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CAPHC SUPPLEMENT

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CAPHC

CANADIAN ASSOCIATION OF PAEDIATRIC HEALTH CENTRES
ASSOCIATION CANADIENNE DES CENTRES DE SANTÉ PÉDIATRIQUES

FOCUS IN THIS ISSUE

PAEDIATRICS/AMBULATORY CARE/ NEUROLOGY/HOSPITAL-BASED SOCIAL WORK:

Paediatric programs and developments in the treatment of paediatric disorders including autism. Specialized programs offered on an outpatient basis. Developments in the treatment of neurodegenerative disorders, traumatic brain injury and tumours. Social work programs helping patients and families address the impact of illness.

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The Zika Virus:

What one Canadian researcher is doing to help

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First Canadian breast cancer program to receive prestigious accreditation

By Elizabeth McCarthy

North York General Hospital's interdisciplinary Breast Cancer Care program, includes registered nurses and advanced practice nurses/navigators, surgical, medical and radiation oncologists, radiologists, patient advisors, pathologists, geneticists, diagnostic imagining and administrative and quality improvement colleagues.

North York General Hospital's (NYGH) Karen, Heather & Lynn Steinberg Breast Services is the first comprehensive breast cancer care program in Canada to receive full accreditation from the National Accreditation Program for Breast Centers (NAPBC), a program administered by the American College of Surgeons.

"Our cancer surgery wait times are the best in the province, we provided radioactive seed localization as the standard care before anyone else in the GTA, and North York General was the first hospital along the eastern seaboard of North America to use tomosynthesis for breast imaging," says Dr. Nancy Down, Medical Director, Breast Integrated Care Collaborative and Division Head, General Surgery, NYGH. "Inviting the NAPBC to review our breast cancer program is one more step we have taken to demonstrate our commitment to excellence."

"There is more pressure today from patients and families to have accreditation processes performed for various healthcare activities, including multidisciplinary breast centres," says Dr. James Connolly, Chair, NAPBC and staff physician, Beth Israel Deaconess Medical Center in Boston MA. "North York General Hospital is excellent. We (NAPBC) have 29 standards and they passed every standard."

Breast Cancer Care at NYGH is provided through an Integrated Care Collaborative (ICC). An ICC is a system of health care providers, clinics and services focused on breast cancer patients and their families. This focus means that patients receive evidence-based care, following best practices in a multi-disciplinary, collaborative environment.

"North York General Hospital is performing high-level care. They're practicing evidence-based medicine. They're excelling and embracing the standards of a collaborative approach to care, said Dr. Terry Sarantou, Surveyor, NAPBC, and staff physician, Levine Cancer Institute, Carolinas HealthCare System.

Accreditation by the NAPBC is only given to those centres that have voluntarily committed to provide the highest level of quality breast care and that undergo a rigorous evaluation process and review of their performance. During the survey process, the centre must demonstrate compliance with standards established by the NAPBC for treating women who are diagnosed with the full spectrum of breast disease. The standards include proficiency in the areas of: centre leadership, clinical management, research, community outreach, professional education, and quality improvement. A breast centre that achieves NAPBC accreditation has demonstrated a firm commitment to offer its patients every significant advantage in their battle against breast disease.

Receiving care at a NAPBC-accredited center ensures that a patient will have access to:

- Comprehensive care, including a full range of state-of-the-art services,
- A multidisciplinary team approach to coordinate the best treatment options,
- Information about ongoing clinical trials and new treatment options,

And, most importantly,

- Quality breast care close to home.

"One out of nine Canadian women will be diagnosed with breast cancer in their lifetime. Even with the research and treatment gains that have been made, breast cancer remains a complex disease requiring a team of experts, like the team we have at North York General, working together towards the best possible outcomes," says Dr. Tim Rutledge, President and CEO, North York General Hospital. H

Elizabeth McCarthy is a Senior Communications Specialist at North York General Hospital.

Celebrating patients:
Showcasing courage and resilience

By Stefanie Kreibe

On May 30, 2016, Mackenzie Health recognized Celebrating Patients Day: Your Stories Inspire Us to acknowledge patients and their health experiences. The highlight of the day was an evening celebration featuring patients sharing their health story, followed by a panel discussion with special guest host Dale Curd from CBC TV's popular show, Hello Goodbye.

In the spring, Mackenzie Health encouraged patients to come forward to share their personal health stories. Six patients were selected to participate in this special event and tell their story in their own words. Stories were pre-taped to allow patients to sit down with Dale Curd, to share their feelings on being a patient and reflect on their experiences.

"Cancer is only a chapter, it's not the whole story," says Debbie Davis, of her diagnosis and cancer treatments. Diagnosed with lung and subsequently brain cancer, she believes sharing her story brings inspiration to others and offers them hope. Mackenzie Health believes in the power of inspiring patient stories like Debbie's and their ability to help and heal others facing similar health issues.

When Debbie's story was shared at the evening event, not a dry eye was in the crowd as she shared her experience and diagnosis while always maintaining her positive perspective and realistic attitude. Following the event, Debbie said "It was quite an experience sharing my story on video for others to see. My family and I really enjoyed the evening despite the fact some tears were shed upon seeing the video for the first time. I hope that it will inspire others to keep a positive attitude despite the challenges that each individual faces when trying to cope with a particularly devastating diagnosis."

Debbie Davis, shared her health story at Mackenzie Health's Celebrating Patients Day; Your Stories Inspire Us event.

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Some Canadians unaware of increased risk of undiagnosed Hepatitis C

If you were at an increased risk of having a potentially devastating – but curable – disease, would you want to know? This may be the case for over 100,000 people in Canada who may be living with undiagnosed hepatitis C – a blood-borne virus that attacks the liver. The little-known reality is that the greatest number of Canadians with hepatitis C are those born between 1945 and 1975. However, a recent survey showed over 80 per cent of Canadians in this age bracket are unaware of their increased risk and only one quarter have been tested.

It is believed that hepatitis C transmission spiked after World War II, through a possible combination of an increase in medical procedures, the use of glass and metal syringes, and contaminated blood products (prior to screening of the blood supply).

This was the case for Sharon Rider of Acton, Ontario, who was shocked to be diagnosed with hepatitis C nearly 23 years after she contracted the virus from a blood transfusion during surgery. Sharon only experienced her first symptoms many years after her initial diagnosis.

"I know there are others like me out there who are not aware of their personal risk factors for hepatitis C," Sharon says. "It's frightening to think of those undiagnosed people, whose livers could be deteriorating, and who could be putting their loved ones at risk," Sharon says.

As part of this 1945-75 demographic, some multicultural populations are also at increased risk of undiagnosed hepatitis C, particularly if they came to Canada from countries where the illness is more common.

The little-known reality is that the greatest number of Canadians with hepatitis C are those born between 1945 and 1975.

Hepatitis C rates are higher in many countries in eastern Europe and Latin America, countries of the former Soviet Union, and certain countries in Africa, the Middle East, and Asia, which is why the Canadian Liver Foundation is calling on members of these high-risk cultural groups in Canada to also be tested.

There are approximately 250,000 Canadians who have hepatitis C, and it is estimated that 44 per cent of people with chronic hepatitis C in Canada don't even know they have the virus.

Unfortunately, one of the challenges with hepatitis C is that symptoms often don't appear until the liver has already sustained severe damage. Not only is untreated hepatitis C responsible for causing an increase in liver cancer, but it is also the number one cause of liver transplants, underscoring the importance of screening, early detection and treatment.

Since hepatitis C can be difficult to identify, being aware of your personal risk factors is crucial, particularly for those Canadians born between 1945 and 1975. The Canadian Liver Foundation urges all adults born in this age bracket to be tested for the virus. The hepatitis C antibody test is a simple blood test and covered by all provincial health care plans and available from your doctor. With recent advancements in treatment, the vast majority of patients are able to achieve a cure relatively quickly with minimal side effects.

For more information about hepatitis C, and to access the Canadian Liver Foundation's hepatitis risk questionnaire available in English, French and Chinese, visit www.liver.ca/couldyouhaveit.

Shift to Safety initiative launched to reduce incidence of patient harm

Shift to Safety, a new initiative aimed at reducing the number of harmful and sometimes deadly mistakes that occur in Canadian healthcare facilities each year, was recently launched by the Canadian Patient Safety Institute (CPSI).

Shift to Safety is the source for patient safety information in Canada for members of the public, healthcare providers and healthcare leaders. This national database of essential information and advice will help you to navigate the healthcare system and advocate for patient safety.

Shift to Safety will help:

- Patients and their families shift to advocate for their healthcare safety.
- Healthcare providers shift to prioritize safety when caring for patients.
- Leaders in healthcare organizations shift to create a positive patient safety culture.

Shift to Safety aims to answer the most pressing questions in patient safety:

- How do I prevent harm?
- How can I respond when harm happens?
- How can I learn from harm that's already happened?

"The Canadian Patient Safety Institute has existed for 12 years," says Chris Power, CEO. "In that time, we have largely focused our patient safety and quality improvement efforts on healthcare providers delivering care on the frontline. We have come to realize that these efforts need to be directed at all facets of the healthcare system if we are to help Canadians stay safe in a clinical environment."

Last year, the Canadian Patient Safety Institute conducted an exhaustive consultation process with both its users and staff to better understand the need going forward.

While patients, family members, providers and leaders each had their own primary needs, what we heard can be distilled into three themes:

- Fear of speaking up – clearly identified desire to have opportunities for safe dialogue that would promote patient safety.
- Lack of communication – people within the health system are reaching out, looking for more ways to connect and breakdown the silos and complexity of health care.
- Too much work – Within the health system people are looking for assistance with team training and problem solving skills, they cannot and will not adopt another patient safety 'solution' which layers on complexity and procedure.

SHIFTtosafety.com includes extensive resources designed to reduce avoidable harm and improve care. For example, patients and healthcare providers are directed to a checklist of five questions that patients should raise with their physicians to make sure they don't unwittingly put themselves in harm's way. Visitors to the site can access a wide range of resources that will contribute to ongoing patient safety, education and awareness as the site continues to grow.

Alzheimer Society asks Canadians - What research matters most?

With the growing prevalence of dementia which already affects over half a million Canadians, the race is on to improve prevention, diagnosis, treatment and the quality of life for those impacted by this disease.

That's why the Alzheimer Society is inviting Canadians, whether they have the disease, are caregivers or health-care providers to have their say in what they think the research priorities should be by participating in the Canadian Priority Setting Partnership.

To participate in the study, visit: www.alzheimer.ca/researchpriorities

The Partnership is a study that is funded by the Alzheimer Society Research Program and is being led by Drs. Katherine McGilton, Senior Scientist and Jennifer Bethell, Postdoctoral Research Fellow at the Toronto Rehabilitation Institute – University Health Network. Its aim is to bring the voices of Canadians affected by dementia into the research conversation, and follows the methods of the James Lind Alliance in the UK, which have proven successful in engaging the public and clinicians to identify research priorities.

Dementia research in Canada is largely research-driven. By involving people with lived experience, researchers will gain more insight into the kind of research Canadians need and want. The study results will be used to produce a list of the top 10 research priorities, which will guide researchers and the organizations that fund them.

To participate in the study, visit: www.alzheimer.ca/researchpriorities

Participants are also encouraged to share the link through their personal and social networks.

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What real inclusion looks like

By Kathleen O'Grady

Getting to be a valued member of their community should be the norm for all kids – but for kids with autism, it is too frequently not the case.

Media stories are full of parental struggles to get their kids with autism included in the larger community. Stories of exclusion from the public school system, from restaurants, from stores and airplanes are commonplace. The 'no one came to my kid's birthday party' has become somewhat of a genre in autism circles. And, if you know any autism parents, you'll know the exclusion of autistic kids from extracurricular activities or field trips is a regular occurrence.

In other words, kids with autism are too often systematically excluded from their communities. But this has costs – for everyone.

Here's what real inclusion looks like.

Over the years, we've had many calls from our son's school – addressing his particular anxieties, his learning challenges and his inability to sit still and focus for long periods of time. Our son, Casey, has autism, a neuro-developmental disorder that is often characterized by rigid and repetitive behaviours, difficulty with social communication and uneven intellectual development, among many other challenges. Regular participation in an integrated public school has not always been easy for him.

So getting a call from Casey's school was not an unusual event. But this day was a good day.

The teacher told me that Casey went to his weekly choir practice, but the choir master was running late that day. Normally, choir starts with a warm up. The choir master sings a line and the kids sing the line back in a call and exchange format.

The choir master finally arrived but she was still trying to get organized and the kids were getting restless. Unprompted, Casey stood up and sang the first line of the warm up – the choir master's usual line: 'Stand up' – he sang quietly.

All the kids settled, and then stood, and sang in response, 'Stand up.' Then Casey sang the next line, 'Feet apart.' And the kids responded, singing, 'Feet apart.'

Casey led the choir through their entire warm up as if it was the most ordinary moment. The choir master stood back, amazed, and watched the little magic happen. It was a moment of community, and Casey was an integral part of it – heck, he was the ringleader.

> **Kids with autism are too often systematically excluded from their communities.**

Evidence now shows that meaningful 'peer interactions' with typically developing kids offers those with autism significant social and intellectual benefits – while at the same time benefitting those who interact with them as well.

A meta-analysis of 'peer mediated interventions' examined 45 distinct studies conducted over several years and concluded that teaching typically developing kids to both mentor and befriend those with autism was "highly effective" at promoting lasting positive social interactions. This was true across genders, age groups, settings and kinds of activities targeted. Interestingly, it was found to be most effective in 'natural' play settings versus clinical settings.

The studies ranged widely from establishing a 'buddy system' – pairing a neurotypical child with an autistic child (peer networking) – to peer mentoring (children teaching children) and group play, where all the children in the group work toward a common goal. As the researchers noted, the results weren't just temporary but had potential long-lasting effects and helped seed the ground for improved language skills, adaptation to other integrated settings and more positive and long-lasting relationships with peers.

So the kids with autism benefit tremendously when their community includes and engages them meaningfully in natural play and learning. But what about the typical peers?

Turns out, they like and learn from it too. In a study that engaged typical peers in the social learning of kids with autism, the children were surveyed afterward. Eighty-three per cent of the typical peers said they "enjoyed it very much" while 17 per cent said they "enjoyed it." Teachers also reported the benefit of students helping each other, valued the promotion of tolerance and understanding, and felt it could reduce bullying.

Teaching all kids how to interact meaningfully with each other is real community building in other words, and has benefits for all.

We've been fortunate that Casey has been part of an integrated public school that knows and practices community building daily. It's not just part of their pedagogy, but part of their value system as educators. Casey's taking control of the choir that day wasn't just a demonstration of his leadership abilities – a pleasant surprise to all of us – but was a demonstration that he knows he belongs, and the kids do too.

