MESSAGE FROM THE EDITORS
Welcome to the new online MUNMED!

After 27 years of print, we’re very excited about this new format. It means we can bring you enhanced content in a timelier manner. MUNMED online includes all the features of the print magazine plus more interactive content, allowing an optimal viewing experience across a range of devices. MUNMED is the newsletter for the Faculty of Medicine at Memorial University of Newfoundland. It is published twice a year.

We hope you enjoy this issue of MUNMED with news about our alumni, students, educational and research activities.

Sincerely,
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DR. MARGARET STEELE
HBSC, MD, FRCPC, Med., DFCPA, CCPE

Dr. Margaret Steele began as dean of the Faculty of Medicine at Memorial University of Newfoundland on August 15, 2016. Dr. Steele is also a professor in the Department of Psychiatry.

Prior to coming to Memorial, Dr. Steele was the vice dean of Hospital and Interfaculty Relations at the Schulich School of Medicine & Dentistry at Western University in London, Ont.

Dr. Steele earned her honours degree in microbiology and immunology at Western University in 1983 and completed her MD in 1987. She obtained her fellowship in psychiatry in 1992, and in 1993, completed the requirements for the child and adolescent psychiatry diploma. Dr. Steele earned a master’s of higher education from the Ontario Institute of Studies in Education, University of Toronto and became a fellow of the Hedwig van Ameringen Executive Leadership in Academic Medicine at Drexel University in Philadelphia, Penn., in 2008. In 2012 Dr. Steele became a distinguished fellow of the Canadian Psychiatric Association and in 2013 she became a Canadian Certified Physician Executive. She also was the first Canadian to participate as an Association of American Medical Colleges Council of Dean Fellows.
A PhD researcher in the Faculty of Medicine has discovered a gene mutation that is linked to significant hearing loss in young children in Newfoundland and Labrador.

The mutation is in a gene known as CLDN14.

ONE PER CENT

“Although this mutation has been identified in The Netherlands, Iceland and Denmark, this is the first time it has been shown to cause early onset hearing loss,” said Justin Pater, who is completing his degree under the supervision of Dr. Terry-Lynn Young in the Discipline of Genetics.

“What’s interesting is that the mutation is more common in this province, being present in just over one per cent of the population.”

CRITICAL HEALTH CARE RESEARCH

Mr. Pater is collaborating with a team of geneticists and clinicians at the Centre for Genomics-Based Research and Development in Hearing Science in Grand Falls-Windsor, which was established in April of this year. Their research was recently published in the academic journal *Human Genetics*. 
Around the world, other mutations in the CLDN14 gene have been identified. Those studies have emphasized affected children who are born with hearing loss.

However, the research led by the Memorial team indicates something different, providing health-care professionals with critical information.

“With this hearing loss mutation, we found that children are actually born with normal hearing and pass newborn screening tests,” explained Mr. Pater, who is originally from Montague, Prince Edward Island.

“Children with our CLDN14 mutation develop hearing loss by three to four years of age, which is an important time for language learning. Our audiologist, Anne Griffin, will be helping to translate this new knowledge into the clinical setting to identify at-risk children and thereby prevent speech-language and developmental delay.”

PROFOUND HEARING LOSS

The CLDN14 gene produces a protein that plays an essential role in maintaining inner ear cell structure and the transmission of auditory signals to the brain.

When CLDN14 is mutated, sounds are not conveyed properly. People who test positive for the mutation have profound hearing loss at middle and high frequencies, while the perception of low frequency sound is preserved.

RESEARCH FIRST

Mr. Pater and his collaborators are based at the Craig L. Dobbin Genetics Research Centre. Having their research published in a leading academic journal is a major accomplishment for the team.

“I am proud to be a part of a larger team that came together to discover this mutation.”
The office of MD students Stephen Ryan and Michael Bartellas is not your typical office. It’s full of plastic models and storage units with trays full of different plastic prototypes including umbilical clamps, skulls and joints. All made on 3D printers.

What started as a hobby has turned into a collaboration in education and health care that earned them $25,000 from the Teaching and Learning Framework (TLF) competition. They have office and collaboration space, an engineering cooperative education student, some very expensive equipment and a lot of dreams and ideas.

For third-year student Stephen it started when he was watching the news and some astronauts at the International Space Station had a problem but had no means to fix it. So, they contacted NASA who had their team of engineers design a tool to fix the problem. They had a 3D printer on the space station so they printed the tool and fixed the issue. “That’s when I had a eureka moment and thought ‘Why can’t you just do that with hard to reach places on earth?’”

Before any printers were bought, Stephen wrote a research paper on potential applications of 3D printing in rural communities in Newfoundland and Labrador. When they saw the grant opportunity, he says what they pitched was collaboration. “I’d been doing my research on 3D printing for a year and there’s a hole in the medical school; this doesn’t exist and I think it’s an interesting opportunity for Memorial to get on board with this technology.”

Dr. Gary Paterno, professor of oncology, and associate dean for BioMedical Sciences agrees. “Medical education is moving from cadaver based teaching to looking at simulation and 3D modeling from scans to educate our future physicians. It’s not only good for education, but it’s good for the health care system as well. It could mean more solutions can be found at the level of the family doctor.”
AND THAT’S EXACTLY WHAT MICHAEL AND STEPHEN’S 3D DREAMS ARE ABOUT.

The first printers they bought out of their own money were the cheapest ones they could find: $500. Both broke multiple times, says Michael, as he points to a hollow blue cube on the table that looks a little like a baby’s toy. “I’ve had paperclips in this. I’ve had tape. We sent them back and got new ones and we broke those but it was about playing, tinkering and pushing the limits. Now I know its limits. When I got it I thought ‘Great, let’s print a skull!’ Twenty hours in there was smoke coming out of it.” He brings out the skull, which is in two pieces but held together with paperclips.

