. Hormone therapy remains the most effective therapy and can be used safely by most women who need medical therapy, but it is not for everyone. There are other alternatives, such as

selective serotonin reuptake inhibitors (SSRIs), a class of antidepressants, that can also be used for disruptive symptoms.

The physical and emotional changes during menopause can be perplexing for some women, in particular sleep disruptions. "We naturally tend to wake up earlier as we get older, so it may help to accept the change in your body's clock and go to bed earlier, too. When you try and stay up late, it's easy to find yourself heading to the refrigerator for a snack. The reality is that you're not really hungry, you're just tired," says Dr. Blake, who also advises her patients to get into the habit of exercising regularly as women start to lose muscle mass in their menopausal years. Exercise is the single most important thing a woman can do for herself, helping to control weight while reducing risk of heart disease, stroke, breast cancer and diabetes. "Just remember to increase gradually to avoid injuries," she cautions.

Last words of advice for women in their midlife years? "Menopause is not a disease," says Dr. Blake. "It is a normal event, a passage from one stage of life to another. Think of it as an opportunity to make some healthy changes and enjoy the passage!"



One Night Live™ Concert an Overwhelming Success to Support Women & Babies at Sunnybrook

Contributions of Star Performers, Supporters and Hospital Staff Help Raise More Than \$12 Million for Sunnybrook

On February 28, internationally renowned musicians Bryan Adams, Josh Groban, Sarah McLachlan, Jann Arden and RyanDan took to the stage at the Air Canada Centre as part of One Night Live™ in support of women and babies at Sunnybrook. A first of its kind event for Toronto, the incredible four hour musical experience drew 12,000 fans and supporters, elevating the profile of the Perinatal & Gynaecology Program, which led to over \$12 million in contributions to Sunnybrook.

Significant gifts to the program included two special donations announced on the day of the event: an \$8 million gift from Aubrey and Marla Dan and a \$1 million gift from John and Dotsa Bitove and their families, through The Bitove Foundation.

“We are absolutely thrilled by the support that the people of Toronto, and beyond, have thrown behind this event,” says Jennifer Tory, chair of

Sunnybrook Foundation. “The success of this concert, the attention Sunnybrook and women and babies have received, and the wonderful gifts made by Aubrey and Marla Dan and the Bitove Foundation will help bring us closer to our \$300 Million Campaign for Sunnybrook goal. One Night Live has exceeded all of our expectations.”

The funds will help build a state-of-the-art, 150,000-square-foot facility, which will offer babies and their families the most nurturing environment possible, and the best start for lifelong, healthy development. It will ensure Sunnybrook’s exceptional team of care providers has advanced and spacious surroundings in which to conduct its life-saving work. Sunnybrook currently delivers approximately 4,000 babies each year, and the new facility will increase that number to 4,500.

\$300 Million Campaign Update

Sunnybrook Foundation is now in the fifth year of the \$300 Million Campaign for Sunnybrook and has raised over \$195 million as of March 31, 2008. In addition to funding for the Perinatal & Gynaecology capital expansion, other notable recent gifts to Sunnybrook include funding for the renovation and expansion of the Holland Orthopaedic & Arthritic Centre; construction of the Breast Cancer Research Centre; creation of an Imaging Research Centre for Cardiac Intervention; and expansion of the Emergency Department and John and Liz Tory Regional Trauma Centre. These essential projects will ensure our world-class care providers and researchers have the best facilities possible to provide exceptional care for Sunnybrook’s patients, when it matters most.

L to R: One Night Live™ performers Jann Arden, Sarah McLachlan, Josh Groban, RyanDan and Bryan Adams at a press conference on February 28

To Better Detect and Prevent Colorectal Cancer

In Canada, colorectal cancer is the second leading cause of cancer death. In the world, Canada has one of the highest rates of the disease.

“Key approaches to reduce this impact are more open discussion about colorectal cancer and awareness with family physicians and the public about the importance of screening. Research definitively shows screening works, and we know the disease is 90 per cent curable when detected early,” says Dr. Linda Rabeneck, chief, Sunnybrook’s Odette Cancer Centre, and vice president, Regional Cancer Services.

Colorectal cancer is cancer of the rectum or colon. Symptoms of possible disease include bleeding from the rectum (blood on or in the stool), new changes in bowel habits, new changes in the shape or appearance of bowel movements, crampy abdominal discomfort that is new, and an unexplained low blood count or anemia. Adults experiencing these symptoms should consult their family physician.

With rectal bleeding for example, a colonoscopy is advised. A colonoscopy is the careful examination of the lining of the rectum and colon, with a flexible tube with a light on the end. The actual procedure takes about 25 minutes. An individual is given appropriate instructions on how to clear the bowels the day before the colonoscopy, and is given a mild sedative during the procedure.

Men and women 50 years of age or older with no symptoms should be screened for colorectal cancer. The fecal occult blood test (FOBT) can be done at home, and is available from your family physician. Small scrapings from two parts of the stool on three separate days are collected in the kit and then sent to a laboratory. The laboratory tests the samples for microscopic blood which if found, indicates the need for a colonoscopy to ensure there is no cancer causing the microscopic bleeding.

Men and women at any age, with one or more close relatives – parent, brother, sister, child – with a history of colorectal cancer, are at increased risk and are advised to go directly for a colonoscopy.

“We need to get past the cultural discomfort of talking about the rectum, the colon, bowel movements. We are now more open about breast cancer and prostate cancer, however, with colorectal cancer we still hesitate to talk about the disease and the need to go for screening,” says Dr. Rabeneck, professor of Medicine, University of Toronto and former director, Division of Gastroenterology, University of Toronto. “Because of this hesitancy, where the level of screening with mammography for breast cancer is about 60 to 70 per cent of women, screening for colorectal cancer is less than 20 per cent for men and women.”

For information about Ontario’s colorectal cancer screening program, ColonCancerCheck, please visit www.coloncancercheck.ca

Look up Dr. Linda Rabeneck discussing colorectal cancer screening on youtube.com/sunnybrookmedia

Doreen Martindale’s relatives – a grandfather and an aunt – had colorectal cancer. Martindale, age 75 and a retired public health nurse says, “I believe in precaution to protect yourself.” Aware of her familial risk, her family physician recommended a colonoscopy in 2000. Though the procedure showed negative results, she and her family physician decided it would be good for her to undergo the procedure again this year. That colonoscopy showed positive results. “It seems the cancer hit one in every generation, and I guess I might be it for this one,” says Martindale. “I am relieved they’ve caught it early, and somewhat reassured of what I know of colorectal cancer – that it’s treatable for the most part.”



Sunnybrook Improves Transparency with Online Multimedia Tool

In December 2007, Sunnybrook Health Sciences Centre launched an innovative new online tool that allows the public to monitor the hospital's performance in achieving its goals and objectives.

Providing people with the ability to see progress on a variety of indicators under three main themes – Quality of Patient Care, Accountability & Sustainability and Research and Education – the Strategic Balanced Scorecard is a web-based application that gives user-friendly information on everything from wait times for CT scans to financial performance.

“Our Strategic Balanced Scorecard offers a dynamic multimedia window on the organization,” says Barry McLellan, Sunnybrook's president and CEO. “What's really impressive about our Scorecard is how easy it is to use and understand. Wherever possible, we have provided video clips of our experts and interactive graphs that explain what we're measuring and why it's important to examine these specific indicators.”

In addition to being a public reporting tool, the Strategic Balanced Scorecard is also how the Board of Directors and hospital management will chart Sunnybrook's progress against the eight overarching corporate goals set out in the hospital's strategic plan. Each area of the organization has set specific objectives against the eight corporate goals and the Scorecard provides a way to

keep apprised of progress and take corrective action where necessary.

“Measure to prove and act to improve have become a management credo at Sunnybrook and it's something we are taking seriously,” says McLellan. “We have always performed some form of measurement for our Board and public but this new format is one of the most accessible we have ever seen in the hospital sector. I think it sets a new standard for public disclosure.”

By reporting results, the Strategic Balanced Scorecard improves accountability to the hospital's many communities. “I am proud of everyone who has worked so hard to bring this to reality. This is a bold step forward and one we hope will catch on throughout the field,” says McLellan. “We hope that our public will gain deeper insight into the incredible work taking place here as we strive to achieve our vision of transforming health care. We believe that by sharing information we can improve our quality of care to those who need it when it matters most.”

Sunnybrook is committed to updating the data twice a year. The first update is expected to take place in the summer of 2008.

Visit Sunnybrook's Strategic Balanced Scorecard at www.sunnybrook.ca

> LHIN

Managing Timely Access to Quality Care:

Introducing the Toronto Central LHIN Hip & Knee Referral Tracking System

Sunnybrook's Holland Musculoskeletal Program is leading the way in improving efficiencies with the launch of the Toronto Central (TC) LHIN (Local Health Integration Networks) Hip & Knee Referral Tracking System (RTS).

The RTS, which was adapted from the Holland Centre's existing electronic Referral Tracking System, was developed by Sunnybrook's Information Technology team in response to an expression of interest from the Toronto Central LHIN eHealth Council. In collaboration with Ontario's Access to Care e-Health Office and the Toronto Central LHIN, the Holland Centre's care team redesigned its web-based electronic system and successfully implemented it in May 2007 to support the Toronto Central LHIN's new Hip & Knee Arthritis Program.

“For every referral to the program, this comprehensive information management tool tracks how long a patient waits from the time their referring physician issues a referral to when they are seen in an assessment centre, and by an orthopaedic surgeon if needed (‘Wait 1’ data),” says Lucy Pereira, project manager at the Holland Centre.

The new program focuses on improving access for referring physicians and patients with hip or knee arthritis. Referrals to any surgeon or hospital within the TC LHIN can now be faxed to a single number (416-599-4577). Patients will be seen at an assessment centre within two weeks of referral. This has led to significant reductions in wait times within the TC LHIN.

The RTS provides many advantages for patients, referring physicians and staff. These include real-time electronic access to information on referrals – when they are received, when appointments are scheduled, reasons for delays and outcome of appointments. The system also

ensures that timely answers about referral status are available at all times. Detailed reports are easily generated from the system providing valuable outcome data to support quality improvement, program evaluation and development. Of foremost importance, such an effective system for managing referrals ensures that patients access quality care in a timely manner so that they are able to have their hip or knee replacement surgery within the recommended timeframe. Early evaluation of the program has demonstrated high stakeholder satisfaction and reduced wait times for assessment and surgery.

Wait 1 information is being reported to the Provincial Wait Time Information Office as part of a pilot project for the province. Prior to the RTS, a central database to manage referrals was not available and there was no means of tracking Wait 1. The collection of Wait 1 together with “Wait 2” (from decision to treat date to surgery date) provides a more complete picture of how long patients are waiting from time of referral to the operating room.

“The RTS Project team takes great pride in being able to offer such an effective information management and reporting tool and looks forward to introducing further enhancements and efficiencies through the addition of new innovative technologies,” says Pereira. “Information management / IT solutions of this nature will provide the TC LHIN's Hip & Knee Arthritis Program with the ability to further streamline processes and improve system efficiencies.”

Brain Waves of Dreaming Sleep Found for the First Time

Sunnybrook and University of Toronto researchers are the first in the world to find and identify the fundamental waveform of dreaming sleep, providing potential links to learning and memory, potentially important for conditions such as stroke recovery.

"We are finally able to confirm the existence of 'PGO' waves, the fundamental basis of dreaming, as a feature of human rapid eye movement (REM) sleep, something we have never seen before," says Dr. Brian Murray, senior author of a recent study and sleep specialist and neurologist at Sunnybrook. "Until now, we were only able to see these brain waves in animals, and didn't know if they existed in humans, but we now know they're there. This finding has tremendous implication for further research into stimulating the brain to improve brain health outcomes."

PGO waves (ponto-geniculo-occipital waves, or 'P' waves) are a hallmark of mammalian sleep, occurring during, and immediately before, REM sleep. The P waves are the most fundamental waveform for dreams, being detected even before an electroencephalogram (EEG) test shows anything.

