

Focus on Training

Canada faces critical shortage of stroke specialists

Neurologists, nurses, scientists, rehab specialists in demand

Canada will need hundreds more stroke specialists over the next five to 10 years if the country hopes to deal with the growing human and economic burden of stroke. The nation is already short an estimated 300 stroke neurologists alone, but the severe manpower problems extend far beyond doctors at the front-end of a “brain attack.”

“Rehabilitation specialists, cerebral vascular nurses, basic scientists, epidemiologists, imaging specialists—we’re short of everyone,” warns Dr. Paul Morley, Deputy Scientific Director of the Canadian Stroke Network.

“The disease itself is growing. The complexity of therapy is growing,” adds Dr. Antoine Hakim, Scientific Director of the CSN.

“And it’s all happening at a time when, in the past decade and a half, we’ve really been decreasing entrance to medical schools and trying to contain health care costs by reducing the services provided.”

Those factors have combined to “finally bring us to where we are today,” Dr. Hakim says: “We’ve got a disease that is growing rapidly that requires specialized knowledge, and the practitioner-to-patient ratio has dwindled.”

“The obvious implication is that patients who have a stroke may be attended to by individuals who are otherwise competent and committed but are not trained in a



“We’ve got a disease that is growing rapidly,” says Dr. Antoine Hakim, Scientific Director of the Canadian Stroke Network.

specialized way.” A recent study by Britain’s Royal College of Physicians warned that thousands of British stroke patients are dying or ending up more disabled than they otherwise would be because British hospitals don’t have the resources to provide specialist care.

Across Canada, stroke care is patchy; too often the type of care a patient receives depends on where he or she lives. A shortage of basic scientists is threatening Canada’s ability to discover new drugs and treatments for tomorrow. And while all the evidence is showing that the sooner rehabilitation therapy is started after a stroke, and the more therapy patients receive, the better the potential for recovery, many rehab services are struggling to satisfy needs today—let alone the future needs of a rapidly aging population.

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Stroke: Training, resources needed

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“What’s happening more and more is that those stroke patients who are not so severely affected are sent home” rather than to a rehabilitation facility, says Dr. Carol Richards, one of Canada’s leaders in rehabilitation.

“And it turns out these people do need rehabilitation, and they’re not getting it,” says Dr. Richards, Professor in the Department of Rehabilitation at Laval University. “If you don’t move the limb that’s paralyzed or weak and keep active, you get all the other problems that go along with lack of movement, like loss of strength, balance and endurance. But you need rehabilitation in its largest sense. We have to start thinking more and more of social issues and quality of life.”

Without more training and resources, Canada risks falling behind other countries in stroke care.

But the CSN, a national research organization that links stroke experts across the country, is working hard to address the problem. The network’s goal is to train the next generation of basic and clinical stroke specialists, through scholarship, fellowship and studentship awards that support Canada’s brightest young stroke investigators. This is being done through a unique national stroke training program that will give doctors—from residents just completing their training to practising physicians from small community hospitals—the opportunity to train alongside stroke specialists in some of the top stroke units in the country. The goal is to quickly expand the program to include other disciplines.

Every year in Canada, 50,000 people suffer a stroke—one person every 10 minutes—and about 300,000 Canadians are stroke survivors. Because the risk of a “brain attack” increases with age, the number of strokes is expected to rise dramatically as the population ages.



Until recently, no effective treatments for stroke existed and, because of that, “nobody really went into stroke training, both from the physician side and the basic science side,” Dr. Morley explains. “The thinking was, people had a stroke, you put them in the corner of the ER and there’s nothing you can do for them. The rehabilitation protocols and paradigms weren’t worked out either.”

That all changed with the arrival of t-PA, the clot-buster that dramatically limits brain damage if given within three hours of a stroke. Now, with new therapies for brain repair and regeneration on the horizon, the need has never been greater for trainees in all aspects of stroke.

