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## Expanding the Scope of Gastroenterology

As Chief of Gastroenterology at the McGill University Health Centre (MUHC), Dr. Alan Barkun wears a number of different hats. Not only does he oversee the activities of the diverse group of doctors, researchers and nurses who make up the Division of Gastroenterology, he cares for his own patients, teaches students and residents, directs the Gastrointestinal (GI) Technology Assessment Research Unit, and is involved in several high-profile clinical and epidemiological studies. With all these responsibilities, it is no surprise that staff and patients sometimes feel like they have seen Dr. Barkun in two places at the same time.

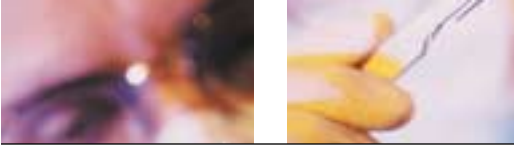


“**A**ctually, I have a twin brother who’s a liver transplant surgeon here at the MUHC,” says Dr. Barkun, explaining his apparent ability to be everywhere at once. Besides sharing the same employer, Barkun and his brother Jeffrey have worked jointly on grant applications, journal articles and clinical trials. They even refer patients to each other, a situation that can create some confusion. “We are constantly being mistaken for one another by patients,” Barkun says, “which is why we warn everyone up front. It can also be a good thing, though. The patients we refer to each other sometimes feel as if they already know us because of our similar mannerisms and style.”

Barkun’s shared research projects with his brother continue a family tradition of MUHC involvement. Dr. Harvey Barkun, Alan and Jeffrey’s father, was an MD-trained administrator who, as Chief Operating Officer of the Royal Victoria and then Chief Executive Officer of the Montreal General, dedicated nearly 30 years to the McGill hospital network. These

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**(Gastroenterology continued from page 1)**

projects also reflect the interdisciplinary curiosity that has always shaped Barkun's career. After attending medical school at McGill and specializing in internal medicine, Barkun pursued post-graduate clinical training in gastroenterology and hepatology (the study of the liver) and research training in epidemiology, also at McGill. His post-graduate years also included funded research fellowships in France and the United States. In 1994, to further refine his research skills, Barkun began his master's degree in epidemiology and biostatistics. He received the degree from McGill in 1995.

After 13 years with the MUHC's Division of Gastroenterology (the last seven as its director), Barkun has developed a spectrum of

research interests that reflects the diversity of his training and clinical practice. These interests fall into three broad categories: research into the treatment of upper-GI bleeding, studies into the comparative costs of different treatments for digestive diseases, and evaluations of new technologies (particularly endoscopic technologies) for the treatment of various GI illnesses.

The first of these areas looks at doctors' success rates in treating a familiar but uncomfortable condition afflicting millions of Canadians: bleeding ulcers. "We wanted to get a snapshot of the quality of care Canadian doctors were providing to patients who suffer from gastrointestinal bleeding," Barkun says. "The first step was to create a registry of almost 1,900 patients from across the country."

Based on the information contained in the reg-

istry and data gathered from previously published studies, Barkun organized a consensus conference that brought together Canadian and international experts with the goal of developing state-of-the-art practice guidelines for the treatment of upper-GI bleeding. The protocol that was developed has just been published in the prestigious American

and the environment of fiscal restraint associated with it, this kind of research is second nature."

Barkun considers the third research area to be his specialty. As head of the GI Technology Assessment Research Unit, he studies the effectiveness of both established and emerging technologies in the treatment of GI disorders, with a particular interest in bilio-pancreatic conditions. "We're focused on GI endoscopy, which is the use of scopes to examine the gastrointestinal system," Barkun says. "We do formal evaluations of the traditional uses of endoscopy, we study new ways of using it, for example, in colon cancer screening, and we test endoscopy against other imaging methods such as Magnetic Resonance Imaging (MRI). We're also involved in testing some truly remarkable new technologies."