They both say it was a big learning curve converting CT scan to printing. They found an article that describes a 62 year old woman who had splenic aneurysms. Her doctors printed her actual anatomy and simulated the surgery before operating. Michael pulls out his version, which is one of his favourite models to show off, and points out the aneurysms that are not supposed to be there.

Michael, who’s in his second year, researched a case study on a patient that had oral cancer who had part of their upper jaw bone removed which created a hole in their palate, making it hard to breathe, talk or eat properly. Michael isolated the area, printed it and tried to create a prosthesis to fit in there. His next step is finding a material, like silicone that can be used, and if the patient consents, trying it out. “The new printers can print in exotic material, which means material like silicone or wood paste; it’s a matter of biocompatibility or the body not rejecting the material.”

They have space (donated by the Discipline of Emergency Medicine), printers and materials and set all this up in their spare time with a few thousand dollars of their own money. The printers cost about $5,000 each. They say one is a ‘workhorse’ and the other is higher resolution for finer details. Stephen and Michael explain how each printer works.

https://youtu.be/WHLBwspg5sg

https://youtu.be/s_4lPKyqxU4
Stephen thinks the potential to serve underserved populations is unbelievable. Their vision is to have these printers in rural communities. They understand that’s a long ways off given the cost of the machines and what’s involved in getting a database of tools and troubleshooting. “The whole point of this initiative is to see how far we can bring that; how can we apply this to the field of medicine in NL,” says Stephen.

The printers are available to any student who wants to use it for a project because, as Stephen says, “Who knows? Anyone who tries something new, there is potential to innovate or change and that will progress this field so far.” They want the whole project to sustain itself so they hired engineering co-op student Greg Doucet and ‘tethered’ themselves to engineering to collaborate. They also started a biomedical/engineering interest group and are planning guest speakers and monthly meetings. “I don’t know where it will go or how far it will go, but at least it’s going. In a year, it’s taken a direction that I never could have predicted,” Micheal adds. “A year ago this was a conversation that we had, on a deck, just talking about ‘Can you imagine if we actually get the money to buy a printer?’” Michael and Stephen invite anyone who is interested to get in touch.

https://youtu.be/endQGzkqTOw

BUILDING A HEALTHY TOMORROW

Supporting tomorrow’s physicians and medical scientists is the key to finding solutions to critical health challenges.

With the support of the communities we serve, the Faculty of Medicine will continue to shape exceptional doctors who are ready to become leaders in the delivery of quality health care in a complex world and our medical scientists will be better able to find answers to the questions that matter to people of Newfoundland and Labrador, and beyond.

BE A PART OF IT

www.med.mun.ca/HealthyTomorrow/About-the-Campaign.aspx
TWO-EYED SEEING

Basic teaching and learning. That was the purpose behind a recent trip students took to a local Innu community.

Seeing Beyond Good Medicines took place in Sheshatshiu, Labrador from Nov. 17-19, 2016. Students representing medicine, nursing, pharmacy, social work and kinesiology created and delivered simulation activities highlighting health careers to kids from grades six to 12.

They worked in interprofessional teams in the spirit of ‘two-eyed seeing’ which means Innu elders and healers along with Innu youth shared their knowledge of healing practices with the visiting students, including Innu healer and elder Elizabeth Penashue, who shared her wisdom and knowledge about traditional medicines.

This is the first time Seeing Beyond Good Medicines has been offered as a part of the Aboriginal Health Initiative, of which Dr. Carolyn Sturge-Sparkes is the coordinator. She says the project is designed to be an extension of the Healers of Tomorrow Gathering, a health care profession camp for Indigenous high school students in the province. “By going into the community, we reach pre-secondary school students and provide the opportunity for students from different health-care studies to work together to provide, what we hope, is a memorable experience for the youth of the community. In short, we are aiming to sow seeds of possibilities,” she says. “A tent was set up just outside the school and we had lunch with the elders on both days. The elders welcomed all kinds of questions from our students about the Innu culture and their knowledge of medicines.”

Third-year MD student Burton Ward says it was a very unique experience and he learned a lot. “Not only was I able to meet and teach the high school students about Western medicine, but I also had the opportunity to meet some of the town’s elders and learn a little bit about their perspective on medicine.”

“In short, we are aiming to sow seeds of possibilities.”
“The Innu made good use of their surroundings and found unique and multipurpose medicines,” he notes. “One of the elders showed us a pot of boiled sap that was boiled until it was a thick paste. This paste is used for many things such as covering open wounds and applied to the chests of infants who have a cough. It was neat to learn that not only do the Innu make use of Western medicine, but they continue to use it in conjunction with their own traditional medicines.”

Burton was halfway through a two-month rural family medicine rotation in Happy Valley-Goose Bay (HVGB) and since Sheshatshiu is only a 30 minute drive away, he jumped on board. “One of the highlights of doing a rotation here in HVGB is that you get experience working in some of the First Nations communities. I’ve had the privilege of working in the North West River clinic, as well as the clinic in Natuashish.”

Burton says the best part of Seeing Beyond Good Medicines was the reactions on the kids’ faces when they successfully examined their peers. The medical students demonstrated how to use an otoscope to look into ears, an ophthalmoscope to examine people’s eyes and a point-of-care ultrasound machine to examine organs. “Not only were all the kids actively participating, but they were so proud to have been able to examine their friends tympanic membrane (ear drum), or watch their pupils constrict with light,” says Burton.

Dr. Sturge-Sparkes agrees the program was a big success. “One of the teachers at the school told me that she thought it was the best presentation she has seen at the school as far as student engagement was concerned. Our undergrads proved to be a great group, very keen and full of great ideas. We could tell that the community enjoyed having us there.”

Burton’s advice to other students: “Seeing Beyond Good Medicines is a program that brings First Nation and Western cultures together and encourages growth and understanding collectively. I would strongly suggest anyone who has an opportunity to work with a population different from your own to do so.”