The study involved a patient with Parkinson's disease, who was undergoing a neurosurgical procedure to help relieve symptoms of the disease. Pre-operative MRI scans helped sleep researchers determine the area they wanted to investigate. Electrodes were implanted 1.5 millimetres apart, into a specific area deep in the brain, localized as close as possible to the human P-wave source, within an incredible three-millimetre area. The little waveforms were detected during and before REM sleep and found

somewhere in the centre of the brain, a spot fairly difficult to reach. Recordings of electrode waves were mapped and a large area of the brain is changed when each P wave occurs.

"They come from an area called the pons, a small area at the base of the brain," says Dr. Andrew Lim, lead author on the study and neurology resident at the University of Toronto and Sunnybrook. "This waveform is a piece of the puzzle we found. It's not just important that they're there, but also because they potentially affect the entire brain."

"This is a particularly important finding for sleep researchers," says Dr. Murray, also an assistant professor in the Division of Neurology, University of Toronto. "We think these waveforms are fundamental to help us understand how the brain changes in sleep with learning and memory. This is the start of a stream of 'space age' work using deep brain recordings and stimulation to understand sleep, cognition, and various neurodegenerative disorders. These waves are incredibly interesting little things."

The findings of the study published in the July 2007 issue of the journal *Sleep*, support commonality in how mammals sleep, and invite further exploration of the importance of brain interactions in human REM sleep control, dream generation and learning.

"This area of the brain is difficult to study, as a similar study in a normal subject is ethically impossible. This was an excellent opportunity to investigate the area while a patient was undergoing a neurosurgical procedure for another reason," says Dr. Lim. "The fact that we saw the waveforms in this patient means they definitely exist in humans; it's there," adds Dr. Murray. "Now that we can



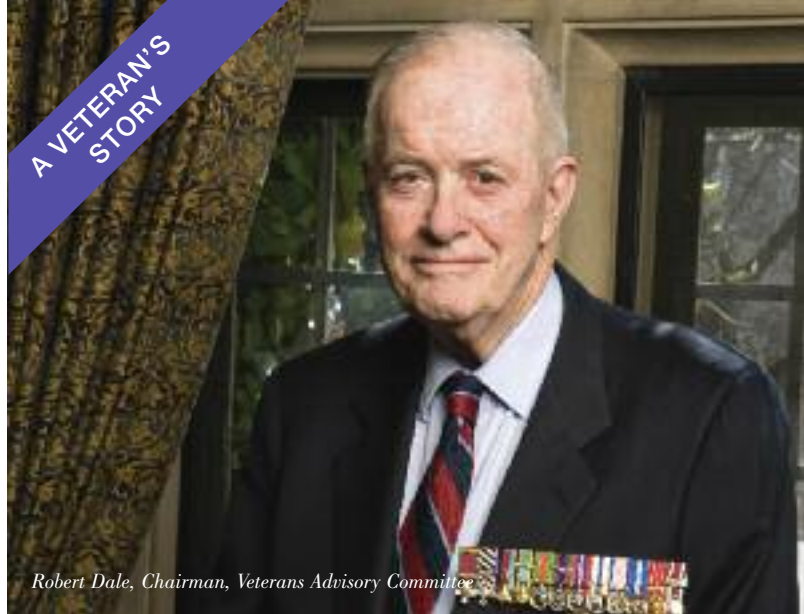
visualize them, we can look at how they are involved in neurodegenerative conditions, stroke recovery, learning and memory, etc."

"In our follow-up study, the second phase allowed us to look at ways to increase the amount of dreaming sleep by stimulating the electrodes post-surgery, in order to potentially improve neurological function," says Dr. Murray. "After surgery, the electrodes can be stimulated by a programmed device, like a pacemaker for the brain. We expect to publish findings from this next phase of the study soon. We expect those findings to be significant for patients as the stimulation may make a big difference to the quality of their sleep as well as other neurological functions, and therefore its effects on their health."

Sleep is known to be important for cognition, brain functioning and overall health. The amount and quality of dreaming sleep is associated with mood disorders such as depression, and neurological conditions such as dementia. "With our upcoming research, we have envisioned a prosthesis where we can improve sleep," says Dr. Murray.

This University of Toronto Division of Neurology collaboration included Movement Disorder Scientists at Toronto Western Hospital. Neurosurgeon Dr. Lozano performed the surgical procedure to treat the patient's symptoms of Parkinson's Disease, and Sunnybrook's sleep experts conducted the sleep research work. Other collaborators include Drs. Moro, Hamani, Hutchison, Dostrovsky, Lang and Wennberg.

Above: L to R: Dana Jewel, technical director, Sunnybrook Sleep Laboratory and Neurologist Dr. Brian Murray



Robert Dale, Chairman, Veterans Advisory Committee

Robert Dale Second World War, Royal Air Force/RCAF

Robert Dale never imagined when he joined the air force at age 19 that he would have a distinguished military career.

After graduating from Canada's famous British Commonwealth Air Training Program as a navigator, Dale sailed to England in December of 1940 and served in the Second World War. Based in East Anglia with the 150 Squadron of Royal Air Force (RAF) Bomber Command, he completed a tour of operations over Germany, flying Wellingtons at a time when the RAF was suffering its heaviest losses. On many occasions their aircraft was heavily damaged by anti-aircraft fire and twice they were intercepted by enemy night fighters and managed to survive a crash landing. Later he joined the Pathfinder Force Flying Mosquitos and completed a further two tours.

Dale was awarded the Distinguished Flying Cross in 1942, the Distinguished Service Order in 1944 and the Canadian Forces Decoration in 1956.

Today, Lieutenant Colonel Robert Dale is committed to Sunnybrook veterans through his work as Chairman of the Veterans Advisory Committee and as a member of the Sunnybrook Board of Directors and Audit Committee. He is grateful to be able to give something back to his comrades, the veterans of Sunnybrook. "These men and women did so much for this country – truly they were a generation of great Canadians," he says.

He strongly believes that we must always remember those who served their country during the wars and the valour and sacrifice of those who did not return home. He says: "They must never be forgotten."

Sunnybrook's Transfusion Medicine and Tissue Banks Program:

Patient Safety, Technological Advancements, Clinical Excellence



Having a ready supply of blood at your fingertips to transfuse during emergency surgery not only saves precious time, but also reduces the probability of human error.

On February 12, 2008, Sunnybrook Health Sciences Centre became the first North American hospital to install an automated mini-refrigerator (a HemoNine) in its operating room that dispenses the correct bag of blood for the patient by merely scanning the patient's file number. The information is computed, a door opens and a bag of blood, matched to the patient's profile, comes out – much like a vending machine.

"It used to take about 10 minutes to transport blood from our central blood bank to the operating room," says Dr. Jeannie Callum, director of Sunnybrook's Transfusion Medicine, Blood and Tissue Bank. "But by having the blood in the operating room, the whole process now takes under a minute." This project was sponsored by the Ontario Ministry of Health and Long-Term Care.



Another Sunnybrook initiative aimed at increasing patient safety during blood transfusions is the introduction of Positive Patient Identification (PPI). The patient is given a wristband with a two-dimensional barcode that when scanned confirms one important thing: Is this the right patient? It sounds elementary, but being positive reduces risk and increases safety.

"Using this new process allows a nurse to check five patient-identifiers in a few seconds, whereas before, it took two nurses a few minutes to check the same

information, adds Dr. Callum who is also an assistant professor in the Department of Laboratory Medicine and Pathobiology at the University of Toronto.

Error-free patient identification is crucial to Sunnybrook given that worldwide, incompatible blood is administered once in every 14,000 transfusions, which can prove fatal. The last report from the hemovigilance system in the United Kingdom found transfusing the wrong blood accounted for the greatest number of serious adverse events from transfusion.

While zero risk is impossible in any medical procedure, says Dr. Marciano Reis, Sunnybrook's chief of Clinical Pathology and associate professor, Department of Laboratory Medicine and Pathobiology, and Department of Medicine, University of Toronto: "Our hospital has been a pioneer in Canada in proposing the introduction of safety measures to reduce the rare chance of this type of error occurring."

One such measure was the introduction of the Medical Event Reporting System for Transfusion Medicine (MERS-TM), a quality-assurance program that detects errors and analyzes their causes to prevent future errors.

Sunnybrook was the first Canadian hospital to introduce MERS-TM. Sunnybrook has assisted the Public Health Agency of Canada to build a National Error Reporting System, the Transfusion Error Surveillance System (TESS), which is now being piloted at several hospitals across Canada.

To learn more about Sunnybrook's Transfusion Medicine Program or to study the online educational tool for patients go to www.sunnybrook.ca/education/transfusion

Above: (L to R) Dr. Jeannie Callum, director of Sunnybrook's Transfusion Medicine, Blood and Tissue Bank, Dr. Marciano Reis, chief of Clinical Pathology, Alison Halladay, medical laboratory technologist (MLT) and Anesthesiologist Dr. Claude Laflamme Left: Alison Halladay will assist in the implementation of the HemoNine and train all users of the system

Future Breast Cancer Research Centre at Sunnybrook Extends Current Leading Work



The Breast Program of Sunnybrook's Odette Cancer Centre is one of the two largest programs in Canada. The future Breast Cancer Research Centre at Sunnybrook – a state-of-the-art and conceptually innovative project, with its total cost expected to be \$27 million – encompassing more than 60,000 square feet on one of the new floors in M-Wing, will signal the growth of this existing leading program.

"Our Breast Centre will be a comprehensive 'one-stop' place for women to receive total breast care. It will be dedicated to treating the full spectrum of breast disease as well as promoting breast health," says Dr. Eileen Rakovitch, chair, Breast Site Group, Odette Cancer Centre.

Along with innovations in breast imaging research, minimally-invasive breast surgery and novel drug therapies, the Breast Site Group also offers specialized programs:

- Breast Diagnostics: providing timely breast examination and screening for women with breast concerns, or for those at risk for breast cancer
- Preventive Oncology/High Risk Program: offers genetic counselling for women at high risk for breast cancer
- Locally Advanced Breast Cancer Program: offers focused care, support and innovative treatments to meet the unique needs of women with locally advanced disease
- Breast Brachytherapy: revolutionary technique delivering post-operative radiation treatment in a one-hour procedure

- Lymphedema Clinic: provides highly focused and specialized care in the management and prevention of arm swelling
- Palliative Care (Chronic Pain Management) Clinic: strives to manage pain and other symptoms, and facilitates community supports, decision-making and advance care planning
- Rapid Response Radiotherapy Clinic: supports patients with symptomatic metastases from breast cancer
- Bone Metastases Clinic: supports patients with complicated bone metastases and fractures
- In development for fall 2008, the PYNK program will be geared to very young women with breast cancer and will provide state-of-the-art treatment and support from diagnosis through the follow-up years

"Our team collaborates in the areas of breast cancer prevention to reduce risk, breast diagnostics to improve detection, through to multidisciplinary treatment and specialized care, including psychosocial support and pain management," says Dr. Rakovitch, associate professor, Department of Radiation Oncology, University of Toronto.

The future Breast Cancer Research Centre at Sunnybrook will provide increased capacity and expanded space for research, clinical trials and new treatment facilities – and will be a significant enhancement to Sunnybrook's leading role in meeting the health care needs of women.

Above: Dr. Eileen Rakovitch (right) with a patient



Staying Grounded in the Face of

Trauma

In January 2007, Sunnybrook's Spiritual & Religious Care launched a trauma resilience training program for military chaplains about to be deployed to Kandahar, Afghanistan. The idea came in response to feedback from the front that chaplains were facing traumatic situations and did not feel adequately prepared to deal with their own inner responses while tending to the needs of soldiers.

While in Kandahar, chaplains perform such duties as counselling soldiers, leading debriefing sessions for soldiers following traumatic incidents, providing opportunities for worship and prayer, administering religious rituals and performing ramp ceremonies when a soldier has died.