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“We need people who are going to run stroke prevention,” says Dr. Alastair Buchan, Professor of Stroke Research at the University of Calgary. “We need people to look after acute stroke, in terms of thrombolysis and neuroprotection and stroke unit care. We need people who look after stroke patients in rehabilitation. And we need people who will give patients the multi-disciplinary support they need so they can move back into the community.”

The CSN has committed almost \$1 million per year for training to help build up this cadre of stroke specialists; 270 trainees are involved in CSN-funded stroke research, and the network has developed major national partnerships with groups such as the Heart and Stroke Foundation of Canada.

The network can’t provide all the solutions, Dr. Hakim says. “But we are ambitious. We are committed to meeting the needs of the stroke community and the patients it serves.”



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Focus on Stroke supports next generation of experts

Five partners create national training fund

A unique collaboration is helping “beat back” the fourth-leading killer of Canadians by encouraging some of the brightest minds in Canada to train in stroke.

The Focus on Stroke program is a major new research training initiative supported by the Canadian Stroke Network, the Heart and Stroke Foundation of Canada, Canadian Institutes of Health Research (CIHR) Institute of Circulatory and Respiratory Health, CIHR Rx&D and AstraZeneca Canada Inc.

The goal is to support research that will ultimately lead to better care and better quality of life for the burgeoning number of Canadians who will be touched by stroke.

Already, almost 170,000 Canadians are hospitalized each year as a result of a “brain attack”—a number that is expected to rise dramatically as Canada’s population ages.

Stroke already costs the Canadian economy \$3 billion a year. But the cadre of researchers working in stroke nowhere near approaches that for other diseases, such as heart disease.

“We have, and we are going to have, stroke patients right across the country. We need research capacity across the country,” says Dr. Alison Stephen, Director of Research for the Heart and Stroke Foundation. “We don’t only want to be acquiring knowledge from other countries. We need to know how to deal with stroke patients in our own health care setting.”

Over the next three years, the five funding partners will leverage more than \$1.7 million of new training funds to support about 45 graduate students, postdoctoral fellows and scholars in basic stroke research.



“We still have much to learn about stroke at all levels, from the basic science of what is happening in the brain to the benefits and disadvantages of various treatments,” Dr. Stephen says. “Basic science research leads to improved treatments, which will lead to better patient outcomes.”

Dr. Bruce McManus, Scientific Director of the CIHR Institute of Circulatory and Respiratory Health, says Focus on Stroke is the first such program that specifically targets professionals and scientists “interested in the questions that face us in stroke, from the most basic questions to those that relate to populations.”

“All of the partners, individually and, more potently collectively, have a serious commitment to improving the diagnosis, management and prevention of stroke.

“This is a wonderful opportunity to take a few dollars from each partner and create a program that otherwise wouldn’t be possible.”

Dr. McManus says the program is a critical step forward in supporting the “life cycle” of researcher development that’s necessary to “carry forward a knowledge-based, innovation agenda that affects health care in Canada.”

“Beating back the heavy burden of stroke in our society depends upon the most well-trained and energetic scientists, educators and clinicians. This

extraordinary partnership allows us to support the brightest and the best of an emerging generation of researchers that the problem of stroke so desperately needs.”

Gerry McDole, president and CEO of AstraZeneca Canada and a member of the Board of Directors of the CSN, said the collaboration is “an important part of our commitment to healthcare in Canada” and improving the life of stroke patients.

The program is also helping to significantly streamline the application process for researchers.

“In the past, the CSN, the Heart and Stroke Foundation and the CIHR all had their own application form and review panel, and each time (a researcher) applied, they had to submit sometimes two or three different applications. And because the stroke community is so small, the same people ended up reviewing the same applications,” says Dr. Paul Morley, the CSN’s Deputy Scientific Director.

Through the Focus on Stroke program, “we now have a common application form and single peer review committee. It’s reducing the administrative burden on everybody, which is a major step forward and something the research community is very, very happy about. It just saves time for everybody.”