Kathleen O'Grady is a Research Associate at the Simone de Beauvoir Institute, Concordia University, Montreal, and the mother of two sons, one with autism.

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Through assessment, diagnosis and therapy, Runnymede's social workers provide patient-centred care and address the needs of family members.

Reinforcing patients' support networks

By Michael Oreskovich

Feelings of stress and emotional suffering are often reported by family members who fulfil the role of caregiver for their loved ones (2012 General Social Survey on Caregiving and Care Receiving). With responsibilities that range from visiting and providing emotional support to assisting with personal care, it is increasingly family caregivers themselves who are struggling and need support. The social work team at Toronto's Runnymede Healthcare Centre understands the important role that families play in the care of their patients. The team addresses families' emotional needs so that they can continue to focus on what matters most: their loved one's health.

Social workers and social service workers are essential points of contact that families have with the hospital's interprofessional team

Adjusting to new realities after the onset of an illness or a disability is often very stressful – profound anxiety, depression and anger can be common in both patients and families alike. For patients, these feelings can have a negative impact on their quality of life and interfere with their treatment. For family members, stress responses like these can hinder their ability to be supportive at a time when their emotional strength is vital (Ontario Association of Social Workers, 2016).

"Our social work team helps patients and families who are in distress by restoring their coping skills so that they can regain control of their emotions, personal affairs and most importantly, their health," says Runnymede's VP of Strategy, Quality and Clinical Programs, Sharleen Ahmed. "Through assessment, diagnosis and therapy, social workers provide patient-centred care while also identifying and addressing the needs of family members."

Social workers and social service workers are essential points of contact that families have with the hospital's interprofessional team, providing support through difficult times. "In addition to guiding family members through their anxiety, we also understand that they face additional burdens in the form of grief, regret and guilt," says Professional Practice Leader, Social Work, Susan McGrail. "We listen to their concerns and provide the reassurance they need, when they need it the most."

Changes in the health of a loved one are often accompanied by changes in responsibilities within the family. Sometimes, family members can have trouble adjusting to their new caregiving role, especially if the patient has cognitive challenges and needs help with decision-making. In cases like these, legal and financial matters potentially have to be handled before family members are able to fully come to terms with their loved one's illness or disability.

"Often, family members experience 'information overload' and disengage from important decision-making processes," says McGrail. Navigating legal and financial systems can be overwhelming, but Runnymede's social work team has expertise in educating families, accessing key resources and providing guidance to inform complex decisions. "Easing families through times like these removes a source of stress and often resolves tensions," McGrail says.

When patients transition to another level of care and are preparing for discharge from Runnymede, the team again steps in to help support families. "As with many other social systems, understanding how the healthcare system works is often complex for families, so we respond by providing the information they need," says McGrail. "We help to raise awareness that our hospital is one step on the journey to recovery and that the ultimate goal of the healthcare system is to get patients back into the community."

By attending to the emotional needs of both patients and their families, Runnymede's social work team provides much-needed support in times of great vulnerability. "The pressures of caregiving can decrease family members' abilities to manage not just their own well-being, but the well-being of their loved ones as well," says Ahmed. "Our social work team is keenly aware of this, and the counselling and educational tools they offer help to move patients and families from what can often be a place of uncertainty and anxiety to one of hope, positivity and independence." H

Michael Oreskovich is a Communications Specialist at Runnymede Healthcare Centre.

New 'virtual' clinic for rare blood disease a hybrid of patient care and research

By Elizabeth Kosturik

A new "virtual" clinic at St. Michael's combines treatment and research for patients with thrombotic thrombocytopenic purpura, or TTP, an extremely rare blood disorder.

TTP is an acute disease that causes blood clots in the small blood vessels of the brain, heart and kidneys, which can cause permanent organ damage. TTP patients have low platelet counts and little or no ADAMTS13, a protein that prevents abnormal clotting. The most effective treatment is plasmapheresis, a procedure that removes a patient's "bad" plasma and replaces it with healthy plasma. Once a patient is in remission, his or her platelet levels must be checked regularly to monitor for possible relapse.

Coordinating follow-up appointments with different physicians, including hematologists and nephrologists, as well as plasmapheresis nurses, can be tricky. In the new clinic, a patient's visit is tracked with a special code while he or she attends different appointments. He or she is able to keep in touch with the medical team through phone, email or drop-in. The medical team can collect statistics and implement research and quality improvement initiatives.

TTP affects three per one million people. If it goes untreated, TTP can kill 80 per cent of patients within two days.

"It's extremely important to monitor patients so we can quickly treat them if they relapse," says Dr. Katerina Pavenski, the head of the Transfusion Medicine division and medical director of the Therapeutic Apheresis Service. "Since many of our patients live far away, we can act as a resource to local specialists and maintain therapeutic relationships with a patient."

Dr. Katerina Pavenski and Lesley Asiedu, a TTP patient, discuss platelet levels and treatment in the Medical Daycare Unit. Photo by Katie Cooper, Medical Media Centre

Lesley Asiedu, a TTP patient, said that knowing she will be able to keep in touch with her medical team will be a relief when she returns to school in August.

Asiedu was at school in Curaçao when she began feeling achy, short of breath and chest pain. She was airlifted to a hospital in Miami and diagnosed with TTP. The Brampton native was transferred to St. Michael's to receive treatment.

"When I was diagnosed with TTP, my platelet level was six when it should have been between 140 and 300," she says. "I should have had a huge fever and kidney failure. I believe I got through this because of God and I was lucky enough to get the right treatment at St. Michael's."

Asiedu was in and out of the hospital for about a month. She said that when she returns to her studies in August, she can get most of her blood work done in Curaçao, but it is a comfort to know she will be able to stay in touch with her care team virtually at St. Michael's. H

Elizabeth Kosturik works in communications at St. Michael's Hospital.

Supporting families in Sunnybrook's Neonatal Follow-Up Clinic

By Marie Sanderson

Christopher Sue felt confident and happy when his wife Angelica became pregnant for a second time. The couple were already parents to a three-year old daughter who was thriving and excited to take on her new role as a big sister. Then, at 27 weeks and at two pounds and six ounces, Esa was born.

"I was unsettled and uneasy, with mixed emotions of joy and sadness," explains Christopher. "As a parent, one of your biggest concerns is for your child to be 'normal', and to grow 'normally', meeting standard health expectations. With a premature baby, it is a different scenario."

Esa spent 17 weeks in Sunnybrook's neonatal intensive care unit (NICU), a frightening and intense time for her parents.

Flash forward eight years. Esa is entering grade three and giggles with her older sister over an inside joke. She leans down to help her two younger sisters with an alphabet toy. More laughter ensues.

Esa has visited Sunnybrook's Neonatal Follow-Up Clinic, one of the only clinics in Canada that follows children into grade school, for assessment of her physical, motor and cognitive development each year since birth. One of her younger sisters, Rosa, was born weighing 1280 grams at 29 weeks in 2014, and is also followed by the clinic.

Sunnybrook's Neonatal Follow-Up Clinic supports families after their children leave the hospital's neonatal intensive care unit (NICU). Photo by: Doug Nicholson, Sunnybrook

"We work with families so that together we can provide the care and support each child needs to be healthy and ready to learn," explains Dr. Paige Church, neonatologist and director of the Neonatal Follow-up Clinic at Sunnybrook, and also a developmental behavioral paediatrician. "Bringing a baby home is an adjustment for any family, and this can be intensified when the baby was born prematurely or was ill. We believe that parents are the true experts when it comes to their children."

Angelica and Christopher agree with this approach to care. "Before our first visit to the clinic, I wasn't sure I wanted to hear a list of the things my daughter couldn't do," says Angelica. "The reality was so different: I was assured the clinic was there to support and help us in the early years to ensure Esa's future would be a comfortable and healthy one."

In addition to neonatologists, Sunnybrook's Neonatal Follow-Up Clinic also has a nurse practitioner, registered nurses, physiotherapist, occupational therapists and a doctor of psychology on the team.

The clinic is the only one in Canada to employ a behavioral analyst, focusing on each child's individuality and the aspects of behavior that make each baby unique and different. This assists clinic staff in understanding each child's preferences and vulnerabilities and the areas where she may need support.

Esa and Rosa are top-of-the-class learners for their ages, and are striving for more. "The clinic helped shape me to become a courageous, confident and caring mother," says Angelica.

"The first few years are so crucial to the development of any child, and the Sunnybrook clinic allowed us to start off on the best foot. The whole family is ready to take on whatever may come because we tackle things together." H

Marie Sanderson works in Communications at Sunnybrook Health Sciences Centre.

Hospital youth program creates the foundation for lifelong wellness

By Ania Basiukiewicz

With one in three students in Peel Region identified as overweight or obese, and with above-average rates of type 2 diabetes amongst some of its youngest community members, Trillium Health Partners (THP) knew that a youth focused wellness program was a vital part of advancing its mission of a new kind of health care for a healthier community. That's why in September 2015, THP launched KidFit, an innovative program to help ensure some of its youngest patients get, and stay, healthy and fit.

KidFit is a holistic prevention and treatment program that customizes treatment plans to fit patients' needs. Its motto is Small Steps, Lasting Change, Lifelong Wellness, and its goal is helping families make positive, realistic changes that improve overall health and wellbeing. Rather than focusing solely on weight, KidFit addresses social functioning, family-focused change, and other areas that directly affect its patients' ability to feel good, get motivated, and make positive changes.

Patient experience has been a top priority in building the KidFit program. "The best thing about this program is that it's not just about the numbers on the scale," says one parent. "It's about awareness and motivation. My daughter has come to enjoy physical activity – she has a ton of energy and just wants to get up and move. That's a change that will last for a life-time."

Adam, Tina and their 8-year old son, Sam, have participated in the KidFit program since its beginning.* "What I like about KidFit is that I can connect with other parents for support, and get advice on how they've managed similar situations to what I face with Sam, with their kids. The weekly parent meeting worked really great because we could share practical strategies. For example, my son wouldn't eat mixed green salad, but he liked lettuce. So, I introduced other vegetables slowly into his salad – first 2, then 5 then eventually 10 leaves of spinach each time. He's eating different vegetables now, and likes mixed green salad," Adam says. "We've learned so much through the KidFit program. We read food labels now, watch our portion sizes, and plan for snacks instead of stopping for sugary or fatty fast foods. The communication workshops for parents were especially helpful, and have helped me and my wife be more consistent in our approach; for example, Sam can't come to both of us separately anymore and ask for a cookie."

Trillium Health Partners' Interprofessional KidFit Team.

KidFit's Group Programming includes classes for parents on meal planning and making grocery lists, the role of parents in feeding and regular meal patterns, coping with difficult emotions, and others. For teens, group workshops include learning about emotions, exercise and activity, and self-esteem and communication.

> **Rather than focusing solely on weight, KidFit addresses social functioning, family-focused change, and other areas that directly affect its patients' ability to feel good, get motivated, and make positive changes.**

KidFit also offers mixed classes attended by both parents and their children, discussing topics such as breakfast and morning routines, the medical effects of sugar, and various focus groups designed to facilitate ongoing feedback. Through KidFit, parents, children and teens also learn about different opportunities to be active in their communities: in May of 2016, 59 KidFit patients and families participated in the Mississauga Marathon's 2km Fun Walk/Run.

"As a Child Psychologist, a large part my role is to consider the way our program influences how our young patients think and feel about themselves and their futures. A really important part of KidFit is helping kids, teens, and their caregivers recognize personal strengths, accept their unique selves, and make healthful, sustainable positive changes. KidFit parents have told me that they see their children becoming more self-confident, happier, and more energetic since starting the program. Other parents have expressed a new sense of hope for their children's future. From a mental health perspective, these are the things that tell us we are truly making a difference," says Dr. Brooke Halpert, Clinical and Health Psychologist, Trillium Health Partners' KidFit program.

"We have seen improvements in emotional health including self-esteem and self-confidence, and physical health including cholesterol levels, blood sugar levels, and liver function tests, and weight stabilization, and have seen families being active and preparing meals together," says Dr. Ian Zenlea, paediatric endocrinologist and physician lead for THP's KidFit program.

Since its launch in September of 2015, KidFit has received over 270 referrals. As KidFit continues to offer more programming in the community, it continues to strengthen its partnerships with and within the City of Mississauga. Dianne Knox, KidFit's social worker, now sits on the Peel Region Parenting Collective, a multi-disciplinary committee that discusses ways in which parenting affects multiple aspects of children's lives, and explores opportunities for system change. Supporting children and youth in our community to be as healthy as they can be is a huge part of laying a healthy foundation for future generations and is a significant part of Trillium Health Partners' commitment to creating a new kind of healthcare for a healthier community.

*To protect individual privacy some names and identifying details have been changed. H

Ania Basiukiewicz is a communications advisor at Trillium Health Partners.

Canadian ALS healthcare providers' perspectives on physician-assisted death

By Nadia Norcia Radovini

A Canada-wide survey of ALS healthcare providers suggests most support physician-assisted death (PAD) for patients with moderate-to-severe ALS, but few are willing to directly provide it.

According to research published recently in *Neurology*®, the medical journal of the American Academy of Neurology, the majority of ALS healthcare providers feel unprepared for the initiation of PAD and believe the development of training modules and guidelines are required prior to the implementation of the PAD program in Canada.

"Although the opinions of ALS healthcare providers are far from unanimous, most respondents believed that ALS patients with moderate to advanced disease and physical or emotional suffering would qualify for PAD; however, few physicians are willing to provide it," says Dr. Lorne Zinman, senior author of the study and head of the ALS Clinic at Sunnybrook Health Sciences Centre, the largest ALS clinic in Canada.

"As stakeholders begin to draft legislation, policies and guidelines for PAD in Canada, it will be important to develop disease-specific approaches for unique conditions such as ALS as a one-size-fits-all model likely won't work for something as controversial as PAD," adds Dr. Agessandro Abrahao, a neurologist and the study lead author.

In February 2015, the Supreme Court of Canada invalidated the Criminal Code provisions that prohibit PAD. The ruling was suspended for one year to provide the federal government and stakeholders with the opportunity to develop legislation, policies, and protocols for PAD, where it is now legalized across all Canadian provinces and territories.

ALS, or amyotrophic lateral sclerosis, is a terminal motor neuron disease resulting in paralysis and respiratory failure, and has been at the forefront of the PAD debate. Patients with ALS typically survive three to five years from symptom onset and two to three ALS patients from Sunnybrook die each week.