Funding was provided by Memorial’s Public Engagement Accelerator Fund, Rural Family Medicine, the Labrador Health Authority and the Sheshatshiu community.
RESEARCHING THE HIDDEN SYMPTOMS

Ruby Wheeler was diagnosed with Huntington Disease (HD) at the age of 47. That was only four years ago and she has progressed to where she needs a walking aid outside the house. She cannot drive, her speech is slurred and she’s had some issues with swallowing. Her husband and main caregiver, Rich, says her cognitive ability has also diminished considerably.

“She does not converse like she used to and is slow responding at times. Her long term memory is excellent; she sometimes shocks me with what she remembers but her short term memory is not so good,” he says. This has also affected her decision making, which often causes her much stress and small decisions are now monumental, he adds. “Also, when she is told something by someone other than me, it doesn’t appear to register with her. She is unable to write or read any documents. She can’t comprehend what she tries to read and if I read it to her, it has to be explained in detail afterwards.”

HD, the most common inherited neurodegenerative disease, is marked by motor, cognitive and psychiatric symptoms. Many HD patients claim the cognitive component is the most debilitating, but biomedical research has largely focused on motor networks. Dr. Matthew Parsons, an assistant professor of neurosciences, believes this is because the brain cells most vulnerable to the HD-causing mutation exist in motor-related regions of the brain, and the death of these neurons gives rise to strikingly obvious motor symptoms. In fact, HD is sometimes referred to as Huntington’s Chorea, which comes from the Greek word for dance, referring to the dance-like movements commonly seen in HD patients as they lose the ability to suppress unwanted movements.

But, Dr. Parsons adds, it’s important not to ignore the cognitive decline. “When you begin to lose cognitive abilities, you really start to lose your identity. A fantastic documentary, called “Do you really want to know?” introduces HD as a disease in which ‘patients experience symptoms of Alzheimer’s, ALS, and Schizophrenia all at the same time.’ This refers to the clinical triad of cognitive, motor and psychiatric symptoms observed in HD.”
Rich Wheeler agrees. “A person does change in that they become withdrawn, lose their ability to interact with friends and family, lose their independence and I guess their dignity,” he explains. “They don’t want to appear to be stupid to those who don’t know about HD or understand it fully. However, if you ask my wife what she wants people to know about HD she always responds ‘I’m still me.’ She knows she is sick, she knows she has chorea and speech issues but she definitely knows that she is ‘here.’”

“As a caregiver, I see her every minute of every day. She has changed and I guess in a way her identity as a woman who drove a car, worked, went to the gym, walked, cooked and cleaned, etc. that’s all gone now so a person’s identity would have to change,” explains Rich.

**MAKING THE SYNAPTIC CONNECTIONS**

One brain cell communicates with the other through synapses; a chemical message is sent from one cell to the next. When we learn something new, the synaptic connection between the cells is strengthened by a process known as synaptic plasticity. Unfortunately, in many neurodegenerative diseases, some of the plastic changes in our brain are impaired and the right connection between brain cells doesn’t happen.

Dr. Parsons’ most recent research assesses the effect of the HD-causing mutation on synaptic communication in a brain region known to play a critical role in cognitive function — the hippocampus.

“When we learn something new, we are changing the strength with which our brain cells communicate with each other. It is known that the HD-causing mutation impairs synaptic plasticity in learning-related brain areas such as the hippocampus, but we don’t really know why. By focusing on areas outside of the motor areas affected in HD, we may discover new disease mechanisms that have previously been overlooked. My goal is to pinpoint precisely where, when and how the fundamental phenomenon of synaptic plasticity fails in the HD brain,” explains Dr. Parsons. “I’m hoping this research will enhance our basic understanding of the non-motor components of HD and help guide therapeutic strategies aimed at treating HD-associated cognitive decline.”

With HD, there is a single genetic mutation that causes the disease, and this mutation accounts for all cases of HD. The disease generally does not manifest until mid-life, although you can get a relatively simple genetic
test done at any time to determine whether or not you have the mutated gene. “The silver lining from all this, is that researchers are provided with a unique advantage in that mutation carriers can be identified well before the mutation has had a chance to start killing brain cells, and a relatively large window exists in which the disease progression can be studied and therapeutics can be administered. We can use this knowledge to try to understand what goes wrong in the brain before the cells die.” Dr. Parsons says. “It’s thought that by preventing these initial alterations, we can prevent, or at least delay, the subsequent cell death and symptom onset.”

Dr. Parsons, a three-time Memorial alum (B.Sc. Honours ’03, M.Sc. ’06 PhD Distinction ’11), recently received a Huntington Society of Canada Navigator Award for this research.

HEALTHCARE PROVIDERS AGAINST POVERTY

Alison Hamilton is very passionate about community organizations and social justice. The Ontario native and self-professed lover of all things Newfoundland and Labrador, is a second-year MD student.

Aside from her studies and all the volunteering, Alison is a member of the Newfoundland and Labrador chapter of Healthcare Providers Against Poverty (HPAP). HPAP raises awareness of the impact of poverty on health and engages health care workers in recognizing inequalities, making the most of available resources and using their voices to advocate for social and political change.

“I’m so lucky to have grown up the way I did with all my needs met, in a stable, loving home with a lot of support and resources available to me and sometime around high school I felt this weight on my shoulders; I felt a responsibility to give back where I could. This is how I can do it while I’m still a learner, before I’m working as a doctor in health care,” says Alison, who was also the director of the Monte Carlo Charity Gala organizing committee in 2016; an event that raised more than $80,000 for four local charities. In addition, Alison is part of the Access Clinic, a physician-mentored, student-led initiative aimed at making health care more accessible to underserved populations in St. John’s.
HPAP is also a cause that Alison had no problem getting behind. According to Statistics Canada, 13 per cent of Canadians are considered to be living in a low-income household and poverty increases mortality rates by 18 per cent. Meanwhile, statistics from Food Bank Canada show that food bank use has increased by 26 per cent since 2008, and was visited by 1.7 million Canadians in 2016. Here in NL, food bank use is twice the national average.