The technology that is the focus of Barkun's most recently funded research is known as capsule endoscopy, which was designed to complement endoscopy but may one day partially replace it. In



**“We** treat patients in the short term, then over the long term we make every effort to improve their treatment through the information we gather in our research.”

journal *Annals of Internal Medicine*, bringing Barkun and his colleagues international recognition. As Barkun explains, "We've laid out a worldwide standard of care that says, 'this is how a bleeding ulcer patient should be managed.'"

Barkun's second area of interest moves away from his clinical practice to draw upon the epidemiological side of his training. By analyzing information about the comparative costs of various methods of treating common GI ailments, he and his colleagues are trying to determine which treatment methods give the best return for the health-care dollar. "We're looking primarily at two types of patients, those with bleeding ulcers and those who suffer from a digestive disorder called dyspepsia. We want to see which of the commonly used treatments is really the most cost-effective, as well as the most effective from a care standpoint," Barkun explains. "For someone who grew up in the Quebec health care system

this procedure the patient swallows a small capsule containing a miniature video camera. As the device makes its way through the patient's digestive system, the camera takes a seven- to eight-hour video of the GI tract, which is then digitally transmitted directly to a viewing station. As Barkun explains, this technology holds tremendous promise for specific patients who in the future may be able to avoid the discomfort of conventional GI scopes for certain procedures. "For the person undergoing the procedure there is no discomfort at all," says Barkun. "The capsule is the size of a large pill and can't be felt while it's inside the body. The only sensation comes from a few electrodes the patient must wear on the chest and stomach. He or she can go to work or engage in regular activities while the camera is operating."

For doctors, the potential diagnostic advantages are even greater. With traditional endoscopy, the physical limitations of the scope mean there are

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huge areas of the bowel and intestines that can't be optimally examined, making diagnosis of certain conditions particularly challenging. "At the moment we can visualize the upper-GI area from the mouth to the duodenum very well, and we can also get excellent images of the colon and the terminal ileum," Barkun explains. "Unfortunately, this leaves six feet of gut in the middle that we can't see directly, and for which we must rely on radiological examinations."

Capsule endoscopy will provide clear endoscopic images of this previously poorly-visualized area, making diagnosis of a number of gastrointestinal conditions, including ulcerative colitis, Crohn's disease and perhaps celiac disease, immeasurably easier. Although McGill researchers are only beginning to test the device on patients with recurrent intestinal bleeding of obscure origin, Barkun is confident that capsule endoscopy will one day be a mainstay of GI diagnosis and treatment. "This is going to truly revolutionize how we visualize the gut and may eventually replace a range of invasive diagnostic procedures. We're lucky to get a chance to test it on patients here at the MUHC."

In addition to these three areas, Barkun is also involved with a large, collaborative research project, funded by a grant from the American National Institutes of Health, that examines biological predictors of outcome in patients with colon cancer.

As a result of Barkun's belief that research is a central part of his department's mandate, he has used his tenure as Divisional Chair to significantly expand GI research at the MUHC. Since taking over from Dr. Carl Goresky after his untimely death, and Dr. Douglas Kinnear after his retirement in 1997 (see HP Vol.2, No.3), Barkun has supplemented established researchers by recruiting new researchers from around the world, including doctors from France and Belgium, and has made a conscious effort to raise the research profile of his division. "We now have almost 20 research-related staff working with us, and our research productivity, both fundamental and clinical, has shot up," he says. He acknowledges the support he has received from the Department of Medicine, McGill University, the Research Institute of the MUHC and the MUHC's constituent foundations in facilitating this vision.

Aside from the investigations of the GI Technology Assessment Research Unit, divisional research is focused on three areas: inflammatory bowel disease (IBD), supervised by Dr. Gary Wild and his group, hepatology, overseen by Dr. Marc Deschênes, and *Helicobacter pylori* (a bacteria that causes ulcers), anchored by Dr. Carlo Fallone. In all of these domains, Barkun emphasizes the close link between the department's clinical work and its

research. "We ask patients who fit the appropriate profile to consider participating in studies. Participation is made easier by the fact that the doctors and sometimes the nurses that perform the research are often the same ones the patients

The new facility for the research institute will also allow the MUHC's gastroenterology researchers to further integrate clinical care and bench research. Barkun explains that when a patient arrives at the Glen and is diagnosed as having a gas-

**“Without the equipment, research beds, and most importantly, the critical mass of researchers who will be consolidated at the Glen, a project on this scale would be nearly inconceivable,”**

have been seeing all along. With this approach we're able to integrate our research and clinical activities in a way that's quite unique in Canada, both for peer-reviewed and industry-sponsored trials."