"The goal of the training is to enable the chaplains to become acquainted with their own physical, emotional and spiritual responses to trauma," says Pam McCarroll, professional leader in Spiritual & Religious Care. "It is

intended to help them remain strong and capable of doing their job in the face of extremely difficult situations."

Under the leadership of educator Kathy Edmison (chaplain, Palliative Care and retired naval chaplain) and trauma mentor Dan West (on-call chaplain) participants experience a great deal in the five full days at Sunnybrook. Participants tour the Critical Care Unit where some of the injuries can be similar to those they might see in Kandahar; they visit the Aging & Veterans Care Wings and talk with veterans about their experiences, and they visit the trauma room and the morgue. In the evenings, participants are all essentially "on call"; their trauma mentor carries a pager and is alerted of appropriate traumas for the group to observe.

"The participants are given learning opportunities in a safe environment," says McCarroll, who oversees all of the sessions. "The purpose is not to desensitize them to

the kinds of trauma they will see in Kandahar, but to in fact humanize them. It's about moving deeper into yourself and the experience, not putting up blocks."

The group also witnesses surgeries at Sunnybrook and autopsies at the coroner's office downtown. They meet Dr. Homer Tien, trauma surgeon for both Sunnybrook and the Canadian Forces and who has served several rotations in Kandahar. They learn about reckoning with a spiritual crisis of their own, and about compassion fatigue, which can happen to caregivers in repeated exposure to trauma. At the end of each day, participants run their own debriefing session, much the same as they will in Kandahar as they are all stationed at the same base.

Most recent training included a special visit to the Islamic Foundation of Toronto, a Muslim school and community. Many of the patients treated at the hospital in Kandahar are civilians, so it is beneficial for the chaplains to familiarize themselves with the religious practices of Afghan Muslims. They are shown the building's mosque and mortuary, and they are taught about Muslim rituals and recitations for the dead and dying.

"It's a certain 'equipping' of the self – finding the strength within and bringing it out," says McCarroll. "We are helping them to find the delicate balance between reaching out to others, and also taking care of themselves."

The Program So Far

To date, three groups have gone through Sunnybrook's program, each coinciding with a six-month rotation to Afghanistan. The most recent group of chaplains came from Canadian Forces Base Petawawa. Others have attended from CFB Gagetown, CFB Shilo and from the west. There are typically four to seven chaplains at a time who take part in the training. The latest group of chaplains to receive training will leave in August 2008, with one leaving in May. Many Sunnybrook collaborators are involved in the training, including the Spiritual & Religious Care Team, Trauma Teams, Emergency Department, Critical Care Unit, Operating Rooms, Pathology and Aging & Veterans Care.

Left page: Jim Short, who trained with his chaplaincy team at Sunnybrook in June 2007, on the airfield in Kandahar, Afghanistan. Photo courtesy of Jim Short



Geraldine Muter

Second World War, RCAF, Women's Division

At 93, Geraldine Muter loves to share her wartime memories.

As a member of the Royal Canadian Air Force Women's Division (RCAF, WD) during the Second World War, Muter carried out daily routine orders (DROs), worked the signals and processed report cards for the air force graduating classes. "The war made you grow up in a hurry and also helped you appreciate the finer things in life," she says. Muter spent just over two years in London, England, and still remembers the tremors from buzz bombs that destroyed homes on her street.

When the end of the war was declared in 1945, Muter recalls: "I remember hearing the BBC radio broadcast. We all put on our uniforms and headed for Piccadilly Square. It was the best news." Her most treasured memory from the Second World War came at the end, when she and other RCAF members paraded at Buckingham Palace and met the future Queen Mother and her teenaged daughter, now Queen Elizabeth II.

In August 1946, five years after joining the RCAF, Muter returned to her hometown of Sturgeon Falls. Before becoming a secretary in small-claims court, she sold cosmetics in several pharmacies in her hometown and North Bay.

Over the years, Muter has faithfully attended all of her RCAF reunions except for one due to illness. This summer, she will travel to Ottawa with her daughter, Margaret Ann, to once again reminisce with members of the air force.

A resident of Sunnybrook since 1993, Muter enjoys everything and everyone at Sunnybrook. "As far as I'm concerned, I'm home here," she says. "The programs and music that are offered in Warrior's Hall are tremendous."

Above: Geraldine Muter at an orphanage outside London, England, during the Second World War. Photo courtesy of Geraldine Muter



George Smith

Italian Campaign of 1943
Royal Canadian Regiment



On a map of Italy featured prominently in his room at Sunnybrook's Veterans Residence, George Smith proudly highlights the route he took all those years ago during the two-year Italian Campaign beginning in 1943. Canada played a major role in Italy as part of the Allied invasion of mainland Italy during the Second World War. Smith was there the whole time.

"The thing I remember most about the day we landed was sailing into Pachino Harbour in Sicily and seeing the mountains," says 90-year-old Smith who was a young Canadian soldier in the Royal Canadian Regiment (RCR). "I suddenly realized we were going to be part of something big."

Smith has been a resident at Sunnybrook since 2002. "There is nothing like it in North America," he says. "It's not easy to put feelings like this into words; it's what the staff give and how they greet you. We're very fortunate here."

He enjoys many activities available to residents in particular horticultural therapy, a real passion of his. "I enjoy tending to the flowers, watching them grow – and I do believe in talking to them," he says. He also enjoys ceramics and weaving in the Art Therapy Studio. "There is always something to do here and someone to help you."

Smith is a dedicated volunteer. He works two full days in Sunnybrook's Market Place store where veterans' art and other items are sold. This way, he says, he's able to give back. "You can't repay what we get here," he says. He likes sharing his stories with the steady stream of people who come into the store.

He will never forget the six years he served in Europe. "I have no regrets," says Smith. "How else would we have had the experiences we did? We got to travel and see the world. It was truly an adventure."

Left: George Smith works on a weaving loom in the Art Therapy Studio

Nurse Practitioner Role Offers Patients Personalized, Quality Health Care



Bonnie Delbianco, who delivered twins in March 2008, admits that she had a lot of questions during her prenatal visits to Sunnybrook's Toronto Centre for Multiple Births. "As a first-time parent, and one anxiously expecting twins, I would research everything to death, find conflicting information and have a million questions during each appointment. The nurse practitioner in the clinic had so much time for me, I was at ease and never felt rushed."

The role of nurse practitioners, registered nurses with advanced university education who provide personalized, quality health care to patients, is a new concept for many patients. At Sunnybrook, patients can encounter this specialized nursing role throughout the hospital's obstetrical and gynaecology clinics. On top of their valuable bedside role, nurse practitioners are leaders in conducting research and in educating patients, the community and fellow health care providers.

In the High Risk Obstetrical Clinics, such as the one that Bonnie visited, nurse practitioner Aimee Santoro develops a plan of care for patients experiencing complicated pregnancies. Santoro calls the role of nurse practitioner a "unique, holistic approach to care" that involves not only listening carefully, and addressing, patients' concerns, but also the ability to order and interpret diagnostic tests.

"From a general orientation to the clinic, to taking a patient's history, ordering ultrasounds, blood work, PAP tests and so on, it's my job to work in collaboration with the clinic's physicians to provide the best care for our patients," explains Santoro. "I always invite patients to feel free to contact me with any questions, which women are quick to do."

Bonnie Delbianco was thankful for this extra attention. "There is an extra level of security and comfort seeing the nurse practitioner; during each visit she would take a lot of time to go through my file and pay attention to my concerns. I always felt like she distilled all of the health care information into something relevant for me."

The physicians working in tandem with nurse practitioners are equally as supportive of the advanced practice nursing role as the hospital's patients. Dr. Jon Barrett, chief of Maternal Fetal Medicine at Sunnybrook and associate professor, Department of Obstetrics and Gynaecology at the University of Toronto says, "The nurse practitioner allows the physician to concentrate on what they are best trained at – the assessment of obstetric risk based on multiple sources of input. The nurse practitioner has the skills to ensure that all of the information we need is accessible, as well as the time and skill needed to impart information to the patient. They also bring their nursing perspective to a situation that was previously completely 'medically' focused, thus allowing us to see the women, her family and culture as a whole."

In addition to the obstetrical clinics, gynaecology services have a strong nurse practitioner presence.

A good example is Sunnybrook's HPV (Human Papilloma Virus) Vaccine Clinic, the first clinic hospital-based clinic of its kind in Canada, which Santoro also helps to run, with backup from a gynaecologist.

"The role of nurse practitioner is a vital component in our ambulatory gynecology and colposcopy clinic program," says Dr. Nancy Durand, gynaecologist at Sunnybrook and assistant professor, Department of Obstetrics and Gynaecology, University of Toronto. "A nurse practitioner such as Aimee has also been instrumental in organizing and running our innovative HPV Vaccination Clinic, where women can be counselled and receive the HPV vaccine. Without a doubt, this important nurse role has become an essential part of our ambulatory gynaecology program."

View a slideshow featuring Sunnybrook Nurse Practitioner Aimee Santoro at www.sunnybrook.ca

Above: Nurse Practitioner Aimee Santoro (Left) at Sunnybrook's Toronto Centre for Multiple Births



Sunnybrook Hospital Is Named

Soon after the City of Toronto offered the land of Sunnybrook Farm as a gift for the site of the new state-of-the-art veterans care facility, the construction of the hospital began. During the early phases of construction, Sunnybrook was unofficially known as the 'Hospital at Sunnybrook' or 'Sunnybrook Park Hospital.'

However, 'Sunnybrook' was not the only option. As indicated in a document dating back to 1944, a selection of other possibilities included:

- The Queen Elizabeth
- The Northeastern Hospital
- King George Hospital
- The Invasion Memorial Hospital
- The United Nations Veterans Hospital
- The Queen Mary Hospital
- Toronto Royal Infirmary
- George and Elizabeth Memorial Hospital

In 1944, the official name of Sunnybrook Hospital was chosen to commemorate the former land of Sunnybrook Farm.

Above: Sunnybrook Hospital under construction in the 1940s; The Sunnybrook Cenotaph today

Safeguarding Against the Seemingly Invisible

Microbiology Works to Reduce the Impact of Infectious Disease

Sunnybrook's Microbiology department studies the seemingly invisible world of micro-organisms many of which are pathogens causing infection or infectious disease. Although the physical view may be microscopic, the implications of their expertise are enormous in the diagnosis and treatment of infectious disease to help protect patients, health care professionals and the community.

"To minimize the impact of pathogens on the health care system, we continually provide relevant, accurate and rapid diagnosis of infectious disease, to further prevent health care-associated infections for example, and to continue to lead in the surveillance, management and prevention of known and lesser known pathogens," says Dr. Andrew Simor, chief, department of Microbiology, Sunnybrook.

One lesser known pathogen emerging in communities in Canada is CA-MRSA or community-acquired methicillin-resistant *Staphylococcus aureus* (MRSA). Through expertise supported by newer molecular-based technologies, Sunnybrook's Microbiology lab is at the leading-edge of diagnostics for this pathogen and has a vital role in proactively developing prevention guidelines and novel treatments.

Staphylococcus aureus is a bacterium frequently living on the skin of a healthy person. The bacterium can however go on to cause illness ranging from minor skin infections to soft tissue infections and life-threatening pneumonia. The strain of MRSA is a common bacterial pathogen resistant to antibiotics which means treatment options are limited.

HA-MRSA or health care-associated infections are known to occur in vulnerable patient populations. However, microbiologists are calling CA-MRSA an 'old foe with new

fangs.' "CA-MRSA has become a newer significant cause of community-associated infections," says Dr. Simor, professor, Department of Laboratory Medicine & Pathobiology (Microbiology), University of Toronto. "And groups including children and athletes involved in contact sports have been found to be at increased risk."

Factors implicated in CA-MRSA transmission are crowding, frequent skin contact, compromised skin, sharing of contaminated personal care items and lack of cleanliness.

Key measures to help prevent transmission include good personal hygiene practices to include consistent hand-washing, covering of any draining skin infections and to avoid sharing potentially contaminated personal articles such as towels, clothing and razors.