“Poverty has a huge impact on the health of thousands of people in Newfoundland and Labrador. We learn in our classes over and over again about the importance of the social determinants of health. So an important part of health promotion and primary prevention of disease involves advocating for energy and resources to be put towards these issues,” notes Alison.

Founded by family medicine resident Dr. Melanie van Soeren (B.Sc., MD) and Priscilla Corcoran Mooney (MSW, RSW), Alison has been involved with HPAP-NL since the first meeting in May 2016 and has now taken on the role of medical student representative. “So far we’ve had four other medical students involved, along with two residents. There are also physicians, social workers, occupational therapists and other health providers involved,” she notes. HPAP-NL is still very new but their next step is to reach out to local community organizations to “identify specific areas of need and barriers to health care that we might be able to start working on improving.”

2016 MONTE CARLO

The 40th Monte Carlo raised over $80,000 for four local charities. The theme was Wonder and Fantasy (Alice in Wonderland) and included a candy bar, silent auction, croquet game, gambling and, for the first time, a History of Monte Carlo room. About 640 people attended.

“The organizations we support take such an active role with us as new learners. They come and talk to our class about the work they do with vulnerable populations. They’re teaching us and it’s so nice to be able to give back to them.” - Alison Hamilton, 2016 Monte Carlo Gala director
CHOOSING WISELY NL TACKLES ANTIBIOTICS USE IN NEWFOUNDLAND AND LABRADOR

More antibiotics are being used in Newfoundland and Labrador than anywhere else in Canada. According to the Canadian Antimicrobial Resistance Surveillance System report for 2016, doctors in this province handed out 33 per cent more antibiotics than in Saskatchewan, the second highest user.

OVER USE CAN CAUSE MORE HARM THAN GOOD

Antibiotics have side effects and using them when they are not needed encourages the growth of bacteria that are resistant to the medicine. In fact, more and more drug-resistant bacteria are appearing in Canada every year.

Choosing Wisely NL, an initiative hosted at Memorial University and developed in collaboration with the Newfoundland and Labrador Medical Association, is reaching out to patients and health-care providers to help them start the conversation about reducing antibiotic use.

Dr. Natalie Bridger is an assistant professor of pediatrics at Memorial University and a pediatric infectious diseases specialist. In the following video, she explains why antibiotics are not always necessary when someone is sick.

http://bit.ly/2kEazZx

To help combat the spread of antibiotic-resistant bacteria, Choosing Wisely NL has started a campaign to implement two key recommendations. First, patients should not use antibiotics for upper respiratory infections that are likely viral, such as colds, influenza-like illnesses or most kinds of sinus infections of less than seven days duration. The second recommendation is to not use antibiotics to treat bacteria in the bladder in older adults unless specific urinary tract symptoms are present.
ENCOURAGING CONVERSATIONS

“We will be working with health-care practitioners to encourage them to prescribe fewer antibiotics; with nursing homes and hospitals to follow best practices so that bacterial resistance does not become a major public health problem,” said Dr. Patrick Parfrey, Choosing Wisely NL leader.

For more information about Choosing Wisely NL and the latest campaign about antibiotic usage, visit here: www.choosingwiselynl.ca.

MORE THAN A SCHOLARSHIP

When MD students receive The Dr. Peter and Mrs. Deborah Collingwood Scholarship, they get more than financial help. They get a mentor and five course dinners, which, according to the recipients, is one of the best parts.

Fourth-year student Sachin Waghmare says he was truly surprised to receive the award when he entered medical school in 2013. “As many people realize, attending medical school is a significant financial burden, as it is a full-time job for four years during which one is not generally paid,” he said. “Dr. Peter Collingwood and Mrs. Deborah Collingwood are truly generous, kind, heart-warming individuals. They not only provide a significant amount of money towards education for their award recipients, but also host the scholarship winners at their own home for a fantastic, extravagant five course (or more) meal each year. Personally, I have come to look forward to this evening every year.”

Sachin also really appreciates that the Collingwoods are truly interested in getting to know their scholarship winners and investing in their success. “I am also fortunate to have had the opportunity to work with and learn from Dr. Collingwood during this school year. I have not met anyone more passionate about his job or more pleasant at work than Dr. Collingwood.”

The Dr. Peter and Mrs. Deborah Collingwood Scholarship in Medicine is awarded each year to a Newfoundland and Labrador student, who is entering their first year of the MD program. The scholarship is renewable for four years. Six recipients have benefitted so far. Ian Lehr was the fifth recipient of the award. “This scholarship definitely helps with this financial burden, allowing me to focus more on my studies
and not worry as much when it comes to that side of the program. Not only does it help financially, but it also helps with my confidence as a student, knowing that I am deserving of an award helps continue to motivate me to perform at my best.”

For Dr. Collingwood, whose gifts to the faculty have reached nearly $500,000, he doesn’t see it as just a gift to students. “We’ve gotten to know the students very well which has been very good.”

Dr. Collingwood wants to give students the opportunities that he had going through medical school. “It’s good for them to know that there’s people that support them and also interested in how they do,” he says with a smile. “One of the recipients recently gave me the best compliment I’ve ever had. He said ‘I’ve never seen anybody enjoy their job as much as you.’”

Another recipient, Josh Bragg, is in his third year. “The scholarship has helped me a lot financially, especially considering that it is divided into four allotments and given each year in the program.” As for the annual recipient dinner at the Collingwood’s house, Josh says, “It is always a good time for the students to get to know each other and to discuss our thoughts and plans for our future careers. The Collingwood’s always provide great food and great insights into the field of medicine.”