The following are some of the key survey findings:

- Most respondents believed that intolerable physical or emotional suffering were the most important driving factors for patients to choose PAD and believed that palliative care should be optimized before accessing PAD.
- The majority believe that patients with ALS requesting PAD require a second opinion by an ALS expert to determine eligibility, require assessment by a psychiatrist, and the request must be made twice separated by at least 15 days before proceeding with PAD.
- Only a minority of physicians would be willing to directly provide a lethal prescription or injection to an eligible patient with ALS. Instead, most physicians preferred to refer the patient to a third party.
- A minority of respondents remain strongly opposed to PAD for ALS patients. They believe it should never be an option at any disease stage and they would not refer a patient to a physician who would provide PAD.
- A minority of respondents also believed PAD should be available to patients with ALS at all disease stages.
- Determining the timing of PAD eligibility remains challenging as ALS is a heterogeneous disease with variable progression and 10 to 15 per cent of patients have a prolonged survival. There remains no reliable diagnostic biomarker for ALS and diagnosis relies on clinical assessment, which is often more uncertain in early disease phases.
- A majority of physicians agreed there is a distinction between PAD and palliative sedation and most believed that palliative sedation was currently available at their centres. However, only 30 percent were aware of a palliative sedation protocol in place.

Dr. Agessandro Abrahao (left) and Dr. Lorne Zinman.

The Canada-wide survey, conducted between October and December 2015, had a robust response rate of 74 per cent with participation from physicians and allied healthcare professionals on the front lines at all 15 Canadian academic ALS clinics spanning eight provinces. H

Nadia Norcia Radovini is a Communications Advisor at Sunnybrook Health Sciences Centre.

(inset) First-time parents Susanne Hingley and Mark Alford cradle their baby boy Huxley at Royal Columbian Hospital's neonatal intensive care unit with neonatologist Dr. Zenon Cieslak (l). The Whitehorse family has been fortunate to have Royal Columbian staff save the lives of both father and son. (above) Baby Huxley was born at 31 weeks gestation and 4.4 pounds. By 36 weeks he was seven pounds and getting closer to going home.

Being among the best at caring for high-risk babies

By Elaine O'Connor

New parents Susanne Hingley and Mark Alford are caught in a moment of calm, curled up in a corner of Royal Columbian Hospital's neonatal intensive care unit cuddling their only son in their arms.

All around them, the unit is bustling: doctors doing rounds, nurses bathing babies and mothers nursing mewling newborns. But the couple barely register the activity: they are focused solely on their firstborn's face, gazing down with tears welling in their eyes. He's their miracle baby, in more ways than one.

"I tear up especially these days as I have new life in my hands," Mark says as he cradles his son in a yellow and white knit blanket. "If it wasn't for Royal Columbian back then, I wouldn't be here to hold Huxley."

Almost 40 years ago, Mark's life was also in the hands of the Fraser Health region hospital's physicians and nurses. He was studying at BCIT in Burnaby, B.C. when he collapsed of a brain aneurysm and was rushed to the hospital. For five weeks he lay in a medically-induced coma. But he survived, left only with some cognitive and physical deficits that subsequent surgeries and many months of rehabilitation helped address.

Mark had dreamed of having a family, but he didn't meet Susanne until he was in his 50s. The couple married five years ago and immediately started planning for children. With fertility support, Susanne, now in her late 40s, got pregnant with their son. It was a textbook pregnancy, until at 27 weeks her cervix showed signs of giving out. This time, she was the one rushed to Royal Columbian, flown in from their home in Whitehorse to the New Westminster B.C. hospital to spend the next month on bed rest to delay the birth of their boy.

But he wouldn't wait. In early March, Susanne showed signs of delivery. Huxley was born by caesarean section on March 5, at 31 weeks gestation, weighing 4.4 pounds. His tiny foot, which had pushed through her cervix, was purple for a week. Otherwise, he was perfect.

Royal Columbian Hospital was again ranked one of the top hospitals in the country in caring for infants in its NICU in the latest Canadian Neonatal Network report.

"He was tiny and fragile, for us. You were scared you were going to break him," Susanne recalls. "Holding him for the first time, I think I cried the whole time. I've often heard people say, 'My heart broke wide open.' And it does."

The couple are just one of the grateful parents of babies cared for by staff in Royal Columbian Hospital's NICU. And their incredible story is one of many. On this day, there are 15 other babies being cared for in the unit, but each year staff work similar miracles with more than 500 infants in their care.

Their hard work was recently recognized on a national level. Royal Columbian Hospital was again ranked one of the top hospitals in the country in caring for infants in its NICU in the latest Canadian Neonatal Network report.

The hospital's NICU, which cared for 528 of B.C.'s premature and vulnerable infants during the study period, was rated one of the best in the country at saving these high-risk babies. It achieved a 98.6 per cent survival rate overall for its infant patients, this despite the fact that as a Level 3 NICU it also cares for some of B.C.'s "micro preemies": babies as young as 25 weeks' gestational age who weigh less than a pound and are just on the cusp of viability.

"This is an extraordinary, national level team performance," says Royal Columbian neonatologist Dr. Zenon Cieslak. "We have a great team here. There are many reasons we've done well, but the commitment and compassion of the people who work in the hospital is a big one. We have a real team united with the same goal of helping these families and babies."

The study compared infant outcomes across 31 NICUs in Canadian hospitals. It examined the outcomes of more than 15,000 babies treated in Level 3 NICUs such as Royal Columbian's. Dr. Cieslak said the hospital's NICU has been consistently near the top of the rankings over the roughly18 years that the Network has been producing the study.

Huxley's parents have experienced this top-tier care first hand.

"Every single doctor and nurse was talking us through," Susanne says of the help they received during the overwhelming first days of her preemie son's birth. "There was always assistance, there was reassurance. It was very encouraging and it helped to keep you going. It allowed you to relax in a stressful situation."

With the help of their team of doctors and nurses, including Dr. Cieslak, Huxley has steadily improved. At 36 weeks he's up over seven pounds and he no longer requires help breathing or treatments for jaundice, although he remains on a feeding tube. The couple hope to take him home soon.

"At night, when I go home, I have no worries," Mark says, expressing complete faith in the hospital that helped make his family possible. "You guys gave me new life, twice." H

Elaine O'Connor works in communications at Fraser Health in British Columbia.

Championing a more coordinated paediatric healthcare system

By Dr. Michael Apkon

In recent decades, we have seen dramatic increases in our understanding of disease and our technical capabilities in treating illness and injury. Progress has depended, in part, on greater degrees of specialization with caregivers developing deeper expertise over narrower areas of knowledge. We've seen this specialization in medicine, surgery, nursing, physiotherapy and many other disciplines. By some measures, this highly specialized approach to care has improved quality and outcomes but has created considerable challenges in coordinating approaches across specialties and in crafting a holistic approach to meeting the complex needs of many patients. The fragmentation that is the consequence of deep specialization is compounded when specialists work independently.

In Ontario, there are four children's hospitals with critical care and surgical specialties, about 100 community hospitals, 12,000 family physicians, 1,000 community paediatricians, countless home-care providers, schools, mental health professionals and some rehabilitation hospitals. Depending on the complexity of a patient's medical needs they may interact with one or many healthcare providers. High-quality care depends on effective handoffs and coordination among caregivers who participate in care at different times and in different locations.

Patient and family expectations are also evolving, in part, through their experiences in other aspects of their lives, easily ordering movie tickets, coordinating travel, shopping, and managing finances online. Their experiences with healthcare systems are a stark contrast to these consumer-focused industries but ease of access and the degree of coordination is even more important in healthcare.

Dr. Michael Apkon

In order to create a seamless experience for patients and their families and to provide quality care close to home we need to have a coordinated paediatric healthcare system, but who will drive that coordination? In my experience, in most of the world, children's hospitals play a vital role. That is likely because of the breadth and depth of their expertise, the visibility into the many consequences of fragmentation, and the systems they possess to extend across other domains of the healthcare sector. Thinking beyond the advanced care we provide is a very important responsibility for hospitals like ours.

High-quality care depends on effective handoffs and coordination among caregivers who participate in care at different times and in different locations.

Coordinating care is also important to academic health science centres. The ability to optimally participate in important areas of clinical research and education often depend on following children over time and across healthcare encounters and engaging caregivers along a continuum of services into the research and teaching enterprise.

SickKids has been engaging various likeminded partners in an effort to create an alliance that would work towards an integrated health system operating on a regional level. A regional health system would create greater alignment between partners, create consistency in care, decrease the costs of coordinating care and increase our collective impact through the sharing of knowledge and expertise.

As an example of partnerships, SickKids and Hincks-Dellcrest Centre, a community mental health organization, are currently exploring an integration to improve specialized hospital and community-based mental health services for all children, including those with complex mental health needs.

We can also look to an over 10-year-old partnership between SickKids and the emergency department (ED) at Michael Garron Hospital in east Toronto, where one fifth of their ED patients are children. This partnership is building capacity and developing integrated approaches to emergency care outside the walls of SickKids.

Upcoming investments in an integrated health information system will eventually facilitate the continuity of services from SickKids to community hospitals, to children's treatment centres and to other paediatric care providers. Sharing data through this system will mean that we are able to have one shared view of a patient's medical situation and of the medication lists that we provide to families. This system is intended to provide a single portal from which hospitals can connect with the rest of the healthcare system. Our hope is that this system will be implemented and configured to be a platform on which many parts of the healthcare system could rest.

Our success in patient care, research and education depends on relationships with other parts of the system that are seamlessly coordinated. Collaboration has driven our success over the last 140+ years and with the evolution of medicine and the greater expectations of patients and their families, it's time to accelerate our efforts across the continuum of care to ensure that patients and their families get the timely, highly quality care that they deserve. H

Dr. Michael Apkon is President and CEO of The Hospital for Sick Children (SickKids) in Toronto.

Celebrating patients

Continued from page 2

Patients inspire Mackenzie Health's staff to provide the best care possible and we know being a patient is not easy. Through its Back to Basics program, Mackenzie Health has a renewed focus on continually improving the patient experience and remaining patient-centred in every way. The organization plans to share the patient stories from the event with staff at every available opportunity. Celebrating Patients Day is about celebrating individual patients, as well as about applauding their strength to work toward their health goal while inspiring others facing similar health challenges to strive for the same.

"Whether a person has experienced an injury, illness or other significant health challenge, their stories are inspirational to others," says Susan Kwolek, Executive Vice President, Chief Operating Officer and Chief Nursing Executive at Mackenzie Health. "Through storytelling and sharing, others can often find strength from the experiences of others."

The highlight of the day was an evening celebration featuring patients sharing their health story, followed by a panel discussion with special guest host Dale Curd

Patients featured during Celebrating Patients Day included:

- A patient who uses home dialysis and says the required change in lifestyle was one of the best things that ever happened to him;
- A cancer survivor who helps to inspire other patients with her determination and positive outlook;
- A young hemorrhagic stroke survivor who found such inspiration from his own care that he now volunteers in the inpatient stroke unit;
- A cardiac patient who thought that he was doing all the right things to prevent a heart attack with an important message for others;
- A mom of an infant born 10 weeks prematurely who now has a healthy and strong four year old; and
- A recipient of multiple joint replacements due to a genetic condition, who sees every replacement as just another bump in the road in a fulfilling life.

"Everyone has a story to tell," adds Kwolek. "At Mackenzie Health we recognize the courage it takes to be a patient and the strength it takes to journey back to good health."

Other activities on Celebrating Patients Day included small gestures to surprise and welcome patients and families to Mackenzie Richmond Hill Hospital. At entranceways, patients and visitors were greeted by volunteers and offered light refreshments. Inpatients received a card acknowledging the day and diet-appropriate dessert with their noon meal.

Patient stories shared at Mackenzie Health's first Celebrating Patients Day are available on our website and YouTube channels. H

Stefanie Kreibe is a Communications and Public Affairs Consultant at Mackenzie Health.

Researching late - onset Alzheimer's disease

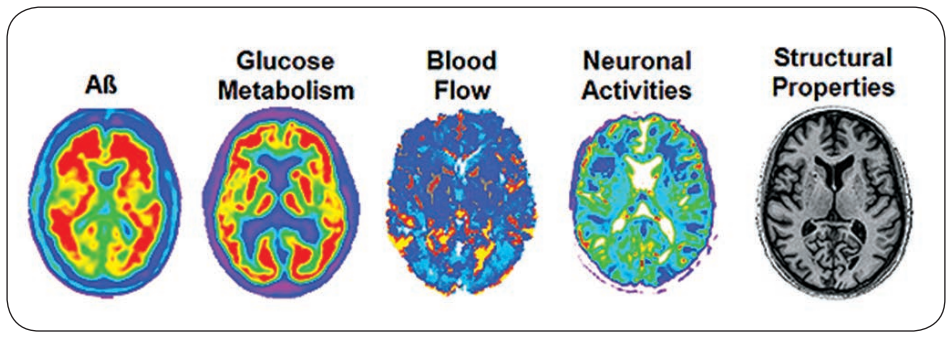
By Shawn Hayward

Scientists at the Montreal Neurological Institute and Hospital have used a powerful tool to better understand the progression of late-onset Alzheimer's disease (LOAD), identifying its first physiological signs.

Led by Dr. Alan Evans, a professor of neurology, neurosurgery and biomedical engineering at the Neuro, the researchers analyzed more than 7,700 brain images from 1,171 people in various stages of Alzheimer's progression using a variety of techniques including magnetic resonance imaging (MRI) and positron emission tomography (PET). Blood and cerebrospinal fluid were also analyzed, as well as the subjects' level of cognition.

The researchers found that, contrary to previous understanding, the first physiological sign of Alzheimer's disease is a decrease in blood flow in the brain. An increase in amyloid protein was considered to be the first detectable sign of Alzheimer's. While amyloid certainly plays a role, this study finds that changes in blood flow are the earliest known warning sign of Alzheimer's. The study also found that changes in cognition begin earlier in the progression than previously believed.

Late-onset Alzheimer's disease is an incredibly complex disease but an equally important one to understand. It is not caused by any one neurological mechanism but is a result of several associated mechanisms in the brain. LOAD is the most common cause of human dementia and an understanding of the interactions between its various mechanisms is important to develop treatments.



Brain scans.

Previous research on the many mechanisms that make up LOAD has been limited in scope and did not provide a complete picture of this complex disease. This study, published in the journal *Nature Communications* on June 21, factored in the pattern of amyloid concentration, glucose metabolism, cerebral blood flow, functional activity and brain atrophy in 78 regions of the brain, covering all grey matter.

"The lack of an integrative understanding of LOAD pathology, its multifactorial mechanisms, is a crucial obstacle for the development of effective, disease-modifying therapeutic agents," says Yasser Iturria Medina, a post-doctoral fellow at the MNI and the paper's first author.

The trajectory of each biological factor was recorded using data from each patient taken over a 30-year period. This process was then repeated 500 times to improve robustness of estimations and stability of the results.

Compiling and analyzing the data took thousands of compute hours to complete, and could not have been possible without sophisticated software and terabytes of hard drive space. Such a data-driven approach to neurology is becoming increasingly important, according to Evans.