Dr. Robert Gilbert of Dalhousie University

Researcher seeks new drugs to protect the brain

Researchers have discovered a raft of brain protective drugs that, when tested in animals, dramatically reduce brain trauma after a stroke. The trouble is, the drugs have been an overwhelming failure when tried in humans.

Dr. Robert Gilbert wants to understand why. “If we can further our understanding of the ways in which neuroprotective drugs work in animals, then maybe we can identify clinical targets which are better suited to the treatment of human victims of stroke,” says Dr. Gilbert, a CSN-supported researcher at Dalhousie University in Halifax.

Dr. Gilbert works with Dr. Harry Robertson, Head of the Department of Pharmacology at Dalhousie University and co-leader of the Stroke Network’s Theme 3, which is focused on finding

new strategies to protect neurons and other brain cells from death following a stroke.

The search for neuroprotectives has become one of the hottest areas in stroke research. The only drug currently approved to reduce brain injury from stroke is the clot-buster t-PA, but it has to be used quickly—within three hours of the onset of symptoms. In addition, the drug is too risky for some patients, and can’t be used to treat strokes caused by a ruptured blood vessel in the brain.

But the biggest problem is that the majority of patients “arrive in hospital too late to receive the maximum—or any—benefit from these emerging therapies,” Dr. Gilbert says.

The challenge is to find new drugs that can extend the “therapeutic window of opportunity.”

The 39-year-old postdoctoral fellow is among the first “Focus on Stroke” trainees. A unique collaboration between the CSN, the Heart and Stroke Foundation of Canada, AstraZeneca Canada, the Institute of Cardiovascular and Respiratory Health and CIHR’s Rx&D, the program is investing more than \$1.7 million for new training funds for graduate students, postdoctoral fellows and scholars in basic stroke research.

Dr. Gilbert, who has a PhD in pharmacology and neuroscience, will receive salary support over the next three years.

The money will provide him with the freedom to set long-term goals, “which are to develop a thorough expertise in stroke.”

The first challenge is to provide a detailed description of the changes in “gene expression” that occur following a stroke. Some genes are involved in the mediation of cell death, while others promote cell survival and repair. Dr. Gilbert is looking at genes whose expressions change in the three- to 12-hour period following a stroke.

By developing an expertise in DNA microarray technology, he’s able to map changes in gene expression for a vast number of genes at the same time. Researchers can then look how different known neuroprotective agents affect the expression of stroke-associated genes. “The results will allow us to speculate on the mechanisms through which these drugs act, thereby defining realistic targets for clinical trial.”

Dr. Gilbert says the Focus on Stroke award “has given me a clear ability to devote the next three years to stroke. When you’re working on a grant-based position, there’s always that question, “Will there be enough money to continue?”

“Finding effective therapies for the treatment of stroke will revolutionize stroke care, vastly improving the quality of life for stroke victims,” Dr. Gilbert says.

“There’s a tremendous need out there”

Training program aims to strengthen stroke workforce

The man who coined the term “brain attack” for stroke would be surprised if even 100 doctors in Canada today would describe themselves as a stroke doctor.

“And the need is for thousands,” says Dr. Vladimir Hachinski, co-leader of stroke prevention research for the Canadian Stroke Network.

Given the sheer scope of the personnel shortage, the challenge facing Canada’s stroke community is enormous. But the CSN is taking a bold and ambitious step toward strengthening Canada’s brain attack workforce.