Barkun explains that even in a top-notch research division, hands-on patient care remains the first priority. "Our philosophy is to act as brokers between our patients and the health care system," he says. "We treat patients in the short term, then over the long term we make every effort to improve their treatment through the information we gather in our research. If they have other health problems down the line, they know they can always come to us. As we're all aware, accessibility to the health care system can be a problem. We're really doing our best to improve things in any way we can."

Barkun's commitment to balancing compassionate patient care with research excellence informs his vision of the future of gastroenterology at the MUHC, a future that will only benefit from the new facilities at the Glen site. "There are several ways the Glen will improve our current predicament," Barkun says, "but the most basic is that it will meet our need for improved equipment and facilities. The conditions at the Royal Victoria and Montreal General sites are so poor that visiting physicians are amazed that we're able to accomplish as much as we do." At the Glen site, Barkun and his colleagues will work in modern, purpose-built hospital facilities, making everything from patient registration to diagnostic procedures more efficient, more respectful of patients and more comfortable.

trointestinal problem, a computer infrastructure will immediately identify him or her as a potential participant in a research project. A research nurse will be available to assess the patient and deliver a tailored questionnaire, and a clinician will also be on hand. "We try to do all these things now," says Barkun, "but it's clumsy. Not everyone is in the same place at the same time."

The new facilities will also help Barkun and his colleagues attract additional world-class medical talent to the Division of Gastroenterology. "We're not doing too badly with recruitment at the moment," says Barkun, explaining that, in addition to the two new gastroenterologists that the division has hired this year, two more will arrive next year, "but there's no doubt we can do better if the infrastructure is more appealing." Barkun also notes another exciting development: the upcoming selection of recipients for two new University Chairs in Gastroenterology. "In addition to the chair that was created to honour Doug Kinnear, the Kaufman Chair in Inflammatory Bowel Diseases was established with funds from a private donor, Mr. Bruce Kaufman, the McGill IBD Group, a very dedicated group of volunteers from the community, and from the University," Barkun says. "We're looking at an excellent external candidate for that post, and a selection committee has also found an internal candidate to occupy the Doug Kinnear Chair."

From new technologies to new faces, gastroenterology at the MUHC is looking at a bright future. As Barkun says, "I envision not only being able to build on our strengths, but on branching out into new areas of research and treatment. This is something everyone here is extremely excited about." ❁



# Good Thinking

Walking into Dr. Warren Steiner's office at the Allan Memorial Institute of the McGill University Health Centre (MUHC) is an unexpectedly soothing experience. The tasteful furnishings and warm palette of earth tones calm the senses, and Steiner himself projects the relaxed and thoughtful demeanour of someone who listens for a living. None of this is accidental. As a psychiatrist, Steiner strives to put his patients at ease. But creating a serene environment is only one of his responsibilities. As Associate Chief in charge of the MUHC's Department of Adult Psychiatry, Steiner is making fundamental changes to the way mental health services are delivered at the MUHC, a process that, although exciting, is anything but relaxing.



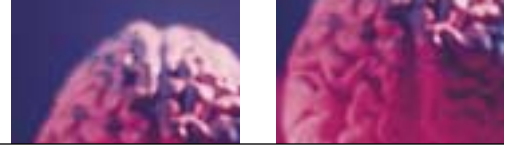
adult services were divided between the Montreal General site and the Allan Memorial Institute of the Royal Victoria site. Like the well-known division of labour in the human brain, with the left and right hemispheres governing different types of mental activity, the two sites evolved complimentary strengths. In keeping with the Royal Vic's history of research-oriented medicine, its department focused on in-patient psychiatry and on a more biological model of mental illness. At the General site, where there was a tradition of clinical and community care, the department emphasized outpatient services and a psychosocial view of psychiatric disease.