"We have many ways to capture data about the brain, but what are you supposed to do with all this data?" he says. "Increasingly, neurology is limited by the ability to take all this information together and make sense of it. This creates complex mathematical and statistical challenges but that's where the future of clinical research in the brain lies."

This research also underlines the importance of data sharing across institutions, known as the Open Science model. Patient data for the study came from the Alzheimer's Disease Neuroimaging Initiative (ADNI), a partnership of more than 30 institutions across Canada and the United States. The knowledge that this study has added to our understanding of LOAD would still be undiscovered had it not been for data sharing. Evans points out that his is just one of hundreds of scientific papers to come from the ADNI dataset.

While this study is one of the most thorough ever published on the subject of Alzheimer's disease progression, Evans says he would like to go further, to not only record but determine the causes of each mechanism, which could be the key to unlocking better treatments. It is something that is limited only by how much computer power Big Data can provide.

"This is a computational, mathematical challenge that goes beyond anything we've done so far," says Evans. "Our goal is to go to a high-level, causal modeling of the interactions amongst all of the factors of disease, but you need huge computational power to do that. It's our job to be ready with the software, the algorithms, and the data while we wait for the hardware to appear."

"We still need more data-driven integrative studies, capable of considering all possible biological factors involved, as well as of clarifying the direct interactions among these factors," says Medina. "Without that, we cannot dream of effective treatments. We would continue to work in the dark." H

Shawn Hayward is a Communications Officer at The Montreal Neurological Institute.

Ankyloglossia: Latching on to the evidence

By Dr. Janice Mann

The benefits of breastfeeding are many. And the pressure on moms to breastfeed – and to continue breastfeeding – is high. But what happens when moms run into problems with breastfeeding? What if the baby can't latch properly? What if it hurts? Moms in these situations can be quite anxious to find the cause of the problem and to fix it. And there are many interventions aimed at common breastfeeding problems that have the goal of promoting breastfeeding success. What can be difficult, however, is to know whether these interventions actually work to improve breastfeeding, and if they are safe for moms and babies.

One medical condition often linked with breastfeeding problems is called ankyloglossia – what many of us would call tongue-tie. Normally, the bottom of the tongue is attached to the floor of the mouth with a band of tissue called the lingual frenulum. But some babies are born with an abnormally short or thick frenulum so that their tongue isn't as free to move. How common tongue-tie is, isn't certain because many people may go undiagnosed. But studies suggest that somewhere between four and 10 per cent of the population have the condition. Tongue-tie seems to be more common in boys and can sometimes run in families. How severe the tongue-tie is can vary from mild immobility to the fusion of the entire tongue to the floor of the mouth. Although it doesn't always cause problems, tongue-tie can prevent a child from being able to stick out their tongue, they may have difficulties talking or swallowing, and it may make breastfeeding more difficult by preventing a good latch onto the nipple. An improper latch can in turn lead to nipple pain or infection, poor milk supply, poor weight gain in babies, and the discontinuation of breastfeeding.

Diagnosing tongue-tie isn't always as straightforward as some may think, and there are different screening and assessment tools to help clinicians. However, the diagnosis is most commonly made after a healthcare provider simply examines a baby's mouth and tongue, and parents themselves may recognize the condition in their babies.

One medical condition often linked with breastfeeding problems is called ankyloglossia – what many of us would call tongue-tie.

Tongue-tie can be relatively easy to treat. A simple procedure called a frenotomy separates the tongue from the floor of the mouth. This can be done with or without anaesthesia and is performed with surgical scissors, a scalpel, or a laser. A more complicated procedure called a frenuloplasty can be done under general anaesthesia if the tongue and floor of the mouth need repair as well, or if the frenulum is too thick. During a frenuloplasty, multiple incisions are made requiring dissolvable stitches. Both procedures are quite safe and complications such as serious bleeding and infection are rare.

But even though procedures to correct tongue-tie are relatively simple and low-risk, are they really necessary to help with breastfeeding? Should every baby with tongue-tie undergo a procedure to fix the condition, or should it be reserved only for those who are also experiencing breastfeeding issues? The healthcare and breastfeeding communities aren't all in agreement – some feel that all babies should have tongue-tie corrected as soon as it's diagnosed. And, in fact, the rate of frenotomies does appear to be increasing, at least in some regions of Canada. But others believe that the frenulum can stretch over time and that only rarely is a release of a tongue-tie truly necessary.

To answer the questions about tongue-tie procedures and breastfeeding, the healthcare community turned to CADTH – an independent agency that finds, assesses, and summarizes the research on drugs, medical devices, tests, and procedures – to find out what the evidence says. The CADTH Rapid Response service gathered the evidence and identified two systematic reviews, one randomized controlled trial, and four non-randomized studies that would help to answer the questions. No evidence-based guidelines on treating tongue-tie were found, but three guidance documents were included in a systematic review.

The available evidence shows that frenotomy for tongue-tie is a safe procedure for newborns and infants and that it does, according to moms, appear to improve breastfeeding – at least in the short term. But whether fixing tongue-tie reduces nipple and breast pain, improves feeding problems, improves infant growth, or increases continuation and duration of breastfeeding over the long term is uncertain because there isn't a lot of good evidence.

So what does this mean for breastfeeding moms and their babies? Knowing the evidence can help breastfeeding moms and their families, together with their healthcare providers, make the treatment decision that is the best for them. Some families may decide to treat the tongue-tie as soon as it's diagnosed. Another family may decide to wait and see if breastfeeding problems develop – at which time they may go ahead with the procedure. Still another family might decide to opt out of treating tongue-tie altogether. Knowing the evidence doesn't mean everyone will make the same decision – but it does mean everyone can make an informed decision that is right for them.

If you'd like to learn more about the evidence on treating tongue-tie or browse our other freely available Rapid Response reports, please visit www.cadth.ca/RapidResponseReports. And if you would like to learn more about CADTH, visit our website www.cadth.ca, follow us on Twitter @CADTH_ACMTS, or talk to our Liaison Officer in your region: www.cadth.ca/contact-us/liaison-officers.

Dr. Janice Mann, Bsc, MD is a Knowledge Mobilization Officer at CADTH.

Hospital News™

2ND ANNUAL SPECIAL PULL OUT SECTION

CAPHC

The Canadian Association of Paediatric Health Centres

Knowledge to action: Enabling the best healthcare for Canada's children and youth

Fully automated electronic ordering improving patient safety

On April 4, Children's Hospital at London Health Sciences Centre (LHSC) became the first hospital in Canada to receive 100 per cent of oncology orders from an automated computer entry though Power Chart Oncology (PCO).

PCO is a module offered through Cerner focused on the ordering and administration of systemic treatment (chemotherapy). The electronic ordering in PCO replaced the paper-based ordering system for the paediatric population. LHSC now has a fully computerized physician order entry system (CPOE).

The positive impacts to patient safety are the largest benefits of this system.

- Enhanced electronic nursing documentation as a step towards a fully integrated Electronic Patient Record (EPR).
- Added and enhanced a number of system safety features, including order error checking, dose calculations, patient scheduling, chemotherapy protocol cross checking and verification and enhanced dose adjustments.
- Enhanced provider documentation to align with standards related to systemic treatment documentation.
- Standardized oncology specific assessments to improve patient monitoring and outcomes.

A registered nurse enters information into the electronic patient record.

Now, three months post go-live, the feedback from staff regarding the impact to patient safety and care has been substantial. Examples include:

- The admission process is faster and significantly safer with standardized electronic documentation.
- Physicians, nurses and other allied health professionals can access the chart at the same time, and remotely to gain vital patient information at any time from anywhere.
- Medication calculations, intake and output and safety checks have been automated into the system using the closed loop medication-scanning process.
- Healthcare professionals including nurses, physicians and pharmacists are able to look ahead and prepare for complicated chemotherapy protocols.
- Patient wait times, and stays have been significantly reduced due to the system.

"It is an exciting time as we continue to see new benefits after go live," says Jennifer Mills Beaton, Manager, Inpatients and Ambulatory care, Children's Hospital. "Chemotherapy plans continue to be added and augmented as needed. Nursing teams are working together to standardize documentation across the hospital, building bridges for excellent assessment and documentation standards. New items are now being added to the electronic record and safety assessments, such as falls prevention, will soon be part of this system that continues to positively affect our patients daily." H

Flu shots save lives

The beginning of fall brings thoughts of colds and the flu. The words "it's time for your flu shot" are not exactly what Canadians like to hear, but influenza is a serious disease particularly for children under five years of age who are at increased risk of influenza-related complications and hospitalization. While hand washing and proper flu etiquette (coughing and sneezing into your sleeve) and staying away from others when you are sick are important at decreasing the spread of influenza, the most effective way to prevent the spread of influenza is to be immunized. Immunization against influenza is recommended by the National Advisory Committee on Immunization for all children 6 to 59 months of age. The influenza vaccine has been offered routinely in Canada since 1946, and it is considered safe and effective for all Canadians over the age of 6 months. Talk to your doctor, nurse, pharmacist or local public health office about immunizing your child against influenza.

Mock Code Pink enhances comfort and skill level amongst clinical staff

Nearly 10 per cent of newborn babies will require some form of resuscitation at birth and about one per cent will require significant resuscitation. At Trillium Health Partners (THP) that's about 900 births a year that will require assistance from a team to help newborns breathe on their own as an independent being.

THP saw over 8,700 babies born in 2015–2016, more than any other Ontario hospital. All THP staff working within paediatric units are trained in Neo-Natal resuscitation, but when a Code Pink is called, or a paediatric cardiac arrest, adrenaline can run high. Following the call, clinical teams often say that they want to go back and rethink the scenario, feeling that there is always room for improvement.

> **The simulation is a fantastic opportunity for clinical teams to increase their comfort level and their communication skills with one another while under pressure**

Knowing this, Dr. Catherine Taylor, a Paediatrician, Neonatologist and the Service Medical Director of the NICU at THP, established a mock Code Pink simulation program. The program provides physicians and clinical staff with the opportunity to experience and practice responding to a Code Pink more often; preparing them for a real-life scenario.

Using a SimNewB®, a high-fidelity training replica of a newborn, Dr. Taylor brings a group together to run through a mock Code Pink. With 11 pre-established scenarios, the team works through the simulation. The session is video recorded with a focus on events, communication, professional staff interaction and reaction to the simulation. Following each session, the team reviews the video and suggestions are made regarding how the teams response could be improved. The simulation is a fantastic opportunity for clinical teams to increase their comfort level and their communication skills with one another while under pressure.

"Dr. Taylor reminds staff at the onset of each mock Code Pink that the purpose is not to assess or evaluate skills," says Nicole Gaertner, Program Consultant THP. "The purpose is to provide simulated real-life critical care experiences, in a safe environment to allow members of the interprofessional team to further hone their critical thinking, clinical reasoning, and clinical judgment skills."

Since launching the mock Code Pink in December 2015, the NICU team has seen an improvement in the quality of care for and the safety of our youngest patients.

"There will always be times when you feel that things could have gone better, but that's why we have this program. If I can get a nurse into training and then back in for a second time before they've faced an actual Code Pink, it will only help them run through their process," says Dr. Taylor who is currently running two trainings a month between THP's two acute care hospital sites, but hopes to add more in the future.

THP believes that this simulation training is important and incorporates similar mock exercises throughout other departments. The practice enhances skills, as well as team communication and coordination. H

Make a Difference | Be the Voice | Take the Stage | Be Here for Tomorrow

2nd Annual Paediatric Supplement

The Canadian Association of Paediatric Health Centres (CAPHC) is proud to be able to showcase many of our members in this 2nd Annual Paediatric Supplement with *Hospital News*. With stories from across the Canada, representing rehabilitation, academic and community hospitals; home care and regional health authorities, this special supplement will highlight current and emerging issues, successes that have demonstrated improved patient and client outcomes in multiple areas of children's healthcare, as well as today's many challenges that may be unique to our member's regions and to the child and youth populations that they serve.

The impact of collaboration, partnerships and innovation

Current thinking is that children and youth are a robust and healthy population and therefore not a driver of health care costs. Evidence however, tells a very different story. Canada's children are, for the first time in generations, less healthy than their parents and have a shorter life expectancy than previous generations. This is due to a number of interacting factors partially assigned to significant increases in rates of childhood obesity, decreasing levels of physical activity and impact of the environment. We must begin to create innovative integrated national systems and models of care, policies and practices to reverse the downward trend in child health.

Central to CAPHC's mission is the mobilization of knowledge to action. CAPHC has demonstrated that advances and improvements in child and youth healthcare, at a system level, are possible through collaboration, partnerships and innovation.

CAPHC is committed to improving and promoting health service delivery across the continuum of care, to enhance the application of knowledge from research to practice and practice to policy. In October 2014, the CAPHC Board of Directors implemented the organization's strategic plan for 2014 – 2019, with our four strategic imperatives being: Make a Difference, Be the Voice, Take the Stage and Be Here for Tomorrow.

Within our vision to enable the best healthcare for Canada's Children and Youth, CAPHC supports a multi-disciplinary community of healthcare professionals and families from forty-seven member institutions, representing over one hundred healthcare organizations, which provide essential services to Canada's children and youth.

Innovative collaboration and partnerships

Over the past decade CAPHC has established key strategic partnerships with national organizations including Accreditation Canada, the Canadian Institute of Health Information (CIHI), the Institute of Human Development, Child and Youth Health – Canadian Institutes of Health Research and the Canadian Patient Safety Institute (CPSI). These partnerships have enabled national innovative programs that have had positive impacts on the delivery of care for children and youth at a system-wide level.

In partnership with CIHI, CAPHC has developed and implemented an innovative national paediatric benchmarking program engaging Canada's children's hospitals, community healthcare centres and regional/provincial health authorities across the country. Our partnership and collaboration with CIHI has also resulted in the development of an innovative national Paediatric Rehabilitation Reporting System (PRRS) launched in September 2015.

Making a difference and being the voice through our communities of practice

In the past year, CAPHC has:

- Launched CAPHC's Paediatric Sepsis Screening Tool for use in Emergency Departments across Canada
- Reached National Consensus on the development of 19 recommendations for standards of care in transitioning from paediatric to adult care
- Finalized our Children and Youth with Medical Complexity Vision and Mission statement which have now been endorsed by the Canadian Family Advisory Network (CFAN); and the Canadian Paediatric Society (CPS)
- Completed a Web based toolkit for acute procedural pain
- Developed the CAPHC Guidelines for Inhaled Nitric Oxide for both Neonates and Paediatrics
- In partnership with Accreditation Canada, CAPHC has developed national standards of care for Inter-facility Transportation of Critically Ill Maternal, Neonatal and Paediatric patients.

On January 11, 2016 Emergency Medical Services (EMS) and Interfacility Transport Standards were released into the Accreditation Canada Qmentum Program. All Accreditation Canada clients can now access the standards online. The standards will be integrated into accreditation surveys starting in January 2017.