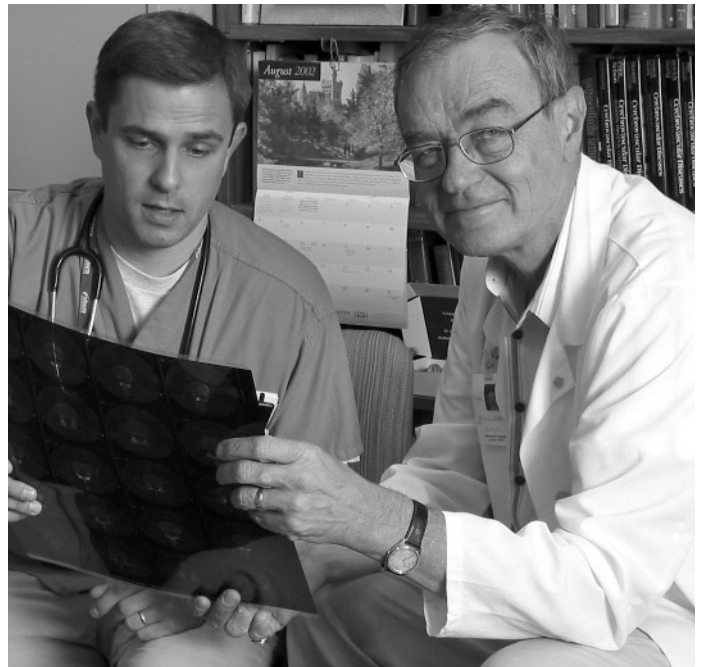
In response to the grim statistic that the country has an urgent need for 300 stroke neurologists alone, the CSN and the Canadian Stroke Consortium have implemented the National Stroke Training Program for physicians. Under the program, the normal two-year specialty training for stroke will be compressed into one intensive, core year at up to six CSN-accredited training sites. The unique program, which is being developed and piloted at the University of Western Ontario in London, will be open to any doctor in Canada interested in stroke, from neurologists and internal medicine specialists to family doctors working in rural communities; the first two

trainees are being piloted beginning in July 2003, and the goal is to eventually roll the program out to include other health disciplines in order to address the shortage of stroke specialists “across the board.” The Network hopes to train 12 to 15 physicians each year.

Under the physician-training program, trainees will gain “extensive, supervised exposure to all aspects of stroke,” says Dr. Hachinski, a Western professor and neurologist at the London Health Sciences Center, who is developing the program. That will include front-line experience in stroke consultations, a stroke unit or an urgent TIA clinic. Researchers have found that 11% of people who suffer a TIA, or transient ischemic attack (so-called “mini stroke”), will go on to experience a full-blown brain attack, half within the first 48 hours after their TIA.

The curriculum for the core year consists of a series of tutorials developed by faculty within the program. “The first thing we’re going to do is set the standards: What is it people need to know?” Dr. Hachinski says. “Typically what has happened in the past is that you have a standard way of training people, with no regard to what the need is out there. We’re beginning to build a bridge and trying to match the two.”

His team at the University of Western Ontario is also exploring combining “face-to-face” experience with a



Dr. Vladimir Hachinski, right, is developing the National Stroke Training Program for physicians.

computer-based training program. “It isn’t simply a matter of putting material on the Web,” Dr. Hachinski explains. Rather, the program might include information illustrated by real cases, access to X-rays, hyperlinked cross-references, and chat groups and mentors. “We’re developing a couple of courses to see how this may be used to actually provide a core knowledge environment. It’s really complicated and intensive.”

After the core year of training, trainees can choose to pursue one of two streams—clinician-scientist, or community stroke doctor.

“There will be people who have completed their core year who want to do research and become academics. They can spend a further one to two years training, and they don’t

have to do it in London—they can do it anywhere where the expertise they want to acquire exists,” Dr. Hachinski says. Meanwhile, training for community doctors will take place in the community under the supervision of a mentoring committee.

The goal is to also offer rotations in areas such as rehabilitation.

“We’re not going to make an expert out of a physician in three months, but it may mean that three months of intensive experience in the rehabilitation centre will acquaint them with doing the basics, and also keep them connected with a larger centre, so that a lot of the stroke care can be given as close to home as possible.”