MOLECULAR-BASED TECHNOLOGIES ENHANCE RESPONSIVENESS

When it comes to managing infectious disease, the emphasis is on rapid and accurate detection and identification. The use of molecular-based technologies often yield results in hours versus days using conventional methods. In some cases molecular-based technologies detect 30 to 40 per cent more strains of infection than with standard methods and can isolate and confirm a pathogen's drug sensitivity or resistance. Many molecular-based technology tests are being used in the management of MRSA, meningococcal meningitis, tuberculosis, HIV infection and hepatitis C.

In 2003, Sunnybrook's Microbiology department and other institutions, including the Hospital for Sick Children and McMaster University, collectively and rapidly developed molecular-based technology tests to diagnose Severe Acute Respiratory Syndrome (SARS) – a significant support in the management of this epidemic.

"Now with newer strains of respiratory viruses for instance, and the inevitability of pandemic influenza like an Avian Flu, we hope to expand work with molecular-based technologies," says Dr. Simor. "The investment is a challenging one, but expansion would mean even greater detection of pathogenic strains with rapid turnaround to further protect patients and ultimately the community."

Sunnybrook's Microbiology lab is a reference lab for national surveillance for infection as part of the Canadian Nosocomial Infection Surveillance Program in partnership with the Public Health Agency of Canada.



Breast Milk Management System Prevents Errors in the Neonatal Intensive Care Unit

By ensuring that the right baby gets the right breast milk, Sunnybrook has become a world leader in neonatal patient safety and the prevention of medical errors. The implementation of a sophisticated milk management system in Sunnybrook's Neonatal Intensive Care Unit (NICU) is a world first, involving the management of virtually every aspect of milk administration.

The LacTrack SafeLx system, developed jointly by Neoteric Technology Ltd. and staff in the hospital's NICU, tracks milk collection, storage, preparation and eventually the feeding of premature infants using wireless mobile computers and printers. This new methodology was first used for blood transfusions at Sunnybrook, and has been adapted to meet the needs of the NICU.

"Human milk is the gold standard in infant feeding," says Dorothy Dougherty, a registered nurse and certified lactation consultant in the NICU. "Breast milk is also considered a body substance product, so it is key that we ensure expressed milk gets to the right baby. Staff find the handheld wireless scanners easy to use and also appreciate that making an error is now almost impossible."

The process begins when a baby is admitted to the NICU. A barcode label is generated not only for each baby but also for anyone who has a role in ordering a feeding, milk preparation or feeding the infant. Each mother who will be expressing breast milk is given labels with her baby's barcode, which she then affixes to the milk she has pumped. When the physician or dietitian orders a specific feed for a baby, the NICU feed preparation technicians scan the order and prepare customized labels for feeds. The last scanning occurs in the neonatal unit at the time that an infant is fed.

"If there is a feed mismatch for a baby at any point, a critical alarm sounds. It is loud enough for both the nurse and those around her to hear, so the chances of an unnoticed error happening are slim," explains Dougherty.

"The number of feeds on an annual basis is quite astounding. Each baby has about 10 feeds a day and, with 30 babies in the unit, this equals approximately 110,000 feeds per year in the NICU."

Sunnybrook's leadership has been recognized by the 2008 Microsoft HUG Health Care Innovation Awards; the NICU has placed first in the category of "Delivery Transformation." The awards are presented annually to health care organizations who, working with a solutions partner, use technology to enhance and transform the quality of patient care.

"This initiative reflects Sunnybrook's commitment to patient safety. We are ethically and morally obliged to ensure that we are constantly striving to become the safest hospital in Canada, especially in the NICU where we have such a vulnerable patient population," says Dr. Michael Dunn, chief of the Department of Newborn and Developmental Paediatrics at Sunnybrook and associate professor, Department of Paediatrics, Faculty of Medicine, University of Toronto. "We believe that this methodology can and should go beyond breast milk and transfusions to include lab samples and medication administration."

Over 160 staff in Sunnybrook's NICU have been trained and are now using the milk management system. This includes all nurses, neonatologists, dietitians and feed preparation technicians. There has been 100 per cent compliance among staff.

Data collection is an important feature of the new system. "Every aspect of the milk collection, storage and administration process is verified electronically and recorded in a central management system for auditing purposes," adds Dougherty. Now we can track specific items, such as how many times a nurse has fed a certain baby to the total number of feeds given during a baby's stay in the NICU."

Above: NICU Nurse Kelly Forcey demonstrates the new system

The Sunnybrook Trauma Program and Emergency Department:



Then >

- In 1966, when Sunnybrook was transferred to the University of Toronto, the Emergency Department (ED) did not exist, nor was there a Trauma Unit or Outpatient Fracture Clinic
- During the late 1960s, plans were developed for an ED and Trauma Unit based on models seen in Europe
- From 1970 to 1971 the physical space for the ED and Trauma Unit was built
- Dr. Robert McMurtry was recruited as director of the Trauma Program and director of the Emergency Department in 1975
- The neighbouring community of Lawrence Park was encouraged to come to the hospital for orthopaedic and sports injury care. As a result of community engagement, the hospital became increasingly accepted and recognized for its emergency, orthopaedic and medical care
- The Sunnybrook Trauma Program began in 1976. It was the first in Canada. Approximately 50 trauma cases were seen in the first year of the Trauma Unit; most were industrial or motor vehicle injuries
- From 1976 to 78, family physicians were beginning to be replaced by medical staff specially trained in emergency medicine
- The world-renowned Emergency Department P.A.R.T.Y. Program - (Prevent Alcohol and Risk Related Trauma in Youth), an injury prevention program for teens, began in 1986



Now >

- When the ED was built it was designed to accommodate approximately 20,000 patients every year. It now sees almost double that number
- The John and Liz Tory Regional Trauma Centre sees approximately 1,200 trauma patients every year, which averages to about 3 to 4 traumas per day
- Due to a rise in violent crime, the Trauma Centre has seen an increase in the number of penetrating traumas (i.e. gunshots, stabbings) treated. Approximately 20 per cent or more of the 1,200 cases per year are penetrating traumas
- Sunnybrook is closely aligned with pre-hospital care and has become a leader in disaster preparedness with the new Emergency Medical Assistance Team (EMAT), comprehensive pandemic planning and mock disaster scenarios
- The Accelerated Care and Treatment (ACT) Zone initiative has been implemented in the ED as a way to manage and improve wait times and ambulance off-loading delays
- The Trauma Program continues to influence trauma care on a provincial, national and international level

Above: The Sunnybrook Trauma Unit and ED through the years; the first half of the new ED and new trauma room, with double its original capacity, opened in January 2008



Sunnybrook Program Trains Doctors for New Hospital Role

Hospitalists to Improve Patient Care and Safety in Canada

Many family doctors and other specialists are now choosing to work in Canadian hospitals to provide accessible, safer and more efficient care to older, more complex patients. In order to enhance the skills of the increasing number of doctors choosing this career path, Sunnybrook is leading one of the first Canadian programs to train physicians to become hospitalists.

“Hospitalists came out of a need to develop a group of health care professionals who could care for people in the hospital, but also improve the quality of care and safety of the system within the hospital,” says Dr. Wendy Levinson, chief of Medicine at Sunnybrook.

A hospitalist is a physician who spends most of their professional time working within a hospital, providing general medical care to hospitalized patients on units, as well as conducting research and providing leadership related to hospital health care. The majority of hospitalists in Canada are family medicine physicians, but some are also practitioners of general internal medicine, emergency medicine, and medical subspecialties. Some, but not all, hospitalists have received an additional year of specialized training in the care of hospitalized patients to gain a skill set that is not usually covered in traditional graduate medical training programs, including health care delivery system issues, transition of care issues, patient safety and end of life/palliative care.

Hospitalists manage in-patients, coordinate all the necessary specialists, and facilitate follow-up care in the community. The day-to-day patient management is taken over by the hospitalist so specialists can focus on other responsibilities. Patients then benefit from improved access and safety.

“It’s a more efficient system as patients can access everything they need while in hospital and it also ensures a more consistent continuum of care, enforcing quality and safety as best as possible,” says Dr. Khalil Sivjee, education director of the Hospitalist Training Program at Sunnybrook.

Although formal training is not a requirement to be recognized as a hospitalist in Canada, Sunnybrook is addressing the specific needs of the role with an intensive training program that builds upon the skills and experience of physicians. The training program incorporates the core competencies of the Society of Hospital Medicine.

“Hospitalist training also creates a culture of coordinated care with a multidisciplinary health care team to provide the most attentive, safe and resource-sensitive hospital care,” says Dr. Mireille Norris, administrative medical director of the Hospitalist Training Program at Sunnybrook.

The multidisciplinary team, which consists of physiotherapists, occupational therapists, speech language pathologists, social workers, dietitians, pharmacists and nurse practitioners, works with the hospitalist and provides input to implement coordinated care, including medical care, discharge planning and transition of care.

It’s a win for patients because of the continuity of care, access to a variety of medical specialties and improvement in safety. For physicians, the benefits include career satisfaction, providing comprehensive care to more complex, interesting cases and keeping their skills up-to-date.

“Hospital Medicine is an exciting new specialty that is quickly growing in North America; it has evolved over the last 10 years in the United States,” says Dr. Levinson, chair of the Department of Medicine at the University of Toronto. “A similar group of people is needed here in Canada. They can train here and see this as their profession and identity for Sunnybrook, but also for their local and national community. We hope to see a body of research emerge from on-site practice to answer those questions on how we can provide the most effective care, in order to research systems of care to make systems work more effectively.”

One of only a few in North America and one of the first in Canada, the one-year program in Hospital Medicine at Sunnybrook allows fellows to spend their time on various acute care medicine units caring for patients with a wide array of disorders, learn the art of medical management, collaborate with specialists to better coordinate medical care, facilitate patient transitions of care, and participate in hospital administration. Fellows who successfully complete the year are in a position to become leaders in hospital medicine in community-based or academic centres across Canada.

Watch a video on the Hospitalist Training Program on youtube.com/sunnybrookmedia

Left: Dr. Vic Bansal, Sunnybrook hospitalist



Bill McHattie Korean War, PPCLI

Bill McHattie is one of about 10 Korean War veterans currently living in the Sunnybrook Veterans Residence.

He enjoys taking part in a weekly lunch group, where a small team of residents help prepare meals cooked especially for them. “You can have what you want, things we don’t always get to eat. It’s terrific,” he says.

At age 17, McHattie signed up for service right out of high school, exaggerating his age by two years. Serving in war was nothing new to his family as his Scottish father was a foot soldier in the First World War and his brother served in the navy during peacetime after the Second World War.

Serving in the Korean War as a member of the Princess Patricia’s Canadian Light Infantry (PPCLI), McHattie was part of the Canadian reinforcements, starting out in 1951 and returning with the First Battalion. In total, he served one and a half years.

“I’m proud of my time in Korea,” he says. “Those guys were your comrades over there. You depended on them and vice versa.” When he returned home, he worked as a roofer, often with his father. He worked at Maple Leaf Gardens on the dome in the mid-1950s where he got to see many legendary Toronto Maple Leaf players on and off the ice.

McHattie remembers the 1967 game when the Leafs won their last Stanley Cup. Still a fan, he has faith that the team can do it again. He says: “I think the Leafs can do it eventually.”

Above: Bill McHattie selling poppies at Sunnybrook on Remembrance Day

Infection Control from the Ground Up

Sunnybrook's Infection Prevention and Control Team Advises on Hospital Construction for Continued Patient and Staff Safety

When Maja McGuire sees hospital construction she experiences a different sense of anticipation and opportunity than most. She anticipates dust control and inspections of hoarding, considers the installation of easily cleanable materials, surfaces and finishes, and pores over plans for hand sink locations, waste disposal, storage, heating, ventilation and the spacing of beds.