To capitalize on these different areas of expertise, Steiner and his colleagues developed a two-stage plan that will ultimately result in the consolidation of all adult mental health services on one site. In the first stage the separate teams at the Royal Victoria and the General were amalgamated into a single unit known as Adult Psychiatry, which now comprises the Mental Health Mission of the MUHC. Over the next two years services over both sites will be reorganized, with in-patient care to be located at the General and ambulatory care to be centred at the Vic. "In this way," Steiner explains, "we hope to bring the traditions of the two hospitals closer together and make the best possible use of our intellectual and physical resources."

Once the new Glen facility is built, the entire Adult Psychiatry Department will be moved to upgraded facilities at the General. Emergency psychiatry, in-patient beds and outpatient and community services will finally be brought together, something Steiner is very much looking forward to. "Even though our department won't be located

**"In** anticipation of the construction of the Glen hospital, the Department of Adult Psychiatry is engaged in a major process of reorganization that we think will allow us to offer a more seamless model of care," says Steiner. "For the benefit of patients and their families, as well as for our staff, we want to eliminate the artificial separations that have sometimes interfered with our ability to provide the very best treatment we can."

In the past, these separations were both physical and philosophical. When the MUHC was formed in 1997, the Department of Psychiatry's



there, the construction of the Glen is something we eagerly anticipate because it will finally allow us to physically bring our two teams together," says Steiner. "Our staff will have the advantages of greater collaboration and a more unified departmental mission, and patients and their families will be able to reap the benefits of having access to all of our expertise and programming in one place."

In addition, as Steiner points out, a single-site department will mean that patients in need of different services will no longer have to move between hospitals. "Psychiatric patients can be fragile, and the move from one ward and team of caregivers to another can be particularly traumatic for them. Having everything at the General site will eliminate that stress for patients and their families."

Consolidation under one roof will also improve the department's academic activities. On the research side, "the Royal Victoria site has tended to do more laboratory and pharmacology based research while the General has performed more clinical trials and psychosocial research," Steiner explains. "Bringing these researchers together will make a more diverse, fruitful and hopefully productive intellectual environment." A single site will also help the department recruit and train the psychiatrists of the future. "Before our recent amalgamation," Steiner says, "the General and the Royal Victoria were in a sense competing for the same medical students and residents. We've worked to redress this with our short-term restructuring, but the best solution will come when everyone is together in one place. The critical mass of knowledge will be there, which can only help us in recruiting the best students and giving them the highest quality training."

Equally important, a consolidated department will allow Steiner and his colleagues to expand some of their most successful programs, including an innovative community care service for which they have gained international renown. By shifting the focus of psychiatric care from the hospital to the apartments, shelters and neighbourhoods where the mentally ill actually live, MUHC mental health professionals have increased the satisfaction of patients and their families while becoming a model for a new standard of care in Quebec.

"Since the 1970s," Steiner explains, "all the

research has shown that the severely mentally ill do much better with a community-based treatment model." At the MUHC, the opportunity to apply these conclusions emerged with the provincial government's 1995 virage ambulatoire, which

community organizations like the Salvation Army, and to create ties with the downtown police officers who are often the first to respond to a mental health crisis. All of these activities are what Steiner calls "assertive community treatment," where hospi-



Our program is now a **model** for others across the province, with more than ten hospitals sending staff here to **learn** how they might reproduce what we've **accomplished** at the MUHC."

mandated a greater emphasis on outpatient care throughout the hospital system. At the Montreal General site, this meant that 40 percent of the hospital's psychiatric beds were closed between 1995 and 1998, and the resulting funds were reinvested in outreach programs and community services.

"At first, everyone on our staff was terribly frightened about how these bed closures would affect our patients," Steiner recalls. The MUHC Community Psychiatry Programme was the first of its kind in Quebec, which meant Steiner and his team had little sense of what to expect. Many were concerned that fewer in-patient beds would result in a treatment vacuum for the patients who needed it most.