The opportunity to learn from each other

This special CAPHC paediatric supplement will share innovative models of healthcare specific to children and youth, contributed by many of CAPHC's member organizations. This presents a unique opportunity to learn from each other by highlighting best practice through innovative models of care.

As a nation, we must ensure a strong, sustainable and cost effective healthcare system. Through well-established collaborations and the opportunity to develop new partnerships, CAPHC believes that the implementation of an integrated and improved healthcare system(s) can be achieved! H

Q&A with new Paediatrician-in-Chief

On July 1, Dr. Ronald (Ronni) Cohn stepped into his new role as Paediatrician-in-Chief at The Hospital for Sick Children (SickKids). As Cohn, Senior Scientist in Genetics & Genome Biology, prepares to lead SickKids into a genetics-fuelled future, he reflects on how the field has evolved, and looks ahead at the potential of individualized medicine in addressing currently untreatable paediatric conditions.

What made you decide to devote your career to the field of paediatric genetic medicine?

It's interesting because I always thought I would be a surgeon – I wanted to be a trauma surgeon. I worked in the emergency room as a medical student. One of the first things I realized in the emergency room was that I was always particularly engaged when we had children come in. I started to figure out that this is the population of patients I wanted to take care of one day.

Then our very close friends had a child born with a genetic disease – diagnosed as a mitochondrial disease. I did a clinical study and then decided I wanted to do basic science. So then I went on to do muscular dystrophy work. So that's how I ended up in the neuromuscular/neurogenetics world, through a very personal experience.

What were the major clinical and scientific challenges in the field when you began your career, and what are the challenges today?

When I started medical school, it was just about the time people started to clone genes. There was the identification of the cystic fibrosis gene and the Duchenne muscular dystrophy gene – we were just

Dr. Ronald (Ronni) Cohn

trying to do positional cloning for genes back then. With that, we could start to think about the underlying pathogenesis. Since then, some major things happened:

First of all, as we gain a better understanding of the number of genes in a human genome, hundreds and hundreds of studies into different models of disease have been conducted and we are starting to understand more, find more and more genes, and learn how to better organize and share the genomic data to enable enhanced scientific and clinical discoveries.

But really the major change during my career has been the coding of the human genome, which is now leading to genome sequencing.

We're already utilizing genome sequencing frequently in the clinic. This has almost become a routine genetic diagnostic test – it's not quite there yet but we're going to get there soon.

And the next big thing that happened just three years ago was the characterization of this gene editing technology, CRISPR. This now gets us to a point where we can actually start to conceptualize how to fix a genetic disease; it is very exciting and challenging as a scientist and clinician.

Still, with the identification of these disorders, there's not much impact when it comes to how you can manage or treat a patient. And now with this gene editing technology just at the cusp, I can actually start developing that concept of how could I actually fix this, which I couldn't even think about three years ago. It is amazing.

What's on the horizon?

Where the power is going to be over the next 10 years is to finally integrate all the kinds of information we can gather from one patient. We've already started to do this: in sequencing the genome, you're collecting an enormous amount of physiology data, environmental data, social determinants of health. By taking the individual and putting all the data we can get together, we'll be able to understand the individual and treat the individual in a way that is really beneficial, and not just a "best guess" type of management and treatment.

The transformational change is to combine all of this. And that's what we're going to have to do. Putting all these pieces together is what's going to really deliver on what I like to call individualized care. This approach to clinical care will change the future of paediatric medicine; improving outcomes for kids with very rare diseases just as much as for kids with very common diseases. H

The Medical Psychiatry Alliance

Approximately 40 per cent of children and youth with physical health conditions are also living with coexisting mental health illnesses such as delirium, mood disorders, psychotic disorders, anxiety and others.

Delivering comprehensive, coordinated healthcare for these children and their families is extremely challenging. The current healthcare system operates as a mind-body dichotomy, leading to fragmented communication, untimely delays, medical errors, dissatisfied patients and families, unnecessary time lost from school and work, poor health outcomes and inefficient use of health care resources. Children and youth with co-existing physical and mental health conditions are the highest utilizers of provincial healthcare services, collectively accounting for almost one third of paediatric healthcare resources. An acute need in the healthcare system exists to develop an integrated approach to clinical care, education and research in medical psychiatry to improve health outcomes and quality of life for children and youth with co-existing physical and mental health conditions and their families.

In 2014, The Centre for Addiction and Mental Health (CAMH), The Hospital for Sick Children (SickKids), Trillium Health Partners (THP) and the University of Toronto (UofT) combined their expertise, resources and networks for relationships to establish the Medical Psychiatry Alliance (MPA). The MPA is a first-of-its kind in Canada collaborative partnership, supported by the Ministry of Health and Long Term Care (MOHLTC), a very generous anonymous Donor, and the Foundations from each of the four partner institutions. The goal of the MPA is to transform the delivery of mental health services for patients with coexisting physical and mental health conditions across the lifespan by streamlining and integrating a complex, disjointed system. The MPA has established four interconnected work streams to accomplish its goal: 1) develop innovative models of care delivery; 2) provide training programs for current and future health professionals that focus on preventing, diagnosing and treating co-existing physical and mental health conditions within a novel integrated care model; 3) implement a self-sustaining clinical research program on the interaction between the brain and bodily systems and health outcomes related to treatments of children and youth; 4) evaluate the effectiveness of all patient care, education and research programs to allow for continuous improvement and establish evidence-based best practices. The MPA at SickKids, in collaboration with medical and surgical departments throughout the hospital, MPA Partners, and community partners is leading the Child and Youth program of the MPA, with complementary work streams for the child and youth populations.

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Over the past year, scientists in our research institute, leaders in our teaching and learning institute, care providers, and clients and families have worked together to lead in many areas of childhood disability.

Holland Bloorview helps kids and youth achieve their goals

By Michelle Halsey and Lydia Hanson

Our frontline care providers at Holland Bloorview Kids Rehabilitation Hospital are committed to partnering with clients and families to help them achieve their goals.

With a mix of services not offered anywhere else in the province, we help improve the lives of kids and youth with disabilities, kids and youth who need rehabilitation after illness or trauma, and kids and youth whose medical complexity requires specialized care.

Over the past year, scientists in our research institute, leaders in our teaching and learning institute, care providers, and clients and families have worked together to lead in many areas of childhood disability.

Groundbreaking prosthetic knee hits the market

Dr. Jan Andrysek and Holland Bloorview's PROPEL Lab developed the all-terrain (AT) knee, a high-quality, waterproof and affordable prosthetic. The AT-Knee is the product of in-depth research and field testing globally and mimics the movement of a natural knee. Social enterprise firm LegWorks brought the AT-Knee to market last year making it accessible worldwide.

> **We help improve the lives of kids and youth with disabilities, kids and youth who need rehabilitation after illness or trauma, and kids and youth whose medical complexity requires specialized care**

New spinal cord program brings care, expertise and equipment to kids where they need it

Holland Bloorview and Support in Motion worked together to establish a care model for children who have sustained an incomplete spinal cord injury. Therapists across the province received specialized training to deliver increased care and funding is now available for families to purchase equipment.

Families as faculty

Our student home visiting program provides experiential learning for students to promote a deeper understanding of client and family centred care. Last year, 42 of our clinical students were matched with clients and families to learn about their life at home. Clients and families helped students enhance their practice by teaching them about the home environment and the principles of client and family centred care: quality of care, respect, information-sharing and partnership.

Making it easy for clients and families to access their health record

Holland Bloorview's online health portal, connect2care, was launched in 2015. Over 1,000 clients or families are enrolled and have logged on more than 6,800 times to manage appointments, access healthcare records and connect with their care team. Over 38,000 clinical notes or reports have been made available to clients and families through the portal.

Raising our commitment to compassionate care

Holland Bloorview is the first hospital to bring Schwartz Center Rounds® to Canada. The rounds promote empathy by offering a safe and confidential environment for clinicians to have conversations about the social and emotional aspects of providing care. Throughout the duration of our first five rounds, parents told us our clinicians showed a significant increase in understanding their situation and sharing in their experience. H

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Hospital at home program eases stress for kids

Calgary oncology nurse Shelaine Semmens gives Sage Amor, age three, a chemotherapy treatment in the comfort of his own home as mom Hilary Daum holds him close. The service is part of a pilot project called Hospital at Home.

Hilary Daum will never forget March 15, 2015. That was the day her son, two and a half-year old Sage Amor, was diagnosed with a brain tumour. Within two days, Sage was in surgery at Alberta Children's Hospital with a team of neuro-surgeons who worked to remove the tumour from his delicate brain stem.

This was just the beginning of the Amor family's journey. Daum found out after the surgery that Sage would have to undergo 70 weeks of chemotherapy to shrink part of the tumour that was not able to be removed.

"It was devastating," says Daum. "70 weeks is over half his life and I couldn't imagine what that kind of treatment would do to him," she says.

Now, a pilot program at Alberta Children's Hosptial has taken some of the stress out of chemotherapy treatments for families like the Amor's. Hospital at Home is a program where registered nurses (RN) from the oncology program administer chemotherapy and other treatments such as intravenous hydration and antibiotics, and provide education and teaching to parents and families in the comfort of the family's own home.

For busy families like the Amor's, who are in week 28 of their treatment, the program has meant the world. "This program has had a huge impact on our lives and the ability to lead a more regular life. It's comforting to have Sage sit on my lap and be surrounded by all his toys while he's getting treatment," says Daum.

> **Hospital at Home is a program where registered nurses (RN) from the oncology program administer chemotherapy and other treatments such as intravenous hydration and antibiotics, and provide education and teaching to parents and families in the comfort of the family's own home.**

When the Hospital at Home nurse arrives for an appointment, the process for administering chemotherapy is the same process followed in the hospital. The chemotherapy medication goes through a rigorous checking process within the hospital and is then transported to the family home by the nurse to each appointment. The chemotherapy is then verified again in the home with the nurse and the parent before being given to the patient.

The nurse performs a complete physical exam on each patient at each visit, including blood pressure, temperature, oxygen saturation, and heart rate. The patient is then given the chemotherapy through a medication pump into an intravenous line placed into the chest.

The entire process takes approximately 45 minutes, in contrast to the hospital where an appointment can take several hours. Travel time, and the need to find child care for siblings during hospital appointments is eliminated, helping bring back a sense of normalcy to a family's schedule.

"The nurse comes by, he gets his treatment and then we can go to the park," says Daum. "It's much faster and so much less stressful," she says. Nurses are available to stay after appointments to ensure both the patient and family are comfortable and to address any questions or concerns.

Hospital at Home began providing nurse assessments, treatments and supportive care to just a few patients when it began in 2012. Today, the two Hospital at Home nurses visit approximately three patients a day which has added up to over 1,700 home visits to 138 children within the Calgary Zone.

Shelaine Semmens, a nurse that's been with the program since its inception, has seen the impact the program has on families. "Kids and their parents are much more comfortable at home instead of a hospital setting." She adds, "The decrease in stress they experience, the time they save not having to travel, and the normalcy it helps establish in the lives of these people who have had their world turned upside down is invaluable."

Daum agrees. "I can't express the impact this program has had on our entire family, and especially on Sage. Being so young, having the least amount of stress possible by not having to go to the hospital is huge, not only for today, but his future development as well."

Patients of the oncology program at Alberta Children's Hospital who live in Calgary and are interested in having their treatments at home or learning more about the Hospital at Home program can talk to their oncology nurse or physician. Treatment options for patients are decided in conjunction with families and the entire care team and based on the needs of each individual patient. H

Why Human Milk Matters

New study shows expanded benefits for premature babies on exclusive human-milk diet

Nutrition is one of the most critical factors in healthy child development from the moment of birth on, but that is especially true for babies born prematurely. For so many preemie parents, the arrival of their baby quickly turns from what was expected to be a blissful time, to a period fraught with a host of unexpected decisions – including those involving their fragile baby's nutrition.

Premature babies will follow a special feeding course, since some of them may be too tiny to eat on their own or require additional nutrition to help them grow.[i] Human milk is associated with substantial health benefits for all infants, but it is especially important for premature infants.[i] Necrotizing Enterocolitis (NEC) is the most common and serious intestinal inflammatory disease among premature babies, which occurs when tissue in the small or large intestines is injured or begins to die off. However, exclusive human-milk nutrition helps decrease the incidence and severity of NEC.

An exclusive human-milk diet (EHMD) – when 100 percent of the protein, fat and carbohydrates of the infant's intake are derived solely from human milk – is especially beneficial for premature infants who require specialized nutrition and care in the Neonatal Intensive Care Unit (NICU). Several studies reported that very premature infants (specifically those born weighing 500-1,250g) who received an EHMD as opposed to preterm formula or fortifier made from cow's milk, have a reduced risk of developing medical NEC or surgical NEC.[ii, iii, iv]

"We know that human milk has immune factors, antibodies and high levels of important fats and vitamins, so it makes sense that an EHMD would be a natural source to help them reduce infection and NEC," said Dr. Amy Hair, Assistant Professor of Pediatrics at Baylor College of Medicine and director of the neonatal nutrition program at Texas Children's Hospital, USA.

Breast milk is the best nutrition for all babies, but in the case of extremely premature babies, a mother's own breast milk does not provide all the nutrients these babies need. Because preemies require additional energy and protein, doctors may decide to add a human milk fortifier (HMF) to breast milk for the premature infant's feeding. Parents who have an infant in the NICU should speak with their baby's neonatologist about the nutritional options for their preemie to ensure they are receiving an exclusive human-milk diet that includes a human milk-based, human milk fortifier for optimal outcomes for their infant. No other intervention has been shown to be nearly as effective.[iv]

[i] American Academy of Pediatrics. Breastfeeding and the Use of Human Milk. Section on Breastfeeding. [originally published online February 7, 2012]. Pediatrics. doi: 10.1542/peds.2011-3552.

[ii] Huston RK, et al. Decreasing Necrotizing Enterocolitis and Gastrointestinal Bleeding in the Neonatal Intensive Care Unit: The Role of Donor Human Milk and Exclusive Human Milk Diet in Infants < 1500 g birth weight. ICAN: Adult Child and Adolescent Nutrition published online 1/2014 doi: 10.1177/1941406413519267.

[iii] Cristofalo E, et al. Randomized Trial of Exclusive Human Milk versus Preterm Formula Diets in Extremely Premature Infants. Journal of Pediatrics. 2013;163(6):1592-1595.e1. doi:10.1016/j.jpeds.2013.07.011.

[iv] Sullivan S, et al. An Exclusively Human Milk-Based Diet Is Associated with a Lower Rate of Necrotizing Enterocoloitis than a Diet of Human Milk and Bovine Milk-Based Products. 2009. Journal of Pediatrics. doi:10.1016/jpeds2009-10.040.