“It’s so much more than just the financial help. I graduated in the spring of 2016 and the scholarship helped me get there,” says Dr. Loni Slade. “Dr. Collingwood is a great host/entertainer and an even more fantastic mentor. Even though he is not directly involved in selecting the recipients, he and his wife sure know how to make each of us feel special and incredibly humbled and appreciative to be the recipient of their award.”

“LIFELONG PASSION

“They’re always coming by asking advice. So, to me, it’s been a real payback. You think of it as supporting them but I think of it in the reverse. It’s been really beneficial.”

Dr. Peter and Mrs. Deborah Collingwood.
Memorial alum, Dr. Christopher Patey (BSc. (Hon) MD CCFP FCFP) has a lot on his plate.

Aside from a busy family life with three young kids, Dr. Patey is the site clinical chief of emergency in the Carbonear Emergency Department, a part time rural family physician at the Baccalieu Trail Clinic, and a selectives coordinator and clinical assistant professor with the Disciplines of Emergency Medicine and Family Medicine. But he still found time to give.

Dr. Patey recently returned from a week in Nicaragua, armed with nothing but a stethoscope, and it changed his views on life and care. Here’s his perspective on the experience:

A REASON TO SMILE
By Dr. Christopher Patey

Arriving in Managua, Nicaragua is typical of flying into other underdeveloped nations. A hot overcrowded airport, a poorly dressed boy canvasses the well-to-do foreigners and stacks of overloaded buses securing rooftop suitcases. The driving force for our visit is Dr. Carlos Enriquez who is obviously passionate and organized. He has coordinated with a local foundation at our site of work for the upcoming week.

We are quickly ferried two hours north. We travel on a well-paved highway to Chinandega, the site of our mission. Early clinics overflow with plenty of children with nagging coughs from open fire exposure and adults with non-managed chronic diseases. Thankfully, they all appear well nourished. It is reassuring that we primarily provide free medical advice and reassurance. We realize
early in the process that patients are slightly filtered when they reach our larger centre. Without free access to transport it is expensive for others. They do arrive in need, however not the truly impoverished.

Working as a physician team, Dr. Tonja Stothart and I learn early that you cannot apply modern medicine here. A visit to the local pharmacy reveals some of our early inadequacies, as some of our early prescriptions would require three months of income. Patients unfortunately too, have overlying faith in first world technologies as they hand you a glossy ultrasound image attached to a worn, creased undecipherable report. They believe the answer is there however they cannot interpret it. The cost of physician interpretation is too high and abnormal summaries become an obvious concern.

After multiple days in clinic, we arrange an impromptu survey trip to the outlying city. Our goal is to determine true context. We are ferried by one spectacular individual, Laura Callejas, who has true dedication to improving conditions for the Nicaraguan people. She exudes energy and conviction, and will also serve as our Spanish translator. Off the paved modern highway we enter decrepit hurricane washed streets. Pigs and dogs roam freely. Chickens are everywhere. Being the rainy season the green hues mask the filth and poverty from the highway.

Laura has coordinated with a catholic priest who immediately leads us when we exit our vehicle. Arriving at a hollow, cinderblock church we are greeted by children who were reading distantly in the corner. As we cross the gravel floor, I unconsciously take notice of the atypical shiny galvanized metal roof. Our guide explains that it is has taken twelve years to create this community hub. As we pass through the side door I am taken back by the mass of individuals quietly awaiting our arrival.

We immediately hold an open air clinic with only a stethoscope in hand. The older members of the community are surprisingly prioritized while lethargic children are quietly coughing in mother’s arms. We quickly assess numerous patients with longstanding illnesses. We meet a lovely lady complaining of severe upper neck pain. We understand she has a lifetime of tortilla making. I instantly think of my grandmother who daily crafted a batch of Newfoundland three-bun bread. However, thanks to Sir Wilfred Grenfell in Newfoundland her medical options were obvious. We take an opportunity to visit her home and offer suggestions to improve her work environment. Always gracious she cannot let us leave without a fresh tortilla.
Driving back from our short visit we are pointed to other crowds alongside the highway under palm leaf enclosures. Apparently they were informed that there could be the possibility of a physician clinic and they had assembled in case we had extra time. It was emotionally overwhelming to drive past them.

We fortunately do make more time and devote ourselves to a return visit. We dispense medications and assess more patients. We walk the roads and ask families whether they have other immediate needs. We treat kids with rashes on the weathered street. We discuss diabetes and hypertension through broken Spanish. We auscultate sun-tanned skin through a barbed wire fence. We also ask visible family members about other individuals who may require care. It is never declined and always warranted.

Life is not easy and I believe perspective is essential. Nicaraguan people are overwhelmingly trusting, friendly and polite. They accept and always over appreciated our medical reassurance. They fully require what we often undervalue and take for granted as Canadians. When I look at a street picture with three beautiful kids I feel their unbelievable, terrible lot in life. I also see my three young children. For a candid photo these children have been asked to smile in Spanish. But it is sadly absent. And above my conditioned camera smile are tears that have been quietly wiped away. My experience in Nicaragua is one that I am determined to repeat and improve upon.

A CONVERSATION WITH DR. CHRISTOPHER PATEY

Were you prepared for what you saw in Nicaragua?
With previous medical experiences in other countries, I was familiar with the feel of developing world and international medicine. However, with every country being different, the short period of community outreach medicine to the impoverished areas of Nicaragua was extremely rewarding and definitely eye opening. The close, intimate experience of treating truly impoverished individuals in their simple, but well-tended homes we were overwhelmed with their respectful nature and thankfulness.