After five years, though, the emphasis on outpatient care has been an unqualified success, according to Steiner. "Patients and their families report that they are more satisfied with the care they receive and, most amazingly, psychiatric emergency room visits have been reduced by 15 percent. Our program is now a model for others across the province, with more than ten hospitals sending staff here to learn how they might reproduce what we've accomplished at the MUHC." As further evidence of their achievements, Steiner and his colleagues were awarded the Quebec Gold Prize for Innovative Clinical Care in 1998.

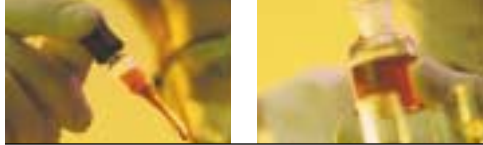
Some of the objectives of the MUHC's Community Psychiatry Programme are to forge stronger relationships with the three CLSCs that fall within the MUHC's catchment area, to develop liaisons with shelters, missions and com-

tal staff try as much as possible to treat patients in their own environments.

For patients and their loved ones, assertive community care is great news. For Steiner's family, though, it can sometimes seem a bit too assertive. "Many of the homeless people in Montreal know me by name," he laughs. "My kids hate walking downtown with me even though they understand what a great thing it is we're doing."

Steiner hopes that once the department moves to its permanent home at the General site, this program can be expanded. Other promising initiatives such as telepsychiatry, whereby satellite technology links psychiatrists at the MUHC with their colleagues and patients in outlying regions, are also on the horizon. "Research has shown that telepsychiatry is an extremely successful solution for remote areas like Northern Quebec, where psychiatric resources are limited," says Steiner. "The cost per patient is low, and patient satisfaction is high." According to Steiner, other provinces, with the support of the federal government, have experimented extensively with telepsychiatry, with very encouraging results. "In Quebec, we've been a bit slow to develop telepsychiatry, but we'd like to remedy that so we can offer patients across the province the opportunity to benefit from the MUHC's world-class psychiatrists."

For the MUHC's award-winning mental health team, the short-term discomfort of restructuring will lead to significant long-term benefits. When it comes to the advantages of bringing adult mental health services together on one site, everyone at the MUHC's Department of Adult Psychiatry is truly of one mind. ✨



# On the front lines of **Care**

If you decide to take a walk around the McGill University Health Centre (MUHC) with Ann Lynch, make sure you leave yourself plenty of time. That's because Lynch, who is the MUHC's Director of Nursing, doesn't let her busy schedule and bewildering range of responsibilities keep her from chatting amiably with the nurses, doctors, orderlies and patients who all want to say a quick hello when they see her in the hospital corridors. It is this hands-on approach and accessible personal style that differentiates Lynch from the stereotypical administrator and sets the tone for the MUHC's entire nursing staff.



“**B**ecause of the nature of our job, there really is a special bond between nurses and patients and their families,” says Lynch. “Since the MUHC is committed to being a hospital that’s patient and family centred, we do all we can to make sure our nurses have the support they need to provide the best, most compassionate care possible.”

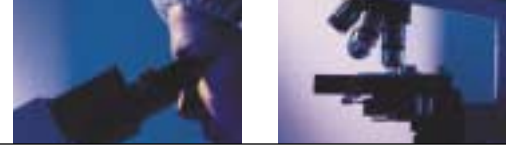
In Lynch’s early months as Director of Nursing, a position she accepted in February of 2003, this support took the form of continuing her predecessor Valerie Shannon’s efforts at uniting the nurses from across the MUHC. “There are about 2,900 nurses spread out over five sites,” she says. “When the hospital first merged seven years ago, each site had its own nursing culture, its own procedures, and its own ideas about how

best to organize care delivery.”

Lynch explains that the more cohesion experienced by nurses in the workplace — in terms of philosophy, procedures and management style — the better the care that is provided to patients. Measures such as retreats for nursing leaders and symposia that bring together staff nurses from the various sites are excellent for strengthening everyone’s sense that they share a common purpose. She also credits her eight Associate Directors of Nursing with forging crucial relationships between the hospital’s policymakers and front-line nurses and nurse managers. These relationships, Lynch says, have been essential in developing and implementing an MUHC-wide set of nursing policies and procedures.