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Physicians: Closing the gap

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By training more doctors, the goal is to also shrink the gap between what the best evidence says about preventing strokes in high-risk patients, and what's happening in "real world" practice.

Only 16% of hypertensive Canadians, for example, are receiving treatment to control their high blood pressure—one of the leading risk factors for stroke; only one in five patients with a heart rhythm defect known as atrial fibrillation is being treated with the blood thinner warfarin in order to reduce their risk of a devastating stroke.

"Part of what we need to learn is not just to provide better and better treatment, but to bridge that gap between what we know works, and what's being applied," Dr. Hachinski says.

Dr. Hachinski stressed that the program will be flexible to meet the personal goals of each individual trainee. A program will also be developed to match long-term employment opportunities with trainees.

The challenges will be substantial. "This is a huge undertaking," Dr. Hachinski warns of the physician-training initiative. "But there's a tremendous need out there. We have to do what we can to help."

Gender differences a focus of study

Researchers know from cardiac studies that women are less likely than men to get bypass surgery, and don't do as well after heart surgery. But are there gender differences in stroke?

What happens to women after a stroke? How are they treated? How do they do after a "brain attack"?

These are just some of the critical questions Dr. Moira Kapral is exploring through research made possible through the Canadian Stroke Network. The internist and assistant professor at the University of Toronto Faculty of Medicine has received a scholarship award through the CSN Scholarship Program, which contributes \$30,000 a year for a total of three years in salary support to help young investigators do independent research related to stroke. Dr. Kapral receives matching funds from the Women's Health Program at Toronto's University Health Network.

As co-manager, with Dr. Frank Silver, of the massive Registry of the Canadian Stroke Network, Dr. Kapral is considered one of Canada's leading researchers in stroke health services. The registry collects information on all patients with stroke who present to 22 participating hospitals across the country. "The point of the registry is to collect data so we can find out what their symptoms are like, how they're being treated, how well they do over time, how well they recover and how they re-integrate in society," says Dr. Kapral, who



Dr. Moira Kapral

also has training in clinical epidemiology. Close to 5,000 patients have been enrolled so far; investigators hope to eventually recruit more than 60,000 patients, making it the largest registry of its kind in the world.

But in addition to her work with the registry, Dr. Kapral is using her CSN scholarship to find out whether or not differences exist in the way doctors care for women and men with stroke.

Men are at a higher risk of stroke than women. But because strokes occur more often as people get older, and because women tend to live longer, "the actual number of patients with stroke, and dying of stroke, is higher in women," Dr. Kapral says.

"So even though people always say men are at a higher risk of stroke, which is true, as a problem on a population level it's just as important for women."

Yet women don't see themselves as being at high risk for stroke or heart disease, the same way they worry about breast cancer.

Dr. Kapral is also studying why women are less likely than men to have carotid artery surgery, which involves removing fatty deposits and plaques from one of the two main arteries in the neck that ferry blood to the brain. Carotid surgery is a preventive treatment for stroke in people with severe narrowing of the artery.

Researchers don't know why women are less likely to have the operation, but one hypothesis is that they may be less likely to accept surgery if it's offered, "either because they don't have the social support, or they don't want to accept the risk of surgery," Dr. Kapral says.

If she does discover sex differences in stroke care, "then education of physicians will be very important to let them know what's going on, and to give them some feedback so they can modify practices."

Dr. Kapral says her CSN scholarship has been "tremendously important" to her research. "It's meant that I've had enough salary support that I can actually do the research I want to do. Without it, I wouldn't be doing the research I'm doing."

Dr. Kapral says the CSN annual general meeting and the CSN theme meetings provide "a wonderful opportunity to meet with, and collaborate with, other stroke researchers."

"As a result of these meetings, I'm now working on several projects with stroke researchers from across the country."

Bringing “new blood” to basic research

Program attracts country’s most talented investigators

Is there a way to salvage vital brain tissue up to 12 hours after a stroke? Can computers help stroke survivors recover their ability to speak? Does a sex bias exist in stroke care?