Did the MD program here instill a desire to do this type of work? If so, how?
While in Memorial medical school, through self-organized selectives and electives, I was fortunate to experience international medicine. Completing surgery in Ireland and Sweden and also emergency medicine in South Africa and India, I quickly gained a broadened view of medicine for life.
These early golden opportunities in medical school definitely assisted with my comfort and continued desire to work in underdeveloped countries. One elective was partially supported by Dr. Henry Gault, who managed to positively impact the lives of three eager medical students. Dr. Gault graciously partially funded our electives in India where I completed a month of emergency medicine in Bangalore. It was here that I gained extensive experience in trauma medicine, became aware of true health inequalities and learned to always be extremely thankful for our fortunate lives in Canada.

**What was the hardest thing about an experience like this?**
The hardest thing is only being able to devote a relatively short time there. With significant work and family commitments at home it is next to impossible to be away for longer periods of time. With so much need and having the skills to help those who would otherwise receive little or no health care, it is hard to return to Canada and not be affected.

**What was the best thing about it?**
An opportunity to directly help those in true need. It is also refreshing to return to the basics of medicine, often only standing with a stethoscope.
LEADS TO STUDENT BURSARY

When Dr. Mary-Frances Scully talks about her late husband, Dr. Châu Nguyên, she cannot say enough about his dedication to patients and his passion for infectious disease. They were so important to him that Dr. Scully established an endowed bursary in his name to help increase the knowledge of infectious disease in the province.

Dr. Nguyên was born in Huế, Central Vietnam and became one of “the Vietnamese boat people,” arriving in Canada in 1975. According to his wife, Dr. Nguyen loved life. He had a very large family with 14 siblings and he often told stories about his family. Despite the hardships, out of the 15 children, four are physicians and all of them attended university.

While Dr. Nguyên was studying internal medicine at the University of Toronto, he developed a lifelong passion for clinical infectious diseases and tropical medicine. He later became an assistant professor with the Faculty of Medicine and an adult infectious disease specialist at the Health Sciences Centre. He practiced as a clinical infectious disease specialist in St. John’s for 10 years and was known for his commitment to his patients and to teaching.

Dr. Scully, an associate professor of medicine (hematology), says her husband was very interested in clinical work because he loved seeing patients. “I remember him going in in the middle of the night because a patient was coming in from outside St. John’s. They had a very severe type of malaria and a very high level in their blood which is potentially dangerous. He was a person who liked a regular life but you could call him any time of day or night if you thought it was a case of malaria and he would go running in.” He had a particular interest in tropical diseases like malaria as well as HIV and tuberculosis.

Dr. Scully adds that her husband never turned off his pager. “I can think of very few people who would be so happy to be called to the hospital. He really did enjoy being on call. He loved seeing patients.”
Dr. Scully started the bursary in memory of her husband because she believes we need more people in infectious disease in the province. “This is my small part to help with that. By having a bursary and getting people interested, it might help grow the department.” The bursary offers medical students exposure to infectious diseases training not available in St. John’s. And she chose a bursary instead of scholarship because her late husband “had a lot of sympathy for any students who struggled financially.”

The Dr. Châu Nguyên Bursary will be given annually to either a student in the undergraduate medical education program or a resident in the postgraduate residency program who is taking a national or an international elective in infectious diseases. Applicants must also show interest in and a passion for a career in infectious diseases.

HUMANITARIAN WORK

Besides infectious diseases, Dr. Nguyen’s other passion was humanitarian work. So, on Sept. 12, 2015, Dr. Scully organized a symposium Shining a Light on Hope and Peace: Building More Nurturing Societies, also in memory of her husband.

The symposium was open to anyone to attend and focused on identifying issues encountered by vulnerable populations, such as those who have been traumatized by violence, bullying, abuse, poverty and other disadvantaged situations. It highlighted how Memorial University has influenced national and international issues and opened a discussion on what can be done to provide support to disadvantaged individuals provincially, nationally, and internationally. Nearly 150 people attended.

NEW FACILITY TRANSLATES RESEARCH

September 12, 2015

Shining a Light on Hope and Peace
Building More Nurturing Societies
Dr. Ann Dorward believes the new Animal Resource Centre (ARC) being planned for Memorial University is a big step forward for research and the health of people of Newfoundland and Labrador and even beyond.

“The new ARC will allow Memorial to perform important research in a variety of areas, including cancer, diabetes, mental health, obesity, stroke, osteoporosis, multiple sclerosis and many others,” says Dr. Dorward. Recently, research such as this has led to discoveries related to retinal disease and blindness, pediatric cancers and neonatal nutrition. “As research advances or faculty interests shift, these research areas may also shift to different aspects of health and disease, but the ARC has the versatility to support evolving interests and needs.”

On Sept. 6, 2016, more than $14 million in new federal funding was announced to expand Memorial’s research infrastructure. Part of that investment will replace two of Memorial’s aging animal research care facilities. Memorial will provide an additional $15.6 million for the project.

Dr. Dorward is a mouse genetics researcher studying heritable conditions ranging from reproductive development to ovarian cancer. She, along with many of her colleagues in the Faculty of Medicine, participate in focused user groups for planning the ARC. There is also a steering committee, on which Drs. Gary Paterno and Reza Tabrizchi represent the Faculty of Medicine.

At the funding announcement Dr. Jennifer Keyte, director of Animal Care Services and university veterinarian, commented on Memorial’s recent research milestones. “Memorial has had tremendous success in securing funding for sub-cellular research, and with the clinical delivery of medicine to the province, as we’ve seen with the opening of the Craig L. Dobbin Genetics Research Centre and the Clinical Learning and Simulation Centre.”

In addition to supporting the Faculty of Medicine’s biomedical sciences, medicine, surgery and genetics departments, the new ARC will also house research from the Faculty of Science’s psychology and biochemistry departments, and the School of Pharmacy. “This Strategic Infrastructure Funding speaks to ‘the piece in the middle,’ the ability to translate findings from cell to patient,” added Dr. Keyte. “A single new centralized comparative medicine facility will greatly enhance the ability of Memorial’s biomedical, scientific and pharmaceutical research
community to collaborate and innovate together, nationally and internationally,” she notes.