ED pain program debuts at Alberta Children's Hospital in Calgary

A new initiative to ease anxiety and pain for children means their emergency department (ED) visits at Alberta Children's Hospital (ACH) in Calgary are now more comfortable.

Launched in fall 2015 – and developed by an Alberta Health Services (AHS) team of doctors, nurses and child life specialists – the Commitment to Comfort program aims to add to a child's comfort and reduce their pain as they receive care in the ED.

The Commitment to Comfort program aims to add to a child's comfort and reduce their pain as they receive care in the ED.

"Treating pain is one of our highest priorities. It's also important to the patients and families we see in the emergency department," says Dr. Jennifer Thull-Freedman, ACH ED physician.

"This initiative works to educate our families about the options available to them, as well as provide pain-management options to every patient who walks through our doors."

Five-year-old patient Micah McKay benefits from a new pain management program at Alberta Children's Hospital during a recent visit to the Emergency Department.

Work on the project began two years ago when a pair of ED physicians looked into what they could do to better manage pain. In talking to ED patients with painful injuries, they discovered about 15 per cent of children said they would have taken pain medicine in the ED, but none was offered to them, while 18 per cent said they felt their pain was not being managed effectively.

"Some patients told us that when they were offered a pain medicine, they declined it as they thought it might come in a needle," says Thull-Freedman. "In other instances, parents weren't sure if they should accept pain medication for their child before the doctor had a chance to check the injury.

"Our Commitment to Comfort is all about working together with patients and families to reduce pain. We want families to know that we want their input, and we want them to know about the options available to them."

To promote the campaign, comfort menus on the types of pain-management options available are clearly displayed within the ED. They range from needle-free pain medication to an ice pack, a warm blanket, and toys such as a light wand or tablet computer.

Patients are also being given an individual, bookmark-sized pain scale to help them describe their pain, and to help ED staff more accurately understand the level of each patient's pain.

Nine-year-old William Marshall came to the ACH ED after he broke his arm while snowboarding. He found the new pain scale useful in helping him describe the amount of pain he was in. "It really helped to look at the face scale and see what my pain was," he says. "They gave me medicine to help the pain go away and they did a splint. I think they did a really great job."

Continued on page 11

Poke Program

aims to ease kids' fears over scary procedures

A patient sits up and reads a book while receiving care at Trillium Health Partners.

In a quiet corridor at Trillium Health Partners' (THP) Credit Valley Hospital (CVH), in Mississauga, is a bright open space where children can learn, play and express themselves through words and actions. It's a place where medicine and children meet in the middle, where clinical care and play find a happy balance, and where children – regardless of why they're at the hospital – can be children.

This special sanctuary is the Regional Pediatric Patient Care Unit.

The unit has introduced a number of patient-centred programs and initiatives with the purpose of helping create a positive environment for young patients and their families. Child Life Specialists and nurses work around the clock with a focus on helping children maintain normal living patterns and routines, while continuing to promote self-expression and education. There's even a resident clown, Bug, who's bright and cheerful demeanor aims to minimize the stress that can come along with treatment and a hospital stay.

One specific program aimed at reducing the stress children can experience in hospital is the Poke Program. Launched in 2014, it is designed for children who may be faced with daunting procedures such as IV drips or bloodwork. A "Poke Plan", created by the child's parent or caregiver, along with the child, outlines how the child copes with excitement or fear, happiness or difficult moments both in and out of the hospital. Sandy Rolston, a Clinical Nurse Educator for the paediatric program at Trillium Health Partners, describes the program as empowering. "The main goal of the program is to engage our young patients and their families to take part in their care. Typically they feel that they don't have a lot of say about a procedure and this gives them that opportunity, thereby decreasing anxiety and hopefully any pain that they may experience."

By having this information, nurses can better understand the specific needs of each patient and employ special techniques prior to procedures, while continuing to allow the family to have a voice and choice around their child's care. The program makes use of four key elements to help support young patients: comfort holds; one voice; distraction; and best words.

These four elements are important to improving the patient experience, explains Martha McLeod, a Child Life Specialist at Trillium Health Partners. "It is a change to regular practice, so often we would have a patient lie down to get a needle, but in some cases that doesn't work for them. With the Poke Plan we can ask 'Would you like to lie down or sit up? Would you like to play on your iPad or sing a song with Mom?' " Offering children these choices in their care provides the empowerment the Poke Program aims to address.

The Poke Program continues to receive positive feedback from young patients and their families, who have benefitted from the program's patient-centred approach and the close relationship it fosters with Trillium Health Partners' healthcare providers.

Supporting a conversation on child health in northern B.C.

The area of B.C. that is serviced by the Northern Health Authority is vast (nearly the size of France) and its size and diversity present residents with very unique situations: they have amazing opportunities, feel a strong connection to "place," and come up against complex challenges. Ask a northerner about child health and you might hear about a "greater sense of community … [which] is a huge asset for our kids," or you might hear about seeing the impacts first-hand of "the ill effects of residential schools, unstable housing, and the rising cost of food."

How, then, does one paint a picture of child health in a region as large and diverse as northern B.C.? This was the challenge facing Dr. Sandra Allison, Northern Health's Chief Medical Health Officer, as she set about reporting on the health status of children from conception to five years of age in northern B.C.

To meet this challenge, Dr. Allison and her report writing committee set about designing an indicator framework that not only served to give structure to the *Health Status Report on Child Health* (published in April 2016), but is a tool for further research and reporting into healthy childhood development.

To start designing the indicator framework, following an environmental scan and expert review, the group considered and analyzed six model frameworks. Given the complexity of factors that impact child health in northern B.C., no framework alone was found adequate to paint the full picture. As the writing committee took pieces from these different frameworks, what emerged was an inclusive, integrated framework – an adaptation of the Ecobiodevelopmental Framework. The indicator framework consists of 24 life course indicators selected by environmental scan, ranking, and consultation that, when combined, allow for deep thought and knowledge sharing on how children's health is shaped by their genetic makeup, their experience, and their environment.

Painting the picture of child health didn't stop with the indicator framework, however. To truly capture the complexities of growing up in northern B.C., the committee also collected stories from parents, healthcare professionals, and community organizations that create a richer picture sitting alongside data in the report.

What did this work reveal about child health in northern B.C.?

Pregnancies in northern B.C., when compared to the rest of the province, are not as healthy as they should be. Looking at children in northern B.C. compared to the rest of the province, the picture is concerning, with higher rates of infant mortality, a lack of school readiness, low rates of exclusive breastfeeding to six months of age, poor oral health, high rates of injury hospitalization, and rates of child abuse, neglect, and children in need of protection that are among the highest in the province.

From the outset, the goal of the Health Status Report on Child Health was to inform discussions, recruit partners, and evoke action. The report contains a guide for community conversations, which started with a six-week series of stakeholder sessions, public meetings, and online consultations. The picture that was painted by the data and stories collected through the child health framework is admittedly not rosy, but the foundation it lays for collaborative solutions grounded in the knowledge of those who know the community is strong. As the report notes, "partnerships and collaborations in rural and remote communities have proven to be the solution to challenges in the past, and can be in the future."

Paediatric concussion awareness and guidelines

Sport-related concussions are becoming more prominent among teenagers, creating a larger need for concussion education and prevention. With teenagers being eager to get back to sports, school and their social life, it is becoming increasingly important to ensure they are getting the proper treatment post-concussion and the rest necessary for the brain to recover.

The issue of concussion awareness has become even more widespread after the Ontario government passed Bill 149, Rowan's Law. This act will create an advisory committee to establish concussion guidelines based on a coroner's inquest of Rowan Stringer, a 17-year-old rugby player who passed away after suffering multiple concussions in a short period of time.

Southlake Regional Health Centre's Paediatric Department, in partnership with the Emergency Department, are working to ensure that any patient who walks through their doors with a concussion are diagnosed, treated and provided education on what steps they need to take when they leave the hospital.

"We typically see the most paediatric concussions in relation to sports injuries," notes Dr. Charmaine van Schaik, Chief of Paediatrics at Southlake Regional Health Centre, "kids are taking part in so many sports these days, of which many are contact, although most people may not expect these types of injuries when they sign their kids up to play."

Southlake's head injury clinic, which has been up and running for almost four years now, allows for community family physicians and hospital staff to refer paediatric patients who suffer a head injury. Southlake's head injury clinic works in partnership with the patient and family to provide education based on the guidelines and recommendations set in place by the Canadian Paediatric Society in alignment with Parachute Canada – a National, charitable organization dedicated to preventing injuries and saving lives.

Southlake's Director of the Maternal Child Program Lorrie Reynolds praises the clinic team for their work in helping teenagers get back to their daily lives seamlessly. "I'm really proud of the success our head-injury clinic has had with educating our patients on their concussions and teaching them how to successfully integrate back into their day to day lives," says Reynolds.

Together, the Canadian Paediatric Association and Parachute Canada have created a set of guidelines and recommendations for parents, educators and physicians that makes a united set of tools that are easily accessible to learn more about concussions and how to treat them.

Dr. van Schaik examines a patient.

"The school boards are really good with the education element. I think the information has been more widely disseminated because there is a common approach and it's not as challenging for any individual patient to get the care they really need on all levels," says van Schaik.

The concussion education dialogue is one that will continue to grow as the recommendations of Bill 149 are set in place.

"I am extremely happy that concussion education is receiving more traction in the public eye and am hopeful to see a stronger awareness around paediatric concussions," says Reynolds. H

Neonatal Intensive Care Unit making EPIQ strides

The Neonatal Intensive Care Unit (NICU) at London Health Sciences Centre (LHSC) is embracing Evidence-Based Practice for Improving Quality (EPIQ), a national multi-disciplinary collaboration that facilitates the implementation of evidence-based practice changes to improve neonatal outcomes.

"EPIQ is a systematic approach whose goal is to use evidence from published literature to determine best practice," says Gail Fernandes, a nurse practitioner in LHSC's, NICU. "We collaborate with 30 NICU's in the EPIQ network across Canada to develop and implement practice bundles to improve patient outcomes." Fernandes adds that individual site data is compared to the national data. This helps to drive each hospital site to review their own interventions utilized to target specific outcomes.

To effectively move these best practices forward, a full-time EPIQ facilitator role was created at LHSC, and supported by Children's Health Foundation for three years. The EPIQ facilitator has a full time focus on improving outcomes, utilizing the EPIQ platform to align practice with nationally endorsed practice bundles. "A registered nurse and neonatal registered respiratory therapist were chosen to share the position as their roles complement each other extremely well in addressing the target outcomes," explains Fernandes. The EPIQ facilitators work with a multidisciplinary steering committee to develop, implement and evaluate evidence-based practices locally in order to continuously improve care.

For 2014-2016, LHSC was tasked with decreasing incidents of bronchopulmonary dysplasia (BPD), a chronic lung disorder, and necrotizing enterocolitis (NEC), a bowel condition, by the national EPIQ steering committee.

Decreasing incidents of BPD was achieved through a number of initiatives. By implementing a bed huddle with a pre-delivery "pause" where team roles are clearly defined, there have been documented benefits for neonatal resuscitation. This includes ensuring the neonatal team communicates early with the obstetrical team regarding delayed cord clamping and cord blood draws. Drawing initial labs from the umbilical cord at delivery has been implemented as a practice change to limit pain for baby and to decrease need for handling.

EPIQ has a national goal of identifying the degree of BPD by creating categories of severity defined by the respiratory support required at 36 weeks. New guidelines for early extubation favouring the prolonged use of CPAP have been implemented which are thought to be improving the severity of BPD outcomes. Although statistical analysis will occur after the severity definitions are clarified, it is strongly believed that these practice changes are demonstrating improvement in outcomes. BPD will continue to be an area of focus moving forward.

Revised feeding guidelines to reduce incidents of NEC have been credited with a decrease in the number of days neonates require intravenous therapy and a decreased need for central lines – resulting in a decreased risk of hospital-acquired infection. LHSC's NICU has seen a reduction in the incidence of Necrotizing enterocolitis in the less than 33 week gestation population (from seven cases in 2014 to zero cases so far this year), which they contribute to their expanded donor milk guidelines and the use of probiotics.

To decrease the incidence of BPD and NEC, the EPIQ committee conducted chart reviews and audits to assess compliance with implemented practice changes, and to identify additional opportunities for improvement. Quality assurance rounds are completed monthly with the EPIQ facilitator completing the audit and acting as a lead for the multidisciplinary team. This has created a culture of reflective practice that expects care management to be evidenced based.

The committee has also recognized the stress on the family of having a preterm infant and the EPIQ facilitators have focused their efforts on improved family centered care. Audits reinforced the need for earlier kangaroo care (holding infant skin-to-skin) and bonding experiences.

"Our efforts have resulted in a change in culture where the frequent comment is 'you better chart it as it will be audited!'" says Fernandes. "We see this as extremely positive for safe practice, increased accountability, and better outcomes. Front-line engagement has been a key to the success of the changes introduced by the EPIQ facilitators and our team remains challenged by the motto for EPIQ which is 'Drive to Zero.'" H

Enriching the well-being of First Nations children at the IWK

Through the combined strengths of Aboriginal and Western knowledge, the Aboriginal Children's Hurt and Healing (ACHH) Initiative was developed in the Maritimes to offer a more balanced approach to improving health encounters, reducing hurt and enriching the well-being of First Nations children.

Research shows that chronic illness in First Nations communities is almost three times what it is in the general population, and Aboriginal children have higher rates of painful conditions, more injuries, and more painful ear, dental and musculoskeletal issues. These higher rates of painful conditions impact the ability of children to grow, learn and achieve the same outcomes as other kids.

"To deliver a high level of care, you have to understand our people and our culture," says Julie Francis, a community health nurse and ACHH Research Coordinator in the Eskasoni First Nation in Cape Breton, Nova Scotia. "We need to educate those outside of our communities so they can deliver the care that is needed most."

The ACHH Initiative gathers and combines traditional and western knowledge to better understand how Aboriginal children's pain is experienced, expressed, interpreted, assessed and treated. The project began in the Eskasoni First Nation and has now expanded across three provinces and four communities.

Early research findings suggest that a complex mix of factors have led to a cultural divide for First Nations children in pain and non-Aboriginal healthcare providers.

"If you're not used to talking about your pain or if, within your culture, it's better to be quiet or stoic, or endure your pain, then you're less likely to convey that to your health professional," says Dr. Margot Latimer. Latimer is the ACHH Initiative's principal researcher, along with Eskasoni Health Director Sharon Rudderham and John Sylliboy, Community Research Program Coordinator. "In fact, there is no translatable word for "pain" in the Mi'kmaq language."

Originated by Mi'kmaq Elders Albert and Murdena Marshall, the concept of 'two-eyed seeing', a blend of the best of Aboriginal and contemporary western understanding, is being used to recognize when Indigenous children are in pain and to help them recognize it in themselves.