These are just some of the questions being asked in laboratories across the country through cutting-edge research supported by the Canadian Stroke Network’s basic science training program.

The program includes everyone from lab scientists working with molecules, gene chips and mice to rehabilitation specialists pursuing new therapies for a stroke-disabled arm, or leg. From undergraduate summer students to post-doctoral fellows and network scholars, the program is helping attract crucial “new blood” to stroke at a time when the country is facing an acute shortage of stroke researchers. In total, the program currently supports 40 trainees in this program and 270 overall.

This is the next generation of people who will be making the basic science discoveries that will eventually be applied to patient care. This really is the future.

The program includes awards that sponsor half a researcher’s salary, as well as research grants to principal investigators, “and on those grants investigators hire people,” says Dr. Paul Morley, Deputy Scientific Director of the CSN.

Together, the different competitions are attracting some of the most talented and “high-end” investigators in the country. “For all patients, this really is the next generation of people who will be making the basic science discoveries that will eventually be applied to patient care, the development of new drugs and new rehabilitation paradigms,” Dr. Morley says. “This really is the future.”

The CSN’s basic science training program includes several different competitions: The CSN’s Scholarship Program is targeted to young investigators who have recently completed their training and want to pursue independent research related to stroke. The CSN contributes \$30,000 a year for a total of three years towards the investigator’s salary; the scholar’s employer, an industrial partner or other source must match the funds.

The Fellowship Program for postdoctoral candidates, as well as the Studentship Program for graduate students who want to do full-time research related to stroke, work on similar matching-fund schemes. In 2002, the CSN also launched a unique Summer Studentship Program that is giving undergraduate students a rare and exciting opportunity to gain valuable experience working with top stroke research teams in CSN-funded labs across Canada.

The CSN supported 10 Summer Studentships this year. Each award is worth \$5,000. The full fellowship awards are \$35,000 per year for basic researchers, and \$45,000 for health professionals. The Studentship Program provides \$20,000 per year for basic researchers and \$25,000 for health professionals.

Despite some initial “trepidation” over whether trainees would be able to find matching funds, “it turned out not to be a problem at all,” Dr. Morley reports.



The CSN is bringing new people into stroke research.

“We had lots of very qualified people coming through with matching funds from foundations, industry, universities, all sorts of different places. But we were able to leverage about \$650,000 of additional salary support for people by only paying half their salary, and they would bring in the rest of it.”

The program is also attracting people previously unknown to funding agencies such as the Heart and Stroke Foundation of Canada. “That means the people we are bringing into the system are brand new, which is wonderful,” Dr. Morley says.

And while the total number of training positions seems small, (the awards are currently supporting four scholars, 14 fellows and 17 graduate students) “when you add in the people who are being supported off research grants to principal investigators, there are over 270 trainees. They include everyone from physiotherapists to speech pathologists and clinical nurses. It’s the whole gamut.”

Of mice and men

New therapies developed for humans by studying mice

Mice aren't men, but the two do share an uncanny number of genetic similarities, and now, with the mouse's genome completely mapped, the potential to better understand how diseases such as stroke affect humans is enormous.

That's why Tracy Farr's mouse experiments have stroke researchers across Canada so excited.

The young CSN-supported University of Lethbridge graduate student is trying to develop a mouse behavioral model for stroke. Understanding how a mouse learns, for example, how to reach for a pellet of food with a stroke-damaged front paw could one day lead to better post-stroke treatments for humans.

Until now, most stroke research has relied on rats as models, mostly because the rodents are so much easier to work with. "Mice definitely have smaller brains," Ms. Farr explains. They also move faster, and eat more frequently.

But as thousands of strains of genetically modified mice are created—mice with



Tracy Farr of the University of Lethbridge

extra genes, over-expressed genes or genes knocked out entirely—the need for behavioral testing in mice has never been more crucial. "There's a phenomenal potential out there with transgenic research," Ms. Farr says. "That's why it's important to try to get mice on board with the behavior."