Another important form of support for nurses is to give them every possible opportunity to advocate for their patients. Since nurses are often the patient’s first and closest point of contact with the health care system, they frequently have the clearest sense of what their patients’ needs are. “Since the creation of the MUHC, the priority has been to try and involve nurses in every level of decision-making,” Lynch explains. “Making sure that the voice of nurses at the bedside is heard is a key element in the provision of excellent patient care.” From nurse-managers all the way up to Lynch herself, the MUHC’s nursing administrators are encouraged to listen to the comments of the nurses on the wards and to incorporate their suggestions into nursing policies whenever possible.

Lynch is also an advocate of multidisciplinary care teams, which have long been in use at the MUHC. Through these teams, nurses, along with physiotherapists, psychologists and a whole range of other health care professionals, are able to collaborate actively with a patient’s doctor in developing a treatment plan. As Lynch explains, this kind of care fits perfectly with her vision of the



role nurses should play in a patient's treatment and recovery. "I believe in a model of nursing which promotes nurses as partners with doctors in care delivery," she says. "The MUHC's multidisciplinary teams promote an inclusive way of looking at patient care, with caregivers from many different fields working together to develop the best comprehensive program for improving a patient's health."

Another key strategy in supporting nursing is a program of professional development through which the MUHC helps nurses who wish to receive additional training to become certified in a nursing speciality. "This has two major benefits for our department," Lynch says. "First, it provides nurses with a way to develop their careers. This helps retain the nurses we have and makes the MUHC an attractive environment for new recruits." Even more important, though, are the advantages to the MUHC's patients. "Many of our patients are being treated by nurses who have been specially trained in a particular illness domain such as cancer or cardiovascular disease. This expertise improves our sensitivity to a patient's symptoms and can sometimes mean that a nurse will detect a potential problem early on before it becomes more serious."

One area where specialized training is particularly important is Emergency Nursing. "Working in Emergency is very stressful and requires a particular range of nursing skills," Lynch says. "Recruiting and retaining qualified nurses in this area has proved challenging." In collaboration with McGill's School of Nursing, along with St. Mary's Hospital, the Jewish General Hospital and the Lakeshore General Hospital, the MUHC has recently initiated a special five-course training program called the Emergency Nursing Dynamics Microprogram. Its aim, says Lynch, is to increase both the proficiency and the comfort of nurses working in the ER. "The courses address a wide range of issues particular to ER nursing, from diagnosis and treatment to ethical dilemmas and legal issues. We're extremely proud of this unique collaboration between the School of Nursing and the MUHC, and we think it will lead to a higher standard of care in the ER and a better rate of retention of emergency nurses."

For Lynch, there is one last area where nurses need support: research. Traditionally, this area hasn't been associated with nursing, but Lynch feels strongly that nurses need to become increasingly involved in it. "It was often perceived that nurses have only been involved in medical research," she says, "but more and more, opportunities are emerging for specially trained nurses to initiate their own research projects. These nurse-researchers are real role models, demonstrating to all of our staff the wide range of choices that are now available for people within our profession."

Judith Ritchie, Associate Director of Nursing Research at the MUHC, explains some of the long-term advantages of nurse-driven research. "By engag-

ing in their own research projects, nurses have the opportunity to test some of the real questions that emerge from their practice. Because they know exactly what the most important concerns are and can come up with scientifically valid responses, they're more able to ensure that their patients are getting the best possible care." Ritchie goes on to describe how this kind of research also benefits the department as a whole. "The results allow us to develop evidence-based nursing practices. Instead of just doing what we've always done, we'll be able to treat patients at the bedside in ways that have been scientifically shown to work better."

Lynch and Ritchie are both particularly enthusiastic about several recent clinical research projects that have developed out of a new funding initiative called the Eureka! Fellowship for Nursing Research at the MUHC. Now in its third year, the Fellowship, which is supported by funds from the Newton Foundation as well as by the foundations of the Royal Vic, the General and the Children's Hospital, provides full salary support for one year for a clinical nurse to implement a research project. Recipients are selected

"Through unifying our department, encouraging advocacy and a participatory management style, working with multidisciplinary teams and giving nurses the chance to upgrade their skills and conduct their own research, we're doing the best we can for our patients and their families."

by a committee whose goal, Lynch says, "is to choose projects that represent the best in nursing research and that have the greatest potential to have a direct, positive impact on patient care."