McGuire is an infection prevention and control coordinator at Sunnybrook, and amidst M-Wing construction at Sunnybrook, she is busy collaborating with core groups to ensure continued patient, staff and public safety – through infection control design from the ground up.

The M-Wing, or main wing, of Sunnybrook's Bayview Avenue campus is currently under construction and will be expanded four floors.

"From the earliest construction discussions, our Infection Prevention and Control Team has had a significant and integrated role in planning and execution," says McGuire. "Infection prevention is part of a highly functional working group that includes corporate development and project planning, risk management, occupational health and safety, facilities management and affiliated architects and contractors."

"This is about forward-thinking," says Dr. Mary Vearncombe, medical director, Infection Prevention and

Control, Sunnybrook Health Sciences Centre and associate professor, Department of Laboratory Medicine & Pathobiology (Microbiology), University of Toronto. "Sunnybrook is investing in proactive, evidence-based design to increase safety for patients and staff."

"Hospitals are ever-expanding structures that must continue to provide quality patient care," says Sandra Callery, director, Infection Prevention and Control, Sunnybrook Health Sciences Centre. "A big part of continued quality patient care is to implement the latest infection prevention protocols in planning and day-to-day monitoring of construction, and also to execute in the new structure, standards and best design practices to more proactively prevent and control infection."

For McGuire, the opportunity to build infection prevention and control from the ground up, safeguards the future for all.

Proactive Design in Emergency and Neonatal Intensive Care Unit

Referencing guidelines from the Canadian Standards Association and the American Institute of Architects and based on the best information available from research, standards and project evaluations, the working group translates into practical design and execution with an infection prevention and control focus.

Upon full completion, the Emergency Department (ED) will be newly expanded to double its original size. Often the point of entry for ill and potentially contagious patients, the already completed half of expansion features a 'green zone' for better containment to reduce risk in the event of an outbreak. The zone is a self-sufficient and strategically designed pod with a centralized nursing station, racetrack design with patient rooms within, areas for supplies and independent heating, ventilation and air conditioning systems.

The new Neonatal Intensive Care Unit (NICU) – for which the Infection Prevention and Control Team received North American recognition for best practice approaches on design – will exceed standards in spacing with more single rooms, with independent heating, ventilation and air-conditioning systems.

Similar to the ED expansion, there will be more hand hygiene stations, greater provisions for appropriate waste disposal and storage, and meticulous attention to materials, surfaces and finishes including walls, ceilings, light fixtures and equipment. All surfaces are reviewed by Infection Prevention and Control and determined to be nonporous, easily cleanable with minimal seams.

Under Pressure: High Blood Pressure and Its Silent Symptoms



Canadians living with high blood pressure account for 22 per cent of the entire population. Despite this prevalence, blood pressure is fairly easy to control and in doing so, it is one of the most cost-effective treatments for the prevention of heart disease. If blood pressure is under control, there is potential to reduce the risk of stroke by 40 per cent, heart attack by 20 per cent and death by 15 per cent.

So why are so many Canadians living with it? More than 40 per cent of people with high blood pressure don't know they have it. One reason is that high blood pressure can be 20 years in the making without showing a single symptom and is often referred to as the silent killer.

Sunnybrook's blood pressure expert, Dr. Sheldon Tobe, nephrologist and associate professor, Medicine, University of Toronto, reminds people to know their blood pressure number. "No matter your age or gender, have your blood pressure checked at least once every two years," he says. "If your blood pressure is high or you have other risk factors for heart disease, have it checked more frequently."

A blood pressure reading is made up of two numbers – systolic and diastolic. When the heart beats, the force of blood against artery walls is at its greatest, known as systolic blood pressure – the top number in the reading. When the heart relaxes between beats, the force of blood decreases and your blood pressure declines, known as diastolic blood pressure – the bottom number in your reading. High blood pressure is diagnosed if the systolic goes up and stays above 140 on several occasions and/or diastolic blood pressure is higher than 90.

The risk of having high blood pressure increases as we age. About half of Canadians over the age of 65 have high blood pressure. Like aging, there are risk factors for high blood pressure that we cannot control. Family history being one as well as ethnicity as high blood pressure is more common among people of South Asian, First Nations/Aboriginal Peoples, Inuit or African descent.

Although we cannot change these factors, we can make healthy lifestyle adjustments that can reduce our likelihood:

- Be smoke-free
- Get a regular blood pressure check
- Maintain a healthy body weight and eat a healthy, balanced, low-fat diet
- Reduce the consumption of foods with added salt
- Limit alcohol to a maximum of two drinks a day
- Participate in regular physical activity and make time to relax and reduce stress levels

It is important to remember that one high blood pressure reading is not enough to determine that you have high blood pressure. A doctor will diagnose high blood pressure only after several readings taken over a period of time. Centres in the community such as pharmacies often have machines where you can check your own blood pressure. If the number reads over 135/85 for several readings, make an appointment with your doctor. To ensure the blood pressure measurement is accurate, there are many ways to prepare:

- Do not eat a half an hour before your appointment
- Avoid alcohol for eight hours prior to testing
- Empty your bladder beforehand
- Let the person who is doing the test know if you are feeling ill, anxious or rushed
- Do not engage in any strenuous physical exercise two hours before your appointment
- Sit quietly and comfortably for about five minutes before taking the test

Above: Dr. Sheldon Tobe, Sunnybrook nephrologist with a patient



Better in Translation

Sunnybrook's Centre for Health Services Sciences Shows How Simple Processes Can Reduce Surgical Site Infections

While laminated 8.5 x 11 presentation cards on surgical site infection (SSI) lack the technological pizzazz of gene therapy or the engineering wizardry of noninvasive ultrasound surgery, they might – in the right hands, put to the right use – save lives. The cards, shared among doctors, nurses and other staff in the gastrointestinal surgical oncology group at Sunnybrook's Odette Cancer Centre, contain information on simple processes shown to reduce SSI, but which aren't always performed well. Helping develop and evaluate this pilot project is the new Centre for Health Services Sciences (CHSS), a joint initiative of the hospital and Sunnybrook Research Institute (SRI).

Launched in July 2007, CHSS has four platforms – knowledge translation (KT), hospital epidemiology, patient safety improvement research and the clinical studies resource centre – and has made the reduction of SSI its first hospital-wide campaign. “One of our goals at

CHSS is to help understand how to close the gaps between what we do at Sunnybrook and what we should be doing,” says Dr. Merrick Zwarenstein, founding chair of CHSS, senior scientist at SRI and professor in the department of Health Policy, Management and Evaluation at the University of Toronto. Applied to SSI, this involves helping guide SSI process data collection and study design, sponsoring forums such as Café Scientifique (a recent discussion on SSI among clinicians, management and the public), lending scientific expertise to Sunnybrook's surgical oncology patient safety committee and helping evaluate the success of KT techniques, including the presentation cards.

“We have excellent evidence-based knowledge that shows it's possible to get lower SSI rates than we presently do, at Sunnybrook and other hospitals,” says Dr. Andy Smith, director of the KT platform at CHSS and head of General Surgery at Sunnybrook. Administering antibiotics in the hour before surgery, using proper instrumentation for hair removal and keeping patients warm are conceptually simple procedures proven in numerous studies to lower SSI. But, says Smith, “In the hurly-burly of a busy clinical practice, we don't perform those tasks for every patient with absolute reliability.”

The statistics on SSI speak to its impact. Although SSI occurs in only about 2.5 per cent of surgeries in Canada, that percentage still results in more than 50,000



unexpected infections annually. These infections are costly (from \$400 for superficial infection to \$30,000 for internal or organ complications), extend hospital

length of stay and may sometimes lead to permanent injury or death.

The difficulty in addressing SSI lies not only in raising awareness of its impact, but in implementing evidence-based best practices on the ground – knowledge translation. “When a KT initiative is successful,” says Dr. Smith, who is also an associate professor in the Department of Surgery at the University of Toronto, “it's usually the result of a coming together, in a truly collaborative, communicative fashion, of researchers, front-line workers and administrators.” To that end, says Brigette Hales, a performance improvement specialist at Sunnybrook, “Dr. Smith is not only a KT resource. He's a clinical champion, actively working with nursing, anesthesiology and administrative colleagues in their efforts to reduce SSI, and encouraging performance SSI data collection within his own surgery group. He really wears two hats.” These efforts have been tightly aligned with those of Dr. Claude Laflamme, an anesthesiologist and CHSS patient safety scholar who has been working to reduce SSI rates at Sunnybrook with the support of the multidisciplinary team for years.



While dedicated to overcoming the immediate challenges of merging theory and practice to reduce SSI rates, Dr. Smith and his colleagues—clinical practitioners, administrators and CHSS researchers—are also looking further afield. “We are already broadening our efforts across more of the

surgical disciplines; we aim to embed better processes in the culture of care at Sunnybrook, and expect to have lessons that can be applied across the country,” he says.

Main photo: Dr. Andy Smith in surgery

Top: Clockwise (L to R): Dr. Andy Smith, Dr. Ed Etchells, Keitha McMurray, Dr. Don Redelmeier, Dr. Merrick Zwarenstein, Katie Dainty

Lower: Dr. Merrick Zwarenstein

SUNNYBROOK FROM THE ARCHIVES



Grand Opening

Although still very much under construction, Sunnybrook Hospital welcomed its first patients on September 26, 1946. When arriving at Sunnybrook from the old Christie Street Hospital, the reaction from one of the first patients Peter Graziano, was typical of many: “It was beautiful! Sunnybrook was a palace,” he said. “The care was excellent, and the nurses were marvellous. The hospital was well staffed, well equipped and the food was good.”

Dr. Jim Shapely, head of Anesthesia at Sunnybrook from 1947 until his retirement in 1979, was also transferred from Christie Street. “Sunnybrook was the finest thing on the continent,” he said. “It was a showplace.”

On November 11 and 12, 1947, dignitaries and the public were invited to a progress inspection of the hospital buildings and the Red Cross Lodge (now the site of the Odette Cancer Centre), a centre run by Red Cross volunteers for veterans and their families. The Lodge was officially opened on January 30, 1947.

Sunnybrook's much anticipated opening ceremony took place on June 12, 1948, on the front steps of the then main entrance (now the site of C-Wing Tim Hortons). Canadian Prime Minister William Lyon Mackenzie King proudly announced the official opening of Canada's largest war veterans hospital: “Sunnybrook Hospital symbolizes sacrifices made by those members of the armed forces whom this hospital aims to serve, and seeks to honour . . . My earnest hope is that it may equally express our resolve to share in the building of a better world in which the need for veterans hospitals will no longer arise.” These words were carried coast to coast through CBC Radio.

Above: Canadian Prime Minister William Lyon Mackenzie King at Sunnybrook in 1948



Small Handheld Device Has Big Influence on Sunnybrook Patient Care in ICUs

A wireless handheld application is making a significant impact on patient care practices in two of Sunnybrook's Intensive Care Units (ICU). The system, which tracks process of care measures for each patient in the ICU, recently completed a successful two-year trial in 16 of Ontario's geographically separate ICUs and continues to be used at Sunnybrook.

The handheld device is managed by one person per ICU, usually either a data technician or a nurse. He or she monitors process of care measures for each patient in the unit, including keeping track of routine things that can be overlooked, such as raising the head of the bed to prevent ventilator-associated pneumonia and providing medications to prevent deep vein thrombosis. The individual uses the handheld device to enter which

routine care practices each patient should be receiving and if in fact he or she did receive them in a timely manner.

"Without data it's hard to improve performance," says Dr. Damon Scales, staff physician and intensivist, Department of Critical Care Medicine, Sunnybrook, and lead on this project. "By making data collection easier with this handheld application, we've been able to adopt a more systematic approach than previously and as a result it's a more effective way to change behaviour. Written charts and notes simply weren't providing the accuracy that this device has demonstrated."

As the flagship site for the Ministry of Health and Long-Term Care's (MOHLTC) 'ICU Clinical Best Practices Project', Sunnybrook

received and compiled all real-time data from the other ICUs through a central collector computer. The data was processed to produce monthly audit and feedback reports that reflected where each unit was doing well in routine care practices or where it was falling short.