Ms. Farr, who is working on her master's degree in neuroscience, is training with CSN-supported investigator Dr. Ian Whishaw at the renowned Canadian Centre for Behavioral Neuroscience at the University of Lethbridge. The CSN Studentship Program, a unique program

that provides support for graduate students through a matching-fund scheme, is supporting her research. Ms. Farr is receiving \$10,000 a year for three years from Canada's cutting-edge stroke network. The neuroscience centre's industrial partner, NeuroDetective, matched the money.

"I think (the Studentship Program) is fabulous. For people who want to focus on stroke, this is really all there is, because the portion of stroke money that's set aside in a lot of other places is relatively small."

"And this is the most ideal place to be," Ms. Farr adds of the Lethbridge facility, an integral part of the CSN. "This is just a phenomenal place for behavioral research."

Her experiments involve "knocking out" or making a lesion in a very specific part of the motor cortex. The mouse will exhibit different kinds of motor impairment, depending on the lesion. Currently she's concentrating on adapting a reaching test Dr. Whishaw has made popular in rats to mice.

"The most common problem, and a very frustrating problem, stroke patients suffer is the loss of their motor function," Ms. Farr says. "By understanding how mice reach, compare that to humans, and try different therapies to see if we can improve the way the mice are reaching, we may be able to bring new therapies" for patients.

"Stroke is a disease that is preventable and treatable," the 23-year-old basic scientist says. "There are a lot of interesting questions out there as to how we can treat it the best. There are so many different ways we can work on developing therapies for it. I feel like this is setting me up with a good knowledge base to move out into the field."

"I think (the Studentship Program) is fabulous. For people who want to focus on stroke, this is really all there is because the portion of stroke money that's set aside in a lot of other places is relatively small."

“E-record” to provide better, faster care

CSN researcher hopes to close information gaps

This fall, CSN-supported occupational therapist Lise Poissant will help launch the first “e-record” for stroke patients—an electronic patient chart that should lead to better, and faster care, for stroke survivors.

The computerized record will allow every health professional involved in a patient’s post-stroke treatment to electronically collect and share information on the patient’s medical history, details of his or her stroke, any tests or treatments ordered, follow-up plans and other vital data.

The idea is to smooth the information loop between a hospital-based expert stroke team and caregivers in the community, from family doctors to outpatient rehabilitation centers.

Health professionals will have access to information when they need it, and not have to worry about tracking down a paper file. For example, as soon as a stroke patient is discharged from hospital, “the neurologist will simply press a button, and a summary of the patient’s condition will be printed and sent directly to the family doctor,” Dr. Poissant says.

Moreover, patients won’t have to go over their medical history, or endure another battery of tests, every time they visit another health professional, or facility. The stroke team will be able to monitor a patient’s progress through all phases of their care. “And because they’ll get the information more quickly, they’ll be able to react more quickly in terms of dealing with any problems that come up.”

Dr. Poissant, a postdoctoral candidate, is developing and testing the new “e-record” with Dr. Robyn Tamblyn, Associate Professor, Department of



Dr. Lise Poissant

Medicine and Department of Epidemiology and Biostatistics at McGill University; Dr. Nancy Mayo, James McGill Professor, School of Physical and Occupational Therapy, Department of Medicine, Department of Epidemiology and Biostatistics at McGill; and Dr. Robert Côté, Department of Neurology and Neurosurgery, McGill University.

The first prototype, which will be launched at the Stroke Prevention Clinic at the McGill University Health Centre this fall, is one key step in the development of an overall Integrated Stroke Care model designed to streamline stroke care.

Dr. Poissant’s research is being supported through the CSN Fellowship Program, which provides support for postdoctoral candidates working in stroke research. She is receiving \$45,000 a year for two years, with half coming from Valorisation Recherche Quebec to develop an e-record that will produce standardized clinical data for use in research.