The two Eureka! projects that have been completed to date, along with a third one that will begin in the new year, suggest just how broad a range of subjects can be addressed by clinical nursing research. Lily Chin-Peuckert, staff nurse in urology at the Montreal Children's Hospital, used her fellowship to conduct research into the comfort and efficacy of a common procedure used to test bladder function in children. The results of her study received international attention, including the prestigious American Academy of Pediatrics Section of Urology Clinical Research Prize, which Chin-Peuckert was awarded this past November.

While Chin-Peuckert's research was based on the collection of physiological data, Jane Chambers-Evans, Clinical Nurse Specialist in

Critical Care and a clinical ethicist, conducted extensive interviews with the family members of terminally ill patients. Her intent was to improve our understanding of the dynamics of end-of-life decision-making. Like Chin-Peuckert, Chambers-Evans has been recognized by the academic community for her work, with the results of her study to be published this Spring in the *Journal of Clinical Ethics*. The third and most recent Eureka! recipient is Patricia Rose, Clinical Nurse Specialist in Critical Care, who will conduct research into how to predict skin breakdown in critically ill patients. Skin breakdown is a common and painful condition that not only taxes patients and caregivers but places a considerable economic burden on the health care system.

These projects represent how nursing research can extend all the way from the lab bench to the bedside, providing information that can be immediately integrated into nursing procedures. "Because Lily, Jane and Patricia work at the MUHC, they have chosen to do research that fits in with the care priorities the department has already identified," Lynch says. "At the moment, the department is working to improve care in several key areas, includ-

ing patient comfort and safety, pain management, fall prevention, skin breakdown, infection control, and the relationship we develop with patients and their families. It's easy to see how all three of these projects fit in perfectly with these domains."

For those of us who think of nurses as pleasant professionals adept at administering pills and taking blood pressure measurements, the MUHC's Department of Nursing clearly offers more than a few surprises. The upshot of providing nurses with a wide range of support, according to Lynch, is a staff that is always developing what she calls the art and science of nursing. "Through unifying our department, encouraging advocacy and a participatory management style, working with multidisciplinary teams and giving nurses the chance to upgrade their skills and conduct their own research, we're doing the best we can for our patients and their families. There's still work to be done, but with the dynamic that's been created so far, we're moving into the future with confidence." ❀

# Portraits in Time

Thousands of individuals have helped advance the development of the McGill University Health Centre, and in every issue of *MUHC Health Perspectives*, we feature one or more of these significant contributors.

## DR. CHARLES SCRIVER

Thousands of Quebecers with strong, healthy bones owe a debt of gratitude to Dr. Charles Scriver, biochemical geneticist at the Montreal Children's Hospital of the McGill University Health Centre (MUHC). After a landmark study in 1971 comparing the rates of rickets in Quebec children with the rates in their counterparts in Ontario and Vermont, Scriver persuaded the Quebec government to mandate the fortification of milk with vitamin D. With the help of Mr. Arnold Steinberg, a businessman with a long-standing interest in pediatric research who eventually became the Founding Chairman of the MUHC Board as well as a current member of the MUHC Foundation's Board of Directors, the regulation was implemented and dairy milk in Quebec was fortified. The incidence of rickets (a vitamin-D deficiency that causes the weakening and malformation of bones) dropped by 95 per-



cent, nearly eliminating the illness in all but the rarest genetic cases.

Although the addition of vitamin D to milk in Quebec's retail stores may be Scriver's most visible legacy, his accomplishments as a pioneer in the field of biochemical genetics are numerous. A 1955 graduate of McGill's Faculty of Medicine, Scriver was appointed to McGill's Department of Pediatrics in 1961 and in the same year founded the de Belle Laboratory in Biochemical Genetics at the Montreal Children's Hospital to study genetic disorders in children. At just 31 years old, Scriver was Canada's first faculty-appointed biochemical geneticist.