Dr. Dorward says the new facility will modernize the animal care space to enable excellent quality research in accordance with Canadian Council of Animal Care standards. “The new Animal Resource Centre will be an independent structure with customized and independent environmental controls, well laid out educational and administrative spaces, animal housing rooms and experimental spaces, to suit the needs of our current animal researchers, but with some built in versatility, to shift with the interests and needs of incoming researchers.”

Dr. Dorward says the new centre will also have another perk. “An accredited Animal Resource Centre will certainly be an attraction for faculty with new research initiatives involving animals, and those new research programs mean a lot of great opportunities for graduate students at Memorial.”

“The new ARC will allow Memorial to perform important research in a variety of areas.”

Save the dates for Reunion 2017: July 28-29
Catch up with classmates and celebrate successes.

LOOKING FORWARD TO CELEBRATING WITH YOU!

Victoria Ridgley-Januszkiewicz was working on her undergraduate degree in kinesiology when she realized she wanted to become a doctor and during the Faculty of Medicine's White Coat Ceremony, she knew that that reality is coming even closer to happening.

The White Coat Ceremony is a special event for all medical students in the first year of the Doctor of Medicine (MD) program. It is the first event after entering medical school that officially welcomes them into the medical profession. Students are presented with a short white coat that they wear during clinical skills sessions.

Ms. Ridgley-Januszkiewicz, who is also completing a master's in clinical epidemiology at Memorial, is the class president for the new MDs who will graduate in May 2020.

"Being at the White Coat Ceremony was so exciting and it meant a lot to share the experience with my family," said Ridgley-Januszkiewicz. “I’ll be the first physician in my family and having my parents here to share in the ceremony is the first opportunity they’ve had to join me on this journey in becoming a doctor.”
Dr. Margaret Steele, dean of medicine, welcomed guests and provided some historical knowledge about the origins of the white coat that has become a symbol associated with the term doctor. She explained that the first ceremony was held in 1993 in New York and since then, most medical schools in North America undergo a White Coat Ceremony at the beginning of medical school for each class of students. The ceremony concluded with the medical students reading the Declaration of Geneva.

The 16th White Coat Ceremony took place on Sept. 16, 2016 and families, friends, faculty, staff and distinguished guests were in attendance.

The class of 2020 is the fourth group of medical students in an expanded class size that began in 2013 when the medical school expanded the class size of its four-year MD program from 60 to 80 students. The additional 20 students in each year are all from Newfoundland and Labrador. This expansion was made in response to the needs of the province to educate more doctors for communities in rural, remote and urban areas.
GRADUATE STUDENT NEWS

PHD STUDENT FIRST TO RECEIVE MAJOR INTERNATIONAL AWARD

Ms. Yun Zhu, was named by the Chinese Ministry of Education as a recipient of the 2016 distinguished overseas Chinese PhD students. The award is primarily based on academic excellence.

Yun is a third-year PhD student (epidemiology) in the Division of Community Health and Humanities under the supervision of Drs. Peter Wang, Guangju Zhai, and Bharati Bapat (University of Toronto). The topic of Yun’s thesis is “Vitamin D receptor and calcium sensing receptor polymorphisms and colorectal cancer survival in Newfoundland population.”

“This award will serve as a means of encouragement for me to continue to pursue excellence in my attitude, work and academics,” said Yun, who also has a master's of science in medicine from Memorial University as well as a master's of science in medicine and a bachelor of medicine in public health, both from Tianjin Medical University.

This award comes with $6,000 US and Yun is the first graduate student at the Faculty of Medicine receives this award.

TOP PRESENTATION

Dr. Vipin Shankar, a post-doctoral fellow in Biomedical Sciences at the Faculty of Medicine, received a certificate for top presentation at an international conference, Photodynamic Therapy and Photodiagnosis.

Dr. Shankar’s presentation was on photodynamic therapy (PDT); a treatment to destroy tumors by exposing to a specific wavelength of light. PDT is approved to treat patients with different types of cancer and while PDT is a non-invasive treatment compared to surgical tumor removal and has no long term side effects, its efficacy can be limited depending on tumor size and location.

Dr. Shankar has recently identified a novel compound that promotes the efficacy of PDT. His research progress was presented at the international meeting in Nancy, France in October 2016 and was awarded with the
best overall poster presentation award. “It was a great experience presenting our data to the PDT community and I felt happy when the PDT community showed interest in our work, and accepted our results,” he says.

“We were not expecting to get a prize for the poster and it came up as a surprise,” noted Dr. Shankar. “It took a while for me to realize that I had won it. After the announcement, many prominent scientists came up to me and congratulated me and offered advice on how to take the project to the next step and further. This was also a great experience. We also got offers for collaboration from many scientists.” Dr. Shankar plans to further bring his research into the preclinical stage in preparation for clinical trials.

PEDIATRIC RESIDENTS RESEARCH DAY 2017

On Jan. 26, the Discipline of Pediatrics held its 2017 Pediatric Residents Research Day. There were 11 presentations, presented by second and fourth year pediatric residents. “The range of topics studied reflects the diversity of issues impacting children’s health and pediatric training. Many of the projects will have a direct impact on how care is provided to children in our province,” said Dr. Roger Chafe, director of the Janeway Pediatric Research Unit.

Dr. Jo-Anna Hudson was awarded the prize for the best project by a second year resident. Dr. Hudson is investigating extracellular vesicles in pediatric patients who have acute lymphoblastic leukemia. Her supervisors were Drs. Paul Moorehead and Sherri Christian.