Dr. Poissant says the electronic record will provide researchers with up-to-date information on several outcomes, such as how well patients manage at home with their activities of daily living, or quality of life. She is also developing an e-record for in-patients that she hopes to test next spring.

Dr. Poissant, who has a PhD in rehabilitation, says the support from the CSN “is just amazing.”

“I did all of my PhD with no funding, which means I had to hold a three-day a week clinical position for the financial support for me and my family.

“This makes me move much quicker. We just got started, and the fact that we can deploy our first prototype in the fall is just amazing. The funding provides me the opportunity to really focus full-time on this project. I think it will make it move that much faster.”

The stroke team will be able to monitor a patient’s progress through all phases of their care. And because they’ll get the information more quickly, they’ll be able to react more quickly in terms of dealing with any problems that come up.





Susan Clarke and Robert Nelson say they have “met some incredibly talented and caring professionals in the stroke field”, but more services are needed.

Families urge more resources for stroke patients

Yellowknife man suffered stroke while pushing truck out of snow

Robert Nelson was returning home to Yellowknife from a business meeting in April with a colleague when the truck they were traveling in became stuck in the snow. While he was pushing the truck, Mr. Nelson realized he had only about 30% vision in one eye. He thought it was probably related to the laser eye surgery he had had months earlier, or maybe a migraine, but later that night he had difficulty sleeping, and when he got up to take a warm bath, his entire side felt numb.

When his partner Sharon Clarke arrived home the next day, she looked up to where Rob stood at the top of a flight of stairs. He couldn't speak, and his arms flopped to his side. “When I phoned for the ambulance, I said, ‘I think I'm looking at someone who's had a stroke.’”

Three days later he was flown to University of Alberta Hospital in Edmonton. After a series of tests, the doctor told Rob his stroke was the result of a carotid dissection—a tear in his left carotid artery caused by the exertion of pushing the truck out of the snow.

The stroke resulted in a right-sided paralysis. Rob was also left with aphasia and apraxia of speech, the inability to sequence and say sounds, syllables and

The couple was told that the out-patient care facilities in Yellowknife could only guarantee, at most, two hours each of occupational therapy, speech therapy and physiotherapy a week. For a man with half his life ahead of him, “it just wasn't good enough.”

words. “For the longest time, ‘yes’ was squeezing my hand, then ‘yes’ became a fist, ‘no’ became an open hand,” Ms. Clarke recalls.

He was transferred to a rehabilitation hospital, and was tentatively scheduled for discharge six weeks later—the anticipated time for Mr. Nelson to achieve “functional independence.” But Ms. Clarke says the medical team agreed Rob would benefit from further longer-term, intensive in-patient rehab. But when Sharon inquired about a facility close to Rob's parents' home, “We were told that, because we were from out of province, and their waiting lists were long, they didn't know when we would get in, if at all.”

“We were told Rob had surpassed the rehab goals of one facility, but we couldn't access another facility where he would benefit from more rehab. I felt totally alone. I didn't know where to turn.”

Moreover, the couple was told that the out-patient care facilities in Yellowknife could only guarantee, at most, two hours each of occupational therapy, speech therapy and physiotherapy a week. For a man with half his life ahead of him, “it just wasn't good enough,” Ms. Clarke says.

Through her own diligence, she found the names of other rehabilitation centers. “Beyond provincial or regional borders, no-one can tell you where you ought to be and if that place will accept you.” But she never gave up on the hospital close to Mr. Nelson's parents' home where, thankfully, he was finally admitted, in early July.

Today, he can walk without a cane and is capable of saying full sentences; Sharon says Rob is encouraging his therapists to give him new challenges.

“We have met some incredibly talented and caring and dedicated professionals in the medical field since Rob's stroke,” Ms. Clarke says. But the experience of trying to find the best care for Mr. Nelson at a time of already incredible stress was exhausting and frustrating.