One such strategy has been to enlist Mi'kmaq artist Alan Syliboy to help children and young people learn to express themselves, first through narrative, then through art. The Art Gallery of Nova Scotia helped curate the pieces that resulted from the workshops and a national tour of the exhibit is underway.

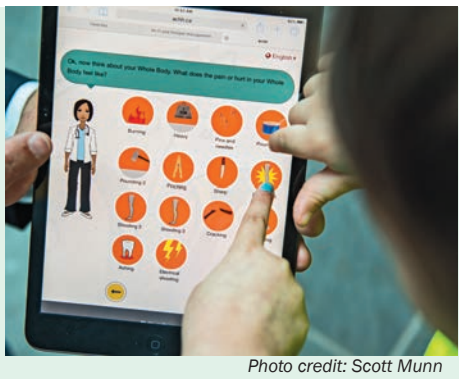


Photo credit: Scott Munn

Researchers are developing an electronic, interactive way to measure pain that will be easier and more culturally relevant for Aboriginal children to use.

"The communication that comes from the children's art expression is showing the research world and also the health world that we need to look beyond the physical," says Syliboy.

Researchers are also developing an electronic, interactive way to measure pain that will be easier and more culturally relevant for Aboriginal children to use. In doctors' offices and emergency rooms, children will be able to use an app on a tablet or smart phone to convey their hurt in a more accurate way, using methods that feel more comfortable for them. H

Pain program

Continued from page C7

In addition, doctors and nurses have received more education on how to support a child in pain. "For example, comfort positions are promoted when a child needs a procedure, so he or she can sit up or snuggle a parent and feel in control, rather than having to lie flat," says Thull-Freedman.

Early feedback shows the program is proving effective.

"We've collected feedback from over 500 patients and their families," says ED physician Dr. Antonia Stang. Only five per cent are telling us they would have wanted pain medicine but didn't get it, and families dissatisfied with their pain care has decreased from 15 to five per cent. We're working towards having 100 per cent of our patients satisfied with how their pain was managed in the ED."

William's mother, Barb Marshall, says the new program is an excellent addition to the overall ED experience. "Commitment to Comfort is a wonderful key statement," she adds. "It invites a parent to ask for help for their child's pain as you realize staff is committed to this initiative."

According to Thull-Freedman, the program benefits staff as well. "We've made it easier for our staff to do something that's really important to them," she says. "We have so many things to prioritize; we may not always notice the child who is experiencing his or her pain quietly. By inviting families to partner with us, we've been able to reach more kids."

Plans are now being made to expand the program into other departments at ACH, as well as to more emergency departments across Calgary.

Medical Psychiatry Alliance

Continued from page C4

Clinically, the Child and Youth MPA has enabled the Paediatric Consultation-Liaison (CL) Psychiatry program to expand to provide comprehensive, interdisciplinary, collaborative care to children and youth with complex co-existing physical and mental health conditions, including those with distressing and impairing physical symptoms. Through this initiative, coaching and inter-professional education programs across General Paediatrics and Emergency Medicine departments have been conducted to enhance capacity among healthcare clinicians to identify and properly refer patients with co-existing physical and mental health conditions to ensure timely access to appropriate care. A partnership with UofT medical education is enabling the integration of medical psychiatry curriculum into medical training for students and clinical health professionals. Within the mandate of the MPA, the Child and Youth program has the opportunity to study the needs of children and youth with complex co-existing mental health conditions, as well as their families and care providers, in more depth and to determine innovative ways of meeting those needs. As such, Child and Youth MPA has launched 14 Demonstration Projects province-wide, each project addressing unique challenges in patient care, education or research. Evaluation expertise from across MPA Partners has been leveraged to develop evaluation frameworks for all initiatives to allow for continuous evidence-based improvement.

Over the next four years, the MPA will continue improving the design of its initiatives, proceeding to implementation, evaluation and translation into the community to achieve improved outcomes across the system. It is anticipated that the MPA initiative will pave the way for permanent, integrative approach for patients with co-existing physical and mental health conditions, their families and communities.

In addition, this fall, the 2016 MPA Annual Conference will be hosted by SickKids and will bring together healthcare providers from across the system of child and youth healthcare, in order to help identify further ways to collaborate on integrated care for children and youth. For more information please visit (medpsychalliance.com).

The CL Psychiatry Program team provides comprehensive, interdisciplinary and collaborative care to children and adolescents with complex co-occurring physical and psychiatric illnesses, including those with distressing and impairing physical symptoms.

A teacher for the Caring Safely education classes describes the safety event classification pyramid in a training session.

Preventable harm

Reducing risk to paediatric patients

The Hospital for Sick Children (SickKids) recently celebrated the one year anniversary of Caring Safely, a strategic initiative focused on keeping paediatric patients safe from preventable events like drug errors and hospital-acquired infections. Simultaneously, the hospital is focusing on improving safety culture by implementing the principles of high reliability organizations. But with celebration comes resolve to forge ahead. As the true complexity and magnitude of this challenge is realized through increased monitoring and reporting, it's clear that the work has really just begun.

Caring Safely, a strategic initiative focused on keeping paediatric patients safe from preventable events like drug errors and hospital-acquired infections

SickKids' focus on safety touches every corner of the hospital, connecting people from previously disparate areas in new ways. Every staff member has been asked to make a personal commitment to safety and adopt error prevention and safety behaviours to guide individual and team interactions and decision making. Since April, almost 18 per cent of staff has received safety training. Shortly after the one year Caring Safely anniversary, SickKids celebrated one year without falls causing harm.

"While we are encouraged by this milestone, our focus on implementing principles of high reliability means we are always looking for ways to improve how consistently our strategy bundle is implemented. We are striving to assess all children's risk for falls when they are admitted, communicate that risk to other staff, post signage to remind everyone (including family) of the child's risk to fall and ensure that appropriate strategies are being used to minimize the risk of the child falling." says Mary McAllister, Associate Chief Nursing Practice and Clinical Lead for Falls Prevention as part of the Caring Safely initiative.

In high-reliability industries like aviation and nuclear power, near misses are not cause for celebration but a marker of an inconsistency or inadequacy in safety systems. Instead of congratulating themselves for avoiding disaster, leaders in these industries question how their safety processes did not prevent an error or catch it earlier. For SickKids, this means investigating deviations from generally accepted practice through a root cause analysis, even if the deviations didn't result in harm to a patient. Investigating these events helps to identify the factors that together caused harm, but the challenge lies in eliminating the risks that became apparent.

SickKids was the first Canadian hospital to join Children's Hospitals Solutions for Patient Safety, a North American collaborative of over 100 paediatric hospitals working together to improve patient safety. As a hospital that cares for children with some of the most complex cases in the country, there has been a significant focus on implementing evidence-based prevention techniques that address hospital acquired conditions such as central line associated bloodstream infections (CLABSIs).

"When it comes to CLABSI prevention, education is key and SickKids is educating all healthcare professionals involved in central line related care on best practice bundles. Sharing infection rates transparently with all clinicians is another critical component of our Caring Safely campaign" says Judy Van Clieaf, Vice President Clinical and Chief of Professional Practice and Nursing.

As the journey continues, continued collaboration is key to sustaining progress. Since SickKids joined the North American collaborative a year and a half ago, the paediatric patient safety community has grown in Canada. The Children's Hospital of Eastern Ontario and the IWK Health Centre have joined the collaborative in recent months.

"The results from the Solutions for Patient Safety collaborative are described as some of the most exciting patient safety improvements we have seen yet. We're forming a regional group to create deeper connections between hospitals and accelerate these developments," says Trey Coffey, Staff Paediatrician, Paediatric Medicine and Medical Lead for the Caring Safely initiative.

GlobalChild

Assisting Canada in meeting obligations to children under the Convention on the Rights of the Child

Grounded on the premise that taking a rights-based approach to enhancing Canadian children's wellbeing and development will lead to a stronger and healthier citizenry, the GlobalChild project aims to transform the way Canada meets its international obligations under the Convention on the Rights of the Child (CRC). GlobalChild was incepted by the late Dr. Clyde Hertzman (Order of Canada) and Dr Ziba Vaghri, and promises to provide a child rights monitoring platform that would facilitate both the implementation as well as monitoring of the CRC in Canada and beyond.

The aim of GlobalChild is to compile data relevant to different rights under the CRC and generate systematic tracking mechanisms by using a single tool in all 13 regions of Canada. This will harmonize CRC reporting within Canada and facilitate timely reporting by reducing the labor-intensiveness of report preparation. The tool will rely on two major innovations: 1) development of indicators to verify the state of different rights while relating healthy/development outcomes to rights as stipulated in the CRC; and 2) creation of a fully digitized monitoring platform.

GlobalChild builds upon an existing prototype tool, the Early Childhood Rights Indicators (ECRI), a monitoring tool for

children ages 0-8 years. Dr. Vaghri led development and pilot testing (2006-12) of ECRI in low (Tanzania) and middle (Chile) income countries. The high-income pilot of the ECRI is currently in progress in British Columbia (BC). GlobalChild will be comprised of a number of indicator sets, each one designed to verify the state of a given right. All indicator sets will be comprised of three categories of questions: 1) structure related questions, which verify the commitments made by the government to a given right (e.g. through policies or budgetary allocations); 2) process-related questions, which report the strategies by which the country has acted upon the commitments made (e.g. programs and initiatives); 3) outcome-related questions, which are designed to capture the changes experienced by children as a result of the commitments made and actions taken. Similar to ECRI, GlobalChild will be piloted in 3 regions, but all within Canada: BC, New Brunswick, and Alberta.

Supported by a five-year Scholar Award from the Michael Smith Foundation for Health Research, Vaghri (University of Victoria) is leading this global initiative under the auspices of the United Nations Committee on the Rights of the Child (the Committee). Her team includes two former Chairs of the Committee, UNICEF-Canada, six Canadian and three international universities, and a number of key global child rights activists.

"In essence, we are trying to capture the interaction of jurisdictional governments (the duty bearers) with their child populations (the right holders), with the goal of strengthening the capacities of both: the right holders to claim their rights; and the duty bearers to recognize, respect, and fulfill these rights," states Dr. Vaghri. These indicators can be used to improve the lives of children and prospects for their full development by guiding policies and practices aimed to improve children's environments. This is a large undertaking but one that, in time, will result in incremental positive changes in children's lives and life opportunities. Dr. Vaghri assures, "I am not worried about the enormity of the task as we have done this once before," referring to the ECRI, "…moreover, we have built a 'dream team' – a team of prominent world scholars such as Professor Yanghee Lee (Korea) and Honorable (Judge) Jean Zermatten (Switzerland) both of whom are former Chairs of the UN Committee on the rights of the Child, to name a few. We have also partnered with remarkable institutions such as Vancouver Island Health Authority (Island Health) which has a strong conviction to children's health and development," adds Dr Vaghri. The BC pilot of ECRI is partially sponsored by a Catalyst Grant awarded by Island Health.

Currently, Dr.Vaghri is in conversation with the Government of Alberta to launch GlobalChild during the annual conference of the International Society for the Prevention of Child Abuse and Neglect (ISPCAN), which Calgary is hosting this summer. She wants to capitalize on the presence of numerous members of the GlobalChild team who will travel to attend the ISPCAN conference, and launch GlobalChild during a Pre-Conference session on August 26th, 2016.

For more information, please contact Dr. Vaghri at zibav@uvic.ca H

IWK establishes inaugural Chair in Child and Adolescent Mental Health Outcomes

"How do we know sooner when things aren't working?" That question drives the research approach of Dr. Leslie Anne Campbell. Campbell was named the Sobey Family Chair in Child and Adolescent Mental Health Outcomes at the IWK Heath Centre in December of 2015.

What makes the work unique is the highly collaborative approach with children and youth, families and care providers to transform mental illness treatment at the IWK. "I'm interested in the whole person," says Campbell who believes that in order to really make a difference you have to work collaboratively.

Using an electronic survey, developed through collaboration with patients, families and care providers, it is possible to capture health information, and chart, in real-time, how children and youth are functioning. The survey will be filled out as soon as they arrive for their appointment, and the data will be collected and graphed in a meaningful way so that the doctor can interpret the results within the same visit. "What we learn through this approach can actually change the course of treatment, profoundly impacting people's care," says Campbell. "It's enormously rewarding."

The answers to the questions are reviewed comparatively with previous answers by the patient and against the population to get a snapshot of how that person is doing. In addition to quality and performance outcomes that the IWK tracks; number of visits, wait times and number of patients seen, Campbell points out children and youth have their own important milestones and outcomes that they are trying to achieve and have an important place in the information gathered to guide their care.

Answers like, "I'm able to go to school and not feel anxious," or "I was able to go to the school dance," are tracked and used to inform the care approach.

The systematic ability to gather and use this information as part of the bigger picture to guide treatment, program planning and resource allocation is remarkable. Dr. Debbie Emberly, IWK clinical psychologist, agrees that while patient perspectives have always been fundamental, the way the data can be captured and charted instantly, could revolutionize care. "It's amazing to finally know if the services we offer are actually helping our patients get back to living. This patient level data helps make our system better," says Emberly.

Campbell's work as the Sobey Family Chair in Child and Adolescent Mental Health Outcomes brings a focused lens on how to best use technology and collaboration to guide treatment and as Emberly points out "We're leaders in making that change." H

Photo credit: Scott Munn

"What we learn through this approach can actually change the course of treatment, profoundly impacting people's care."
– Dr. Leslie Anne Campbell

Dr. Leslie Ann Campbell is the Sobey Family Chair in Child and Adolescent Mental Health Outcomes at the IWK Heath Centre.

Care for children with medical complexity

The North Simcoe Muskoka region in Ontario has a unique complex care program that optimizes healthcare delivery to children with medical complexity (CMC), the Children's Complex Care Navigation Program (CCCNP). The program is a collaboration between the Hospital for Sick Children in Toronto, two regional community hospitals, Orillia Soldiers' Memorial Hospital in Orillia and the Royal Victoria Regional Health Centre in Barrie, the Community Care Access Centre (CCAC) and the Children's Treatment Network of Simcoe York (CTN).

CMC have multiple needs that require support from numerous care providers within a variety settings, including tertiary, community and rehabilitation centres. CMC represent less than one per cent of the total population of children however they have disproportionately high health service utilization. CMC account for greater than one third of all paediatric healthcare expenditure. The population of CMC is increasing and is at significant risk for encountering physical, developmental, behavioral and/or emotional challenges. They require services from tertiary and community care settings however collaboration and communication between the multiple care providers can result in conflict and fragmented care. Caregivers often become confused and frustrated with the health care system. This community based complex care model is a partnership of care between tertiary and community health centres. The complex care team provides consistency and advanced care coordination across settings to provide care closer to home, reduce fragmentation and enhance collaborative plans of care. The program aims to bridge the gap between tertiary and community care.