One of Scriver's early major discoveries was a method of testing the blood of newborns for rare but devastating metabolic conditions such as phenylketonuria (PKU). Scriver's simple blood test meant that PKU and other diseases could be identified at birth and treatment could begin long

before the onset of symptoms. Similar discoveries by Scriver and his McGill colleagues now mean that Quebec infants are regularly screened for up to 30 genetic diseases. Scriver was also instrumental in helping set up a "food bank" in Montreal to supply children suffering from metabolic diseases with proper nutrition, demonstrating a characteristic concern for the broader social context in which his research is conducted.

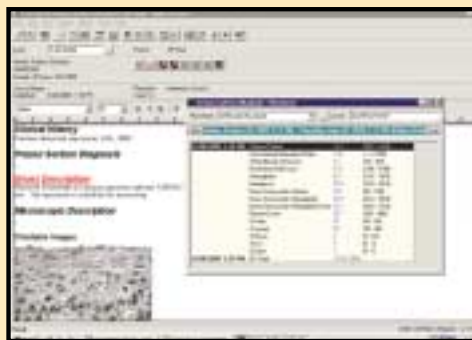
Scriver's work has earned him many prestigious honours, including election as a Fellow of the Royal Society (London), the Wilder Penfield Award, the Prix du Québec Science Award and the Canadian Medical Association's Medal of Service. In 1996, he was named a Companion of the Order of Canada, and the following year became an Officer of the Order of Quebec. He has received honorary degrees from the universities of Manitoba, Glasgow, Montreal, Utrecht and British Columbia. Although Scriver retired in 1999 and was named Alva Professor Emeritus in Human Genetics by McGill in 2002, he maintains a schedule that would exhaust many full-time folk. Scriver continues to teach courses in human genetics at McGill, delivers lectures around the world, and is currently contributing to the human genome project by working with a group of international colleagues to develop a genomewide mutation archive. ❀

## Equipping Excellence

Patients from across the McGill University Health Centre (MUHC), whether they are seeing a dermatologist, a gastroenterologist, an oncologist or a transplant specialist, have one thing in common: the MUHC's Department of Pathology. Whenever a blood, tissue, tumour or bone sample is taken from a patient, it is a pathologist who examines it under the microscope, takes a digital image, records it in a report, and assists the patient's doctor in making a final diagnosis. How well the pathologist is able to gather, log, communicate and present this information has a direct impact on how rapidly and accurately a patient is diagnosed.

To effectively perform such a vital and logistically complicated job, the MUHC's pathologists require a powerful department-wide computer system. Fortunately, the hospital has recently made just such a purchase, called the **PathNet Pathology Information System**, which is part of a larger software package called the Laboratory Information System. Once it is fully implemented, this system will revolutionize how the MUHC's more than 40 specialized pathologists, who are spread across five sites, do their jobs.

For example, when a sample is collected by a doctor, the Pathology Information System will generate a barcode by which it can be accurately identified. Able to accommodate up to 60,000 samples per year, the sys-



tem will allow doctors from all the MUHC's sites to access a patient's specimen records regardless of where or when they were collected. Furthermore, the samples will be readily retrievable, and any digital images the pathologist takes can be easily printed in pathology reports or transmitted to doctors within the MUHC or anywhere in the world. The software, which is designed to accommodate the results of even the most advanced genetic and molecular testing, also makes it easy for pathologists to gather comprehensive statisti-

cal information that can be used to evaluate departmental practices. This will ensure that pathologists provide patients and consulting physicians with the most efficient and consistent diagnostic results.

With the Pathology Information System, which was purchased by the MUHC at a cost of approximately \$1.5 million, potentially dangerous transcription errors, incompatible numbering systems and inaccessible patient records will become things of the past. Although it wasn't cheap, every patient whose pathologist uses the Pathology Information System to produce an accurate and timely diagnosis would agree that it is a truly necessary investment. ❀

*This series is intended to be informative; the McGill University Health Centre Foundation does not endorse any particular manufacturer or model of the equipment shown and described here.*