"What made things really interesting was that all of the units were able to see the (anonymous) results of the other hospitals in the audits, which made for some healthy competition," says Dr. Scales, assistant professor, Department of Medicine and Interdepartmental Division of Critical Care, University of Toronto. "Because each audit revealed how the other ICUs were doing, the comparison was a motivating factor for everyone to stay on top of their game."

Each of the project's participating

Above, L to R: Grace Bogart, RN, Leasa Knaechtel, advanced practice nurse (CRCU), Dr. Damon Scales, intensivist, Svetlana Bojilov, database coordinator, Lisa Johnson, RN

sites used the audit and feedback results in different ways. At Sunnybrook the results were, and continue to be, disseminated to nurse educators who share the information through the most effective channels, alternatively the audit results might go directly to the unit level for dissemination.

With a network of 16 ICUs, the project was able to influence the care of over 16,000 patients. The influence on care could be observed in increased staff motivation, and the fact that other areas for improvement became more apparent and therefore easier to address.

The bedside data collection tool specifically measures the six best practices that the MOHLTC Critical Care Strategy is seeking to improve through its ICU Clinical Best Practices Project. These include preventing deep vein thrombosis, catheter related bloodstream infections, pressure ulcers, ventilator-associated pneumonia and feeding patients as early as possible and assessing daily their ability to be removed from the mechanical ventilator.

The handhelds were not in use at Sunnybrook prior to this project's start, but once implemented they became automatically synchronized with other quality improvement systems that were implemented at about the same time. For example, Sunnybrook is also currently testing a system in which patient alerts (i.e., abnormal lab values or concerning lab-drug combinations) are sent directly to responsible physicians via handhelds. With this technology-based focus on measurement and quality improvement in a variety of areas there is ultimately an impact on patient safety practices overall, which is the main goal.

"The key to our particular project's success at our site is that the devices are simple to use," says Dr. Scales. "This type of project wouldn't have worked with hand-written charts, or going back and forth from the bedside to a central computer. The ease of use was essential to the project's success."

The trial began in late 2005 and was funded by both the MOHLTC and the 16 ICUs that participated. While the provincial trial ended in November 2007, the system continues to be used at Sunnybrook in its D4 ICU and Critical Care Unit. More information about the project can be found at www.health.gov.on.ca/english/providers/program/critical_care/pic_bpractice.html



More Quality and Safety Innovations from the Sunnybrook ICUs

In addition to the ICU Clinical Best Practices Project, there are many other initiatives to improve patients' safety and care quality in the Sunnybrook ICUs. The following are just a few examples:

Patient Transfer Checklist

This safety checklist ensures that patients are safely transferred from the ICU to the ward after the critical illness has resolved. It helps to ensure that continuity of care is maintained for these complex patients by covering items such as medication reviews, proper communication and even alerting family members to the change of location.

Interdisciplinary Rounds Checklist

Daily interdisciplinary rounds provide an opportunity for the entire health care team to provide input about a patient's management. These rounds typically include the physician, nurse, respiratory therapist, pharmacist, dietitian, physiotherapist and social worker. The interdisciplinary rounds checklist helps the entire team ensure that key best care practices are being provided to all patients admitted to the ICU.

Rapid Response Team

The Critical Care Rapid Response Team, also known as a 'Medical Emergency Team' or 'Critical Care Outreach Team', represents a major innovation in hospital practice. These teams are comprised of ICU physicians, ICU nurses and respiratory therapists who work collaboratively with hospital ward staff to identify, assess and respond to the needs of seriously ill patients prior to the development of progressive and irreversible deterioration.

The Rapid Response Team applies the principles of acute medicine and resuscitation across the hospital, and brings specialist knowledge and skills from the ICU directly to the bedside on a 24/7 basis.



Up and Running

By 1950, Sunnybrook was quite a magnificent sight. Designed for up to 1,600 patients, the hospital included an outpatient block, active treatment building, neuropsychiatry building, prosthetics building and a maintenance and power plant. A nurses' residence, chapel, therapeutic pool and gymnasium, and large auditorium added to the hospital's charm. Hospital wings were named as memorials to those who served: Ypres, in honour of the army in the First World War; Ortona and Falaise, for the army in the Second World War; Atlantic, for the navy; and Lancaster and Spitfire in honour of the air force.

It only took a few years for the hospital to earn an outstanding reputation for patient care, teaching and clinical research – one that still holds true today. Dr. Ian MacDonald, chief of Medicine at the time, was the driving force behind Sunnybrook's highly acclaimed post-graduate medical education program. To join the teaching staff of the hospital, which was then under the ownership of Veterans Affairs Canada, physicians had to be on the University of Toronto faculty. With an educational program comes research, so it is not surprising that in the early 1950s, Sunnybrook opened Toronto's first clinical investigations unit.

During that time, the hospital's specialty services included an arthritic unit, the premier paraplegic unit in Canada, physical medicine as well as other services in medicine and surgery. Interdisciplinary collaboration was something Sunnybrook valued from day one. Physicians, nurses and other health professionals, including physiotherapists and occupational therapists, approached patient care as a team and all members enthusiastically participated in patient rounds.

Above: A Sunnybrook patient ward in the 1950s

Construction at Sunnybrook

Construction continues to advance at Sunnybrook, with many projects either under way or in the planning stages.

M-Wing Expansion

Two of the four new floors added to M-Wing will be the future home of the Perinatal & Gynaecology (P&G) program, including a state-of-the-art Neonatal Intensive Care Unit (NICU) and expanded capacity for Labour and Delivery. The M-Wing project is expected to be complete in mid-2010.

Currently most of the concrete work has been completed and interior fit-up work is under way on the fourth and fifth floors. Crews are installing plumbing and drainage, fire protection, electrical and other vital systems. Work has commenced on permanent roofing and construction of the building envelope.

M-Ground Operating Rooms

Sunnybrook's three new ambulatory operating rooms at the east end of M-Ground have been open since September 2007. The newly renovated space within the Same Day Surgery Department includes a three-bed Regional Anesthesia program and three-bay Post-Anesthetic Care Unit (PACU). The new suites increase operating room capacity at the Sunnybrook campus and will help manage non-hip and knee cases that will move

up from the Holland Centre and gynaecological cases from 76 Grenville. This will in turn create extra capacity to handle increased patient volumes as the Holland Centre more than doubles its cases of hip and knee replacements over the next several years.

Holland Orthopaedic & Arthritic Centre of Excellence

User groups at the Holland Centre have completed their work on the sketch plan design. Approximately 12 months will be required for sketch and working drawings and tendering the project, which will expand operating room capacity from four to six suites.

Imaging Research Centre for Cardiac Intervention (IRCCI)

Since November 2006, Sunnybrook's Schulich Heart Centre has been home to the state-of-the-art Imaging Research Centre for Cardiac Intervention (IRCCI). Uniquely designed to combine multiple medical imaging modalities such as X-ray, ultrasound and magnetic resonance (MRI), the IRCCI will provide clinicians and researchers with updated information to guide their decisions for cardiac investigation, which will improve the detection of cardiac disease and the outcomes of interventional procedures for patients.

Select patients enrolled in clinical trials are being examined

and treated in the new space. An existing Cath Lab has been relocated into space fitted out in the new IRCCI. Construction on this new lab began in November 2007 and is expected to be completed by the spring of 2008.

Emergency Department and John and Liz Tory Regional Trauma Centre

The Emergency Department (ED) expansion will double the size of the existing department and add additional medical imaging equipment (including a new CT Scanner Suite) and an increase in stretcher bays from approximately 30 to 48. These facilities will improve patient flow at Sunnybrook and reduce ambulance off-loading delays.

In January all staff, physicians and volunteers were invited to an open house event celebrating the completion of the first finished half of the new ED. Guests were given a self-guided tour through the new space, which includes a lead-lined trauma room with four-bed capacity and two negative pressure rooms for infection control.

The ED staff moved into the new space and officially began providing care for patients on January 30. The old department is currently being demolished and renovated.

It is important to note that while there is more space in the department it is not increasing in capacity yet. The new space is physically larger, but it will have the same patient capacity as the old space until the new department is entirely completed by the end of 2008.

Sunnybrook goes

green

The 1950s and 60s saw the civil rights movement; the 1960s and 70s were witness to the women's movement, and today some say we're experiencing a full-on environmental movement.

Fabric shopping bags are replacing paper and plastic; almost every automobile company has at least one hybrid model, recycling and composting are becoming a natural part of everyday life. If we, as individuals, take part in these environmentally friendly practices, the collective impact on the earth can be largely felt.

When it comes to large organizations like Sunnybrook, the scope of 'going green' is so broad that the hospital has recently brought its very own environmentalist on board. "In order to achieve environmental sustainability, it is fundamental to first recognize the issues that we face, and to then provide the tools and education required to make improvements. Having undertaken many successful projects to reduce the use of energy, water and waste, Sunnybrook is already a leader in environmental stewardship," says Beverley Townsend, manager, Environmental Sustainability.

Over the past three years, staff at Sunnybrook have made significant headway in reducing the consumption of electricity, natural gas and water in hospital buildings. These initiatives have had a significant impact on how Sunnybrook affects the environment, and at the same time have helped to reduce operating costs.

Sunnybrook's power plant, the largest of Ontario hospitals services 2.25 million square feet of facility, and taking rising energy costs and environmental implications into account, means managing and conserving energy in its many forms is an important function at a hospital of this

size. Since 2003, Sunnybrook has been recognized several times by its gas supplier, Enbridge, through incentive cheques in response to the hospital's impressive energy savings initiatives. Here's what's happening:

- Replacement of steam traps, pipes, fittings and tanks resulted in instant savings by reducing condensation loss from 29 to nine per cent, which translated into a \$29,000 incentive cheque in 2003
- Insulation covering the piping system and other equipment was breaking down, damaged or missing. In 2004, the power plant identified these areas and fixed them, once again achieving instant savings. This project took only a year to receive its payback in energy savings. Enbridge again gave Sunnybrook an \$11,000 incentive cheque for energy savings
- In 2005, the power plant started upgrading the existing computerized Building Automation System to gain better control of HVAC (the heating, ventilation and air conditioning system) and other equipment. This initiative qualified Sunnybrook for the largest cheque ever awarded in the hospital sector in Canada from Enbridge for the amount of \$96,607
- New heat exchangers are efficient and create large energy savings; Sunnybrook has started replacing older heat exchangers with new high-efficiency ones and Enbridge has awarded a \$46,000 incentive cheque for this initiative
- Sunnybrook was recently the recipient of an incentive cheque from the City of Toronto in the amount of \$52,988 for progress in the area of water conservation. The hospital was able to reduce water consumption by over 176,000 litres per day, enough water to provide service to 250 homes. Because of these outstanding

savings, Sunnybrook has been recently named a winner in the City's Green Toronto Award for excellence in water efficiency and conservation

- Sunnybrook's recently acquired energy management partner is working closely with other facilities specialists to find and implement additional conservation measures to ensure we are operating as efficiently as possible

"Many other projects are under way that will help us to have a further positive effect on the environment," says Townsend. "But more needs to be done and it is my job and commitment to champion the huge scope of the work ahead of us. Thankfully, hospital staff are eager to do what they can to help make a greener Sunnybrook."