Dr. Amanda Marsh was awarded the prize for the best fourth year project. In her project, Dr. Marsh developed, disseminated and evaluated the use of preprinted physician orders for common cases treated within the Pediatric Intensive Care Unit. Such forms have the potential to standardize care and reduce adverse events. Her co-investigators on the project were Brittany Churchill, Sarah Strangemore, Dr. Jill Barter, Dr. Shahzad Waheed and Dr. Kristina Krmpotic.
NEW FACULTY

JANUARY-DECEMBER 2016

Thomas Belbin, Oncology
Jessica Bishop, Family Medicine
Graham Fraser, BioMedical Sciences
Curtis French, Genetics
Timothy Hierlihy, Psychiatry
Simon Kirby, Laboratory Medicine
Michelle Levy, Family Medicine
Masoud Mahdavian, Medicine
Maisam Najafizada, Community Health & Humanities
Kathryn Sparrow, Anesthesia
Margaret Steele, Psychiatry
George Zahariadis, Laboratory Medicine

FACULTY AWARDS

Dr. Noel O’Regan received a 2016 Certificate of Merit from the Canadian Association for Medical Education, recognizing and rewarding faculty committed to medical education in Canadian medical schools.

Dr. Sharon Peters is the 2015 staff recipient of the Resident Doctors of Canada (RDoC) Mikhael Award for Medical Education for her work in the General Internal Medicine program and service as vice dean. The RDoC Mikhael Awards for Medical Education honour individuals who have contributed meaningfully to improving undergraduate and postgraduate medical education in Canada.

Dr. Ashley Miller is one of two recipients of the 2016 Sandra Banner Student Award for Leadership. The award, which recognizes the exceptional leadership of one undergraduate medical student and one postgraduate medical trainee, was presented to Dr. Miller at the Canadian Conference on Medical Education. Dr. Miller is a fourth year resident in General Internal Medicine at Memorial, where she completed her core internal medicine residency training.

Dr. Pauline Duke has been named as a 2016 Family Physician of the Year by the College of Family Physicians of Canada (CFPC). Each year the CFPC honours ten dedicated family doctors—one from each province—who provide exceptional care to patients, contribute to the well-being of their communities, and are committed to research and the education of future generations of family doctors. These awards are also known as the Reg L. Perkin Awards. Dr. Duke also received the provincial 2016 Family Physician of the Year award.
from the Newfoundland Chapter of the CFPC. **Dr. Wendy Graham**, associate professor of Family Medicine, and **Dr. Christopher Patey**, clinical assistant professor of Emergency Medicine, received Awards of Excellence. **Dr. Russell Dawe** received the Sadok Besrour Grant for Global Health Projects.

**Dr. Don McKay** is the latest recipient of the 2016 Distinguished Service Award from Hypertension Canada. Dr. McKay, who is the associate dean of Undergraduate Medical Education and a professor of physiology with the Division of BioMedical Sciences, has worked with the organization for more than 25 years.

The inaugural Dr. Ian Rusted Professor in Medical Education has been awarded to **Dr. Sharon Peters** recognizing her lifelong commitment of advancing medical education at Memorial. The Dr. Ian Rusted Professor in Medical Education is awarded to a recognized leader in medical education and a driving force for quality and innovative education.

**Dr. Proton Rahman** is the 2016 recipient of the Distinguished Investigator Award from the Canadian Rheumatology Association. The award is for outstanding contribution to rheumatology and is presented to a rheumatologist who has significantly furthered research in Canada through the development of a major research program. Dr. Rahman is associate dean, clinical research, and University Research Professor in the Faculty of Medicine as well as a Memorial alumnus.

**Dr. Roger Butler** has been selected to receive the 2016 Award of Distinction in Health Care of the Elderly. This award is a joint initiative of the College of Family Physicians of Canada and the Canadian Geriatric Society. The award recognizes significant contributions and excellence within family medicine in the care of the elderly.

**Dr. Cathy MacLean** was chosen by the residents of the Family Medicine Residency Program to receive the 2015-2016 Dr. Gus Rowe Teaching Award, given to honour Dr. Gus Rowe for his contributions to the Discipline of Family Medicine and to medicine in Newfoundland and Labrador.

**Dr. Angus Hartery**, program director, radiology, won a 2015 Royal College of Physicians and Surgeons of Canada Mentor of the Year Award. Dr. Hartery has worked with the organization for more than 25 years.
Celebrate 50 years with us

We are very excited to be celebrating our 50th anniversary in 2017.

We have seen tremendous growth in our undergraduate students, post graduate students, graduate students, faculty and staff. We are very proud of our contributions to our community in enhancing health care through education, research and direct patient care.

As part of the celebration, we would love to hear from you. Here’s how you can be part of it:

- We are highlighting stories from our alumni regarding their admission experience and the impact acceptance to medical school had on their life. If you would like to share your story, please contact Wanda Parsons, assistant dean for Admissions, at Wanda.Parsons@med.mun.ca.
- As part of our celebration, we are planning a Mixer for alumni, faculty, students and staff and we would love to showcase some memorabilia from the last 50 years! If you’d like to contribute a keepsake (on loan, of course), please contact 50@med.mun.ca.
- The Celebration Committee welcomes all ideas and suggestions. Please forward to the dean’s office to the attention of Dr. Cathy Vardy, 50@med.mun.ca. We look forward to hearing from you.

For more on the celebration, visit www.med.mun.ca/50. Don’t forget to check back over the next couple of months for updates! You can also connect with us on Facebook www.facebook.com/MUNMedicine and on Twitter @MUNMed.

2017 IS A YEAR OF CELEBRATION.

50 years ago...
Was the first successful heart transplant.
Sonny and Cher released The Beat Goes On.
The Faculty of Medicine was established.

We are celebrating half a century of transforming health care for Newfoundland and Labrador. We’re really proud of that.

For more information:
www.med.mun.ca/50

#MUNMED50