Sunnybrook Staff: Proactive Planet Preservation

Environmental Services

- Implementation of environmentally friendly, Green Seal approved, cleaning products for patient rooms, reception areas, washrooms, corridors, high-risk areas, kitchen, laundry and hand care

Print Shop

- Using toner that reduces the amount of energy and waste associated with printing
- More than 90 per cent of the material is either reused or recycled
- Office equipment features with potential to reduce paper use by 50 per cent

Neonatal Intensive Care Unit (NICU)

- Taking a proactive approach through its extensive recycling efforts and its work to eliminate products and chemicals shown to be harmful to reproductive health and the environment

SUNNYBROOK FROM THE ARCHIVES



Hospital for Sale: One Silver Dollar

One of the most important milestones in Sunnybrook history happened on October 1, 1966. For the token sum of one silver dollar, the Government of Canada transferred Sunnybrook lands and facilities to the University of Toronto. Since the will of Alice Kilgour, former owner of Sunnybrook Farm, the land on which the hospital stands today, stipulated that her heirs would control the lands, it was necessary to once again obtain permission for transfer. The Sunnybrook Act, a Provincial Act of Incorporation, created at the same time, established the Sunnybrook Hospital Corporation to operate the facilities in perpetuity for the purposes of care, teaching and research. The transfer agreement stated that Sunnybrook continue its commitment to the care of veterans while opening its doors to the general public. From there, the hospital's educational program expanded to include undergraduate medical training.

On September 30, 1966, the eve of transfer, hospital staff faced the task of discharging (on paper) and immediately re-admitting more than 1,000 patients. As the clock struck midnight, the hospital also theoretically lost its entire staff and had to rehire everyone back again. The most visible change occurred when the last group of nursing sisters to wear the traditional military veil came to work on October 1 in their new nursing caps – a true symbol of a new era for Sunnybrook.



Timely Detection of Retinopathy of Prematurity

If Stevie Wonder had been born today, chances are he would not be blind.

The talented musician was born with retinopathy of prematurity (ROP), an eye disease that affects the smallest, sickest premature infants. In ROP, abnormal blood vessels grow on the peripheral retina and scar it, and if left untreated, can lead to total retinal detachment and blindness.

The key to prevention is timely detection, says Ophthalmologist Dr. Peter Kertes, a retinal diseases specialist at Sunnybrook Health Sciences Centre and one of 50 doctors across Canada that specialize in retinopathy of prematurity.

“Children born under 32 weeks of pregnancy and weighing less than 1,500 g are at risk of getting ROP because, when babies are born early the normal blood vessels that carry oxygen and nutrients have not yet reached the peripheral retina,” says Dr. Kertes. “The key is to act fast and catch the disease before the retina has become partially detached.”

The Retcam and the binocular indirect ophthalmoscope are used for screening and early detection of ROP, and once discovered, laser is performed on the periphery of the retina to correct the problem.

“But even when caught in time, and we successfully prevent retinal detachment, the child might still have other eye problems like crossed eyes or a lazy eye,” adds Dr. Kertes. “They will almost certainly need to wear glasses, but at least they’ll be able to see.”

At Sunnybrook, Ontario’s referral support centre for high risk severely premature infants, Dr. Kertes, and his partner, Dr. Ken Eng, screen about 125 babies a year for ROP, and

that number is likely to increase in 2010 when Sunnybrook moves to and unveils its new state-of-the art Neonatal Intensive Care Unit (NICU) at the Bayview site, complete with a laser suite to accommodate those ROP babies needing treatment.

“The Sunnybrook NICU cares for the largest number of premature babies in Ontario,” adds Dr. Kertes, “so it is time they be provided with more space, a better facility and an improved work environment for staff.”

When Dr. Kertes, an associate professor of ophthalmology at the University of Toronto, isn’t in Toronto caring for his patients, he’s travelling to far corners of the world helping those in need.

On a recent visit to Ekaterinburg, in the Ural mountain region of the Russian Federation, Dr. Kertes did some teaching, screening and treatment for children with advanced forms of retinopathy of prematurity.

Dr. Kertes was also part of the Orbis charity team that recently sent the Flying Eye Hospital (a plane converted into a teaching hospital) and a group of Canadian and American ophthalmologists to Mandalay, Myanmar, to teach local doctors and nurses how to treat retinal diseases and other eye conditions.

Led by Canada Research Chairs and SRI Senior Scientists Drs. Bob Kerbel and Dan Dumont, Toronto Angiogenesis Research Centre (TARC) is a Toronto-wide initiative and the pre-eminent centre in North America for the study of angiogenesis, the growth of new blood vessels. Researchers are advancing the understanding of blood vessel growth toward preventing and improving treatment for related diseases.

Above: Dr. Peter Kertes, Sunnybrook retinal diseases specialist, spends some of his time abroad in places such as Myanmar, the Russian Federation and India helping those in need. Photos courtesy of Dr. Peter Kertes and Doug Nicholson

GETTING TO THE BOTTOM OF VTE

You might not know what VTE stands for, but you should. Venous thromboembolism (VTE) is a serious condition that is responsible for more deaths each year than breast cancer, AIDS and motor vehicle crashes combined.

This common, potentially life-threatening, but highly preventable disorder includes two related conditions. They are deep vein thrombosis (or DVT), which is the formation of a blood clot in a deep vein of the leg or arm; and pulmonary embolism (PE), which is when a vein clot travels to the lung and blocks blood flow to the lung tissue.

Fortunately, a team at Sunnybrook is leading a major new initiative to reduce VTE in hospital patients across the country. The team is led by Dr. Bill Geerts, director of the Thromboembolism (TE) Team and a professor, University of Toronto. Dr. Geerts specializes in blood clotting disorders and has been researching VTE for the past 22 years.

“We’re working very hard on this problem because VTE is both common in patients who are in hospital or who have recently been treated in a hospital and because VTE is generally preventable,” says Dr. Geerts. “Through effective, safe and simple methods, we can save lives and we can reduce health care costs.” The prevention of VTE is called thromboprophylaxis.

Based on best practice guidelines, the Sunnybrook TE team recommends that every medical and surgical patient in hospital be assessed for their risk of developing VTE, and most patients should be given thromboprophylaxis.

“At Sunnybrook, we generally use a low molecular weight heparin,” says Dr. Geerts. “It’s an anticoagulant medication that is given in low doses once a day by tiny injection under the skin. For patients with a very high risk for bleeding, we use compression stockings rather than an anticoagulant. These prevention methods are usually continued until discharge.” In some patients who have had major orthopaedic surgery, the thromboprophylaxis is continued for a time at home or at a rehab centre.

VTE can develop after major surgery, trauma, leg injury, cancer, acute medical illness, immobilization, bed rest or stroke. VTE can also occur due to a central venous

catheter, pregnancy, use of birth control pills or hormonal replacement therapy, or a family history of VTE.

“The use of appropriate prophylaxis to prevent VTE in patients at risk is the number one patient safety practice for hospitals,” says Dr. Geerts. “For this reason, thromboprophylaxis is an important patient safety priority at Sunnybrook. We’ve implemented a number of strategies to ensure that patients who are at risk for VTE receive appropriate thromboprophylaxis.”



Dr. Geerts and the Sunnybrook team have taken the commitment to hospital safety a giant step further. They have developed and are leading a new initiative to improve the use of thromboprophylaxis across Canada as part of the Safer Healthcare Now! national campaign to make hospitals safer for patients. Every hospital in the country will be invited to participate in this initiative, which is targeting major general surgery patients and patients who have had a hip fracture. These two groups have a moderate-to-high risk of VTE and the evidence for using routine thromboprophylaxis is based on solid evidence; however, the use of thromboprophylaxis in these groups has been shown to be less than optimal. The formal collaboration between Sunnybrook and Safer Healthcare Now! is committed to reducing this silent killer.

Above: L to R, Lynn Riley, RN, national intervention coordinator, Safer Healthcare Now! and Dr. Bill Geerts, director of the Sunnybrook Thromboembolism Team, with patient

Dedicated Teachers and Sunnybrook Champions

Dr. Al Harrison and Dr. Don Cowan Instrumental in Hospital's Development



Dr. Al Harrison >

Dr. Al Harrison began his affiliation with Sunnybrook over 50 years ago, when he was a medical resident drawn to the hospital's excellent clinical and academic programs. In 1958, after eight years of surgical training in Cleveland, Ohio, Harrison returned to Sunnybrook as head of General Surgery with a mandate to establish an academic postgraduate surgical program. Since that time, Harrison's impact on the hospital, its programs and its staff has been immeasurable.

Influenced by his mentor Dr. Ian MacDonald, Sunnybrook physician-in-chief and popular teacher, Dr. Harrison hosted his famous Saturday morning teaching sessions for surgical residents on a number of topics through the years. The classroom where most of these sessions were held was renamed Harrison Hall in 1991. "It was a tremendous honour – the greatest of my career," he says.

Dr. Harrison recognized Sunnybrook's strengths and potential for leadership in health care. He was chief of Surgery from 1969 to 1985. "My first priority was to recruit full-time academic surgical staff who could help transform the hospital into a nationally recognized leader in patient care, education and research while continuing to care for our war veterans," he says. Dr. Harrison was instrumental in recruiting and mentoring renowned current and former Sunnybrook surgeons, including Drs. Martin Barkin, Glen Taylor, Marvin Tile, Sherif Hanna, Joe Schatzker, Sender Herschorn, Laurence Klotz, Charles Tater, Joe Gruss and Robert Maggisano.

"In his career Dr. Harrison has done it all," says Dr. Maggisano. "He is the eternal diplomat and negotiator, always placing the best interests of patients, students, colleagues and the hospital first. I'm very honoured to call Dr. Harrison a colleague, partner, and above all friend."

During Dr. Harrison's tenure as chief of Surgery, the future of Sunnybrook took shape. He was involved with the development of Sunnybrook's Trauma Program, which has since gained national and international status. Together with Dr. Taylor, nurse Grace Miller and Dr. Kirk Weber, he ensured an efficiently managed OR. He set up Toronto's first surgical intensive care unit in 1959, later turning over its direction to Dr. Weber and Dr. Taylor. By the early 1980s, the unit, which grew due to expanding trauma volume and surgeries, developed into the premier intensive care unit in the city. Harrison was also instrumental in developing the position of director of Surgical Oncology.

As the interim director of Trauma from 1987 to 1990, he reorganized the Trauma Program and helped select his successors Joe Pagliarello and Barry McLellan. "Dr. Harrison was an inspirational leader and one of the mentors who had the greatest influence on my early career development," says Barry McLellan, Sunnybrook President and CEO.

A big passion and focus for Dr. Harrison always remained resident training and education. He has received several awards for his teaching over the years. To recognize his teaching talents, the A.W. Harrison Teaching Award for Residents was established and is given out twice a year.

Dr. Harrison is still on staff at Sunnybrook, working with Dr. Maggisano in quality assurance activities in the Doppler Unit. "The hospital has certainly had its ups and downs, but I have had the privilege at all times of working with great people," he says. "It is their talents and their dedication that have made Sunnybrook a success story. I have no doubt that with its new programs and expanding physical resources that the Sunnybrook vision of being a leader in Canadian health care, education, research and administration will be achieved."

Above: Dr. Al Harrison, former Sunnybrook chief of Surgery, with some of the physicians he has mentored: Dr. Robert Maggisano (L), Dr. Marvin Tile, Dr. Barry McLellan, Sunnybrook president and CEO and Dr. Andy Smith

Dr. Don Cowan >

Dr. Don Cowan has played a vital role in shaping cancer care and treatment in Toronto during his more than 50-year career through his work at Sunnybrook, Toronto General Hospital (TGH), Princess Margaret Hospital (PMH) and Cancer Care Ontario (CCO).

Teaching has been an integral part of his work and he still shares his expertise with colleagues and medical students at Sunnybrook.

As a medical resident in the 1950s, he knew Sunnybrook was 'tops in the city' and prized for its postgraduate medical program. Consultants from other teaching hospitals came to teach at Sunnybrook because of Dr. Ian MacDonald whose extraordinary tone for teaching was an inspiration to Dr. Cowan.

"Sunnybrook was such a great place to learn because of outstanding teachers like Dr. MacDonald and the great array of patients," he says. "There was a huge neurology ward and a large rheumatology ward for example. It was a very productive place for learning and a very desirable place for residents to train."

In his residency, Dr. Cowan worked with K.J.R. 'Kager' Wightman who was a great mentor and friend when they worked in malignant diseases together. This influenced Dr. Cowan to spend his first five years at the TGH as an assistant physician, Department of Medicine and six years at PMH as a physician, Department of Medicine before coming back to Sunnybrook in 1974 as head of its Department of Medicine – a post he held until 1986.

What drew him back was the growing cancer program. Dr. Cowan was part of a committee at PMH who suggested Sunnybrook as the second cancer centre in the city

because of its location and because of its status as an Academic Health Sciences Centre. From 1992 to 1994 he served as director of the Comprehensive Cancer Program at Sunnybrook. He also became a professor and later professor emeritus, Department of Medicine, University of Toronto.

Dr. Cowan taught senior residents at the hospital and he did a weekly session with final year clerks for many years. Since retirement from practice six years ago, he has taught a class of undergraduate medical students in introductory bedside medicine, something he really enjoys. "It's the most fun I have all week," he says.

The Donald H. Cowan Teaching Award was established in 1988 to honour Dr. Cowan's exceptional teaching ability and extraordinary approachability with students. It is given out every year.

He has mentored a great number of Sunnybrook physicians who still look to him for advice, including Dr. Steven Shumak, Dr. Bill Geerts, Dr. Richard Jay and Dr. Marciano Reis.

"My experiences at Sunnybrook as a resident with Dr. Cowan influenced the rest of my career," says Dr. Geerts. "He was an extremely knowledgeable and caring clinician who deeply loved his work and his patients and he had an incredible breadth of medical knowledge."

Of his students, in particular these four, Dr. Cowan says: "I likely learned more from them than the reverse, but I do feel a sense of pride in having had an association with each of them. It is one of the great joys and rewards of being a teacher."

Above: Dr. Don Cowan, former head, Department of Medicine, with some of the physicians he has influenced: Dr. Steven Shumak, Dr. Bill Geerts, Dr. Richard Jay and Dr. Marciano Reis; during his undergraduate class; Dr. Cowan, Dr. Anita Rachlis and other Sunnybrook medical staff in the 1970s



A Brief History of Heart Surgery

Little more than a century ago, very few people died of heart disease. Since the Industrial Revolution, however, technology has rapidly evolved, making life 'easier.' With the development of 'the machine' came a sedentary lifestyle and change in diet to more high-fat, processed foods. This combination has played a significant role in making heart disease the leading cause of death in North America.

Since then, the field of cardiology has significantly grown to meet the demands and naturally so has the field of cardiac surgery. Heart surgery began at Sunnybrook in the early 1950s when a procedure known as closed mitral valvotomy (regulating blood flow to the heart) was performed for the first time in Toronto and second time in Canada when Sunnybrook was still a Veterans hospital. The surgeons were later granted permission to perform this operation at Toronto General Hospital (TGH), but the closed procedures continued on at Sunnybrook for many years.

In July 1969, Sunnybrook opened its first cardiac catheterization lab, where diagnostic and occasionally therapeutic procedures took place to allow a comprehensive examination of the heart and surrounding blood vessels. Only four procedures were done by November of that year and all cases requiring heart surgery were brought to TGH.

In 1980, Dr. Bernard Goldman, Sunnybrook cardiac surgeon, professor of surgery, University of Toronto, was a surgeon at TGH, but came to Sunnybrook each week as a consultant to determine which patients could benefit from surgery, which was still being done downtown. This led to generating over 300 cases per year and thus, making

Sunnybrook eligible to start a cardiac surgery program under the 1970 proviso from the University of Toronto (U of T) that the hospital generate at least 100 cases per year before a heart surgery program was approved.

In the late 1980s came a wait-times crisis which triggered the University and Ministry of Health to create a fourth heart surgical program in Toronto. With U of T support, the Cardiac Care Network of Ontario and an open-heart program at Sunnybrook both evolved. The first case was performed on November 27, 1989, and after 167 successful surgeries, the new team was deemed as safe and successful.

Although Sunnybrook's surgical team faced acceptance challenges both internally and externally, Drs. Goldman, Stephen Femes, now the head of cardiac surgery at Sunnybrook, and George Christakis (initially a fellow), cardiac surgeon at Sunnybrook, and both being associate professors in the Department of Surgery at U of T, were determined the Sunnybrook program should be part of the University of Toronto Cardiovascular and Thoracic Surgery Residency Program, that it provide full service and become a major academic centre. "All of these goals were achieved over the next decade," says Dr. Goldman.

After a generous donation from Dr. Seymour Schulich, Canadian entrepreneur and philanthropist, in 1998, the heart program at Sunnybrook became known as the Schulich Heart Centre, which now cares for 6,500 in-patients and 26,000 outpatients each year.

Schulich Heart Centre: Recent Surgical Milestones

- The Schulich Heart Centre is the only place in the country to offer a new, less invasive surgical option for correcting an irregular heartbeat that does not respond to conventional treatment. Not only does it allow a shorter hospital stay and quicker recovery, but recent evidence suggests that its success rate is very close to traditional open-heart surgery
- Researchers at Sunnybrook have shown that artery grafts from the forearm are a superior choice in place of vein grafts from the leg for use in heart bypass surgery especially in women, people with diabetes and patients with the most severe blockages, challenging over 30 years of surgical practice. The study provides guidelines for surgeons to improve outcomes for their patients by carefully matching the characteristics of the patient to the type of bypass graft used

Global Heart History

- The increase of heart disease was so dramatic between 1940 and 1967, the World Health Organization (WHO) identified it as the world's most critical epidemic
- In response to the epidemic, the 'Framingham Study' began in 1948 in Framingham, Massachusetts, and involved 5,127 people aged 30 to 62 who showed no signs of heart disease. Every two years, the participants underwent a complete medical examination. The study lasted 30 years and provided groundbreaking information and based on these results, researchers determined 'risk factors' – a term that is commonly used today. Identifying these enabled cardiologists to develop new approaches to preventing disease – some of which require no science or burden to the health care system – improving diet, exercising more and quitting smoking

The Schulich Heart Centre is creating new space for integrated cardiology-cardiac patient care. At \$25 million, the Cardiac Acute Care Unit (CACU) will enhance the quality of care with increasing patient and staff areas and the latest equipment and technologies.

L to R: Dr. Gideon Cohen, Dr. Stephen Femes, Dr. Bernard Goldman and Dr. George Christakis. Right: Dr. Stephen Femes and patient.

A VETERAN'S STORY



Charles 'Chuck' Mason Second World War, Royal Canadian Navy

Toronto-born Charles 'Chuck' Mason, 87, vividly recalls the end of the Second World War. The former naval officer remembers when the captain and senior officers of a German submarine surrendered and threw their guns overboard at Bay Bulls, just off the coast of Newfoundland. "It was such an incredible thing to see. I will never forget it," says Mason.

Committed to serving his country, Mason enlisted with the Royal Canadian Navy at the age of twenty, and worked seven days a week as an Engine room Artificer, overseeing the boiler room, engines and preparing huge convoys for overseas. "Those were three very important years of my life. I certainly grew up in a hurry."

Following in his father's footsteps as a tool and die maker, Mason started Imperial Tool and Die in 1955, a successful business that his son, Allan, continues to operate today.

Three years ago, with his health failing he moved into the Veterans Residence at Sunnybrook. His wife Fran visits daily and takes him on short outings every week.

"We are so grateful. Sunnybrook has helped Chuck in so many ways," she says. "He loves to paint and he also really enjoys the cooking classes - he was always a wonderful cook."

In September, the Masons will celebrate their 60th diamond-wedding anniversary. When asked what his favourite activity at Sunnybrook is, Mason replies: "Simply walking in the park with my wife."

Above: Chuck Mason in a ceramics class in the Art Therapy Studio

Exercise and Healthy Diet Not Only Important for Your Waistline, but for Your Mind Too

Healthy eating and increased activity are now more important than ever. Your mind needs them too, say Alzheimer's disease experts.

Many people have come to understand the importance of a healthy lifestyle related to their heart, waistline, stroke prevention, and for general good health, but research has also shown that a good diet, in particular the Mediterranean diet high in monounsaturated "healthy" fats, and regular physical activity, are important to keep Alzheimer's disease at bay and your mind in tip-top shape. Mental activities such as crossword puzzles are also helpful to prevent onset of dementias such as Alzheimer's disease.

"In addition to these lifestyle changes, there is really exciting research in the pipelines to be hopeful about in the future," says Dr. Nathan Herrmann, geriatric researcher and psychiatrist at Sunnybrook Health Sciences Centre. "We're involved in new and exciting trials that are investigating not only new medications to stop or slow down the accumulation of amyloid, but also new immunotherapy approaches through vaccines to help prevent or slow down the progression of the disease."

Amyloid is a sticky toxic protein that gradually deposits between nerve cells in the brain in Alzheimer's disease, damaging and killing cells. "It is important to stop this abnormal buildup," says Dr. Herrmann, also a

professor at University of Toronto. "It's possible these new approaches will become available within the next five to 10 years."

An estimated 420,000 Canadians over 65 years of age have Alzheimer's disease or a related dementia. Alzheimer's is a progressive degenerative disease for which there is no preventive medicine or cure. It is characterized by a decline in mental abilities and changes in personality and behaviour. Usually there is a loss of functioning that eventually impedes the ability to carry out everyday activities. Alzheimer's disease is under diagnosed and under treated in Canada and worldwide.

Symptoms of Alzheimer's disease include progressive loss of memory, difficulty with concentration, decrease in problem-solving skills and judgment, confusion and delusions, altered perception, impaired recognition and skilled motor function, disorientation, impaired language skills and personality changes.

Make the Commitment to Better Brain Health

For many Canadians, eating healthier foods, committing to an exercise program and reducing stress are three common goals for the start of every new year. This year, the Alzheimer Society of Canada kicked off their 2008 Heads Up! For Healthier Brains! campaign,

encouraging Canadian families to keep to their resolutions by challenging people of all ages to join together and make the commitment to better brain health.

Making the commitment is easy, and can include things like choosing a healthy lifestyle, challenging your brain, being socially active and protecting your head. According to the Alzheimer Society, it is never too soon, or too late to improve your brain health and make changes that may also help reduce your risk of developing Alzheimer's disease.

For more information, please visit www.alzheimer.ca and give your brain a boost at BrainBooster, the Society's new online brain gym.

Eat Healthy

The Mediterranean Diet includes an emphasis on low fat, lean meat and/or chicken, olive oil, nuts, fish, food with omega-3, antioxidants (berries, broccoli, avocado) and folate (oranges and whole grains).

Keep Your Mind Active

Dr. Herrmann recommends trying one or more of these activities to keep your mind in gear:

Crossword puzzles, sudoku, chess, jigsaw puzzles, reading, working on a computer (surfing the internet), taking a course or learning a new language.



Help us Grow. Sunnybrook is building a world-class facility for you

We need your help to raise funds for capital expansion that will build for the future and transform health care.

The \$300 million Campaign for Sunnybrook will sustain our world-class medical leadership, our pace-setting research and education, and our innovative technologies for patient treatment.

In conjunction with our capital expansion, Sunnybrook is building a new four-storey, 300,000 square foot addition to the main wing of the Bayview Avenue Campus.

The expanded facility will include:

- A state-of-the-art 150,000 square foot facility for women and babies at Sunnybrook. The new facility will increase the number of deliveries from 4,000 to 4,500 annually and will offer the most nurturing environment, and provide babies with the best start to healthy development.

- A new Breast Cancer Research Centre, which will focus on responding to changing patient needs with research, screening and treatment areas in close proximity to one another for improved patient care.
- Leading edge research space including our new Advanced Regenerative Tissue Engineering Centre and Toronto Angiogenesis Research Centre, which will bring together scientists of diverse disciplines in an environment that supports the free exchange of ideas.
- An established Centre for Advanced Neuro-Imaging and Dynamic Intervention (CANDI), which will help create a leading centre for brain imaging analysis and image guided intervention such as focused ultrasound, magnetic stimulation, pharmacotherapies and stem cells.

Your help is needed to ensure we continue to provide the best care in the best facilities. Support our capital campaign by making a donation at www.sunnybrookfoundation.ca.



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