The program offers multi-disciplinary care within an ambulatory setting. Team members include a Paediatrician from the regional/ local hospital, a Paediatric Nurse Practitioner from the Hospital for Sick Children and a case coordinator from CCAC. Allied health providers from CCAC or Children's Treatment Network, such as dietitians and therapists, are available for consultation as needed.

CMC who qualify for this program receive the following services:

- Clinic consultations within their local hospital
- Access to a contact/key worker (the nurse practitioner) who is available five days a week by phone or email to discuss health concerns, treatment and healthcare plans.
- A consistent team who develop sound knowledge of the patient's medical, developmental, emotional and psychosocial issues.
- Improved communication and collaboration between the patient, caregivers and providers within the home, hospital, community and school setting.
- The patient's healthcare team (regardless of setting) are continuously informed of changes to the patient's condition and collaborate on plans of care.
- Management of acute situations either by phone, in the emergency department of that hospital or by the Paediatrician on call.
- Improved access and utilization of local resources including Specialists, nursing agencies and Children's Treatment Networks.
- Team members can participate in multidisciplinary meetings within the hospital, community or school.
- Advanced coordination of care within the hospital and community. Coordinate tests, investigations and clinic appointment.
- Development/upkeep of a collaborative care plan. H

Paediatric home care

Saint Elizabeth has been providing home care to Canadian families for over 100 years. Over the past five years, our paediatric team has delivered more than 890,000 hours of service and 530,000 visits across the country.

We're continually working to improve the lives of children and their families by advancing the quality and range of services that we provide. Here are two areas where we've seen success in paediatric care:

Speech-language pathology: involving parents to improve skills

Saint Elizabeth provides speech-language pathology services for children that present with fluency, speech, feeding, or voice difficulties. Due to environmental changes, we've developed an alternative way to educate parents and increase their involvement in their child's therapy.

This is achieved through consultation and coaching with parents or educators in the home or at school to facilitate skill-building techniques that can be used in daily life situations with the child. We have also worked to develop individualized programs with the children to target the development of specific functional skills.

We've found that time constrictions and work obligations can affect the attendance of parents at therapy sessions in the school. To combat this, we maximize the use of technology, through short videos and learning modules specific to the child. Parents can access the program electronically to find the modules that will help them to practise skills with their children.

Dieticians: increasing positive outcomes

Through an audit of care provided to paediatric patients, Saint Elizabeth has found that dieticians have a significant impact on positive outcomes for these patients. Working with a dietician can improve a child's growth and increase the variety and number of food groups a child will accept. This work was conducted as part of a quality improvement initiative that investigated the benefits of interdisciplinary care.

Our program to help children to wean off tube feeding has also seen great success, resulting in a reduced number of health care services a child requires and allowing them to function with greater quality of life.

To learn more, visit www.saintelizabeth.com. H

A true patriarch... transcending time...

Dr. Rick Cooper: Long-time Educator, Paediatrician at the Janeway

On August 9, 2016, the Janeway Children's Health and Rehabilitation Centre will celebrate its 50th birthday! For 43 of those 50 years, Dr. Rick Cooper has been a practicing Paediatrician at the Janeway, caring for sick children from across Newfoundland and Labrador.

In 1969 at the age of 26, Dr. Cooper completed his residency in paediatrics at Dalhousie University, followed by his Infectious Disease Fellowship at Case Western Reserve University in Cleveland, Ohio. Dr. Cooper then returned to Newfoundland and Labrador and joined the faculty of Memorial University of Newfoundland as a teaching physician and practicing paediatrician at the Janeway.

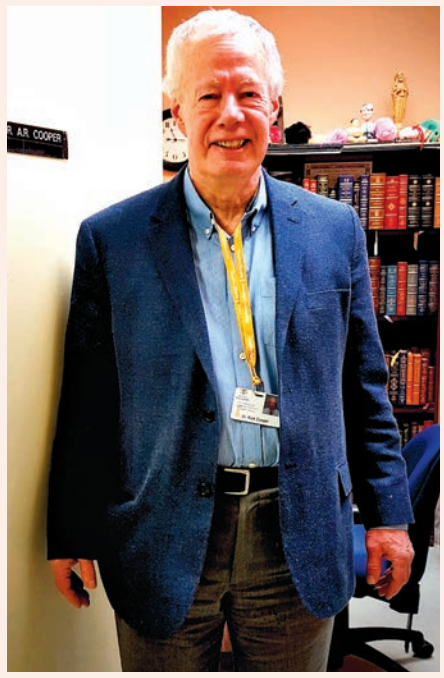
"I started my career in paediatrics at the old Janeway Hospital, which at that time, was located at the former Pepperrell Air Force Base hospital in Pleasantville in St. John's," says Dr. Cooper. "Some of my proudest, greatest challenges and fondest memories come from there and what is known today as the Janeway Children's Health and Rehabilitation Centre."

The old Janeway Hospital first opened its doors in 1966. The hospital was named after American paediatrician, Dr. Charles Alderson Janeway, who along with Dr. Clifton Joy, was a great advocate for instituting a children's healthcare facility in Newfoundland and Labrador.

Since opening, the Janeway has played a key role as a teaching hospital and tertiary care paediatric center in the province; serving as the training ground for new generations of leaders in paediatrics.

"I was very fortunate to have taught the first ever infectious disease course at the MUN medical school in 1974," Dr. Cooper says. To this day, after 43 years of practice, Dr. Cooper continues to teach infectious diseases microbiology and general paediatrics to students, residents and his colleagues.

Besides having research interests in infectious diseases, Dr. Cooper has been very active clinically in several areas of paediatrics, including general paediatrics, neonatology, child protection, oncology and child development. With his knowledge in child health, combined with decades of practicing experience, Dr. Cooper has been, and continues to be a major influencer and mentor to those around him.



Dr. Rick Cooper

"I can honestly say that the Janeway has not only been a cornerstone in my career, but it has also been a significant establishment in our province since the beginning of its time," adds Dr. Cooper. "The Janeway represents a half-century of healthcare professionals providing compassion, commitment, hope and promise to children and their families Newfoundland and Labrador."

Dr. Cooper has been married to his wife, Grace, for over 47 years and have five children together, two of whom have followed their father's footsteps of becoming physicians.

"In addition to my career in paediatrics, authoring a book and my eight grandchildren keep me quite busy," grinns Dr. Cooper. With any other time that he has left to spare, Dr. Cooper enjoys many of his favorite hobbies, including woodworking, gardening and spending time at his country cabin. H

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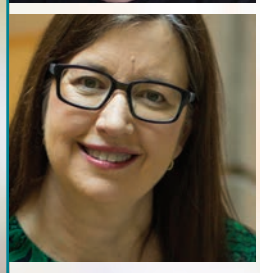
Harnessing Our Strengths: A Shared Vision for Child and Youth Healthcare

KEYNOTE SPEAKER

Professor Timothy Caulfield

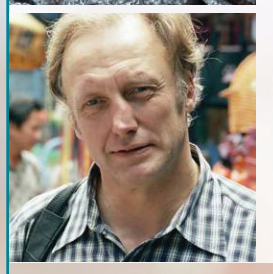


PLENARY SPEAKER

Dr. Maureen O'Donnell

MOTIVATIONAL SPEAKER

Grace Thompson



CLOSING KEYNOTE SPEAKER

Ian Brown

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Ontario's Bill 210: A sweeping expansion of LHIN powers over health service providers

By Michael Watts and David Solomon

Ontario's Bill 210, the Patients First Act, 2016 passed first reading on June 2, 2016 and, if enacted as drafted, will significantly expand the powers of local health integration networks (LHINs) over "health service providers" in two important ways (and among other things):

(1) by mandating LHINs to identify and plan for their local health system's needs regarding "physician resources," and

(2) by empowering LHINs to manage physician resources through Service Accountability Agreements (SAAs) that they will be able to unilaterally impose on "health service providers", as agents of the Minister of Health and Long-Term Care.

This has broad implications for physicians and practitioners who are compensated through alternative funding agreements (AFAs) on a basis other than fee-for-service billings to OHIP, which under a variety of current models may cover or include:

- Family health teams and community health centres,
- Specific communities and underserviced specialties,
- Individual departments in a single hospital,
- Entire services of all physicians at a single hospital,
- Services of all full-time specialists at an academic health science centre,
- Province-wide gynaecology oncology, radiation oncology and medical oncology services,
- Emergency services in hospitals, specialist services in the north and agreements with specialists and subspecialists associated with academic health science centres,
- Regional trauma hospitals to ensure the 24-hour availability of high-level care for patients with serious trauma (Trauma Team Leader global funding agreements),
- Academic Health Science Centres, for clinical services, education and research, or
- Services such as psychiatry, the Regional Surgical Network, neurosurgery/neurology and anaesthesia in northern regions.

(Source: Health Force Ontario).

This also has broad implications for hospitals where AFAs may be in place in addition to hospital-SAAs or "H-SAAs", because it appears that there will be overlapping responsibility under the Local Health System Integration Act, 2006 (LHSIA) and the Public Hospitals Act for oversight and management of hospital resources and utilization, particularly in emergency departments.

The "Patients First" discussion paper released by the Ministry of Health and Long-Term Care in June 2016 forecasted that "LHINs would take on responsibility for primary care planning and performance improvement, in partnership with local clinical leaders" and that the Ministry would give LHINs "additional responsibility for health system planning of physician resources".

Bill 210 amends the Health Insurance Act to allow the Minister to appoint a LHIN as its agent for the purpose of carrying out any function, obligation or right under any SAA or AFA, provided the Minister gives notice of the appointment to the other parties to the arrangement. The LHIN will have all rights and obligations of the Minister "despite any provision of such arrangements."

Bill 210 also empowers LHINs to direct that providers that receive funding from them (a) engage or permit an auditor to audit their accounts and financial transactions, and (b) engage in or permit an operational review or peer review of their activities. This is in addition to the existing powers of LHINs to require such providers to provide "plans, reports, financial statements and other information" required to carry out the duties and responsibilities under the LHSIA.

Continued on page 16

Community program helps overweight children be healthier

By Julie Dowdie and Jane Kitchen

Anna Giordano is grateful to a community-based program that supports overweight and obese young patients and their families in making important lifestyle changes that will lead to improved health, stronger bodies, and a better quality of life.

Her son Delaun, aged nine, was a recent participant in the Healthy Outcomes Paediatric Program for Scarborough (HOPPS) in the Greater Toronto Area, a specialty program offered jointly by Rouge Valley Health System (RVHS) and The Scarborough Hospital (TSH), with support from several community partners. HOPPS is funded by Ontario's Ministry of Health and Long-Term Care at no cost to patients.

The HOPPS clinic aims to help young patients make healthy lifestyle changes

The HOPPS team consists of paediatric endocrinologists, paediatricians, a registered dietitian, an exercise therapist, a social worker, and a registered nurse. Patients and their families are seen by a paediatrician at either RVHS or TSH, depending on which is closer for the patient and what co-morbidities (medical conditions) they may have. They are also seen by the HOPPS team at the hospital or at one of the community partner sites: Scarborough Centre for Healthy Communities, TAIBU Community Health Centre, or the Toronto Pan Am Sports Centre (through the University of Toronto-Scarborough campus.) The community spaces offer care closer to home, and a way to work with patients and their families outside of a hospital setting, connecting them with community resources. Since its launch last November, the program has seen 135 patients.

Delaun was referred to HOPPS by his paediatrician at RVHS due to his weight and a diagnosis of sleep apnea. While Delaun has always been active, he was not always eating at home, and he often received large portions of calorie-rich foods at mealtimes and during snack times, particularly in his after-school care. HOPPS gave him the tools to help stay focused on eating well.

"Program staff met with us and came up with creative solutions for Delaun on how to handle challenges when being offered food," says Anna. "Now, he can continue making healthy choices, no matter where he is."

For children who are overweight or obese, a lot is riding on learning how to make these healthier choices. Dr. Margaret Gan-Gaisano, a paediatric endocrinologist at RVHS says, "Obesity in children has shown to result in much earlier onset of diabetes, hypertension, hyperlipidemia, and fatty liver, leading to heart disease, stroke, kidney and liver failure, and other conditions. The HOPPS clinic aims to help young patients make healthy lifestyle changes to avoid these preventable consequences."

Dr. Peter Azzopardi, Medical Director and Corporate Chief of Paediatrics at TSH, adds, "It is estimated that there are 36,000 overweight and obese children living in Scarborough. A key concern for these children and their families has been the lack of access to multidisciplinary clinics that can help to treat the various issues that contribute to unhealthy body weight – including lifestyle. By working together on the HOPPS program, RVHS and TSH are helping to address this unmet need."

Delaun was referred to the HOPPS group program for patients between the ages of seven and 17, which includes an intensive six weeks focusing on healthy lifestyle modification. His classes were held at TAIBU Community Health Centre, and included fun exercises and physical activity, nutrition counselling, and education on family lifestyle changes. The program helps patients improve their confidence and self-image, and provides them with information on resources for sustaining their lifestyle changes. Post-program, patients are followed by the HOPPS interdisciplinary team for two years.

"Delaun has developed an understanding about food, because of the program," says Anna. "He makes nutritious choices, including protein and veggies in his diet. He is aware of portion sizes now and what they should look like for someone his age. He knows how to stop eating when he is comfortable, and doesn't have to eat until he is full. And, he manages his own treat intake; he knows that he doesn't need a treat every day, and when he does have one, he knows he doesn't need another later the same day."

Delaun Giordano, aged nine, is feeling strong after completing the HOPPS group program.

And while Delaun has lost weight by making better choices, Anna's focus is for her son to be strong and healthy. Delaun has noticed other health benefits as well – his sleep apnea is no longer an issue, which means he is sleeping better, and is not as tired during the day. This, along with an improved ability to breathe better generally, increases his ability to be active. Friends and family are noticing how well he is doing. Anna loves to see the increase in his self-esteem as well.

"Delaun is gaining so much confidence – not only from the weight loss, but because, thanks to HOPPS, he has learned how to do all of this stuff to take care of himself in spite of the temptations, and other unhealthy ideas about food that exist everywhere!"

Julie Dowdie is Communications Officer at The Scarborough Hospital; Jane Kitchen is Communications Specialist at Rouge Valley Health System.

Who is HOPPS for?

- HOPPS has been developed for children between the ages of two and 17 who have an elevated body mass index (BMI) and may have complications related to obesity. Specifically, paediatric patients with a BMI greater than the 97th percentile; or those who have a BMI greater than the 85th percentile with one or more of the following conditions: pre-diabetes, hypertension, polycystic ovarian syndrome, hyperlipidemia, fatty liver, or sleep apnea.
- In addition to the group program, family-centred counselling with the HOPPS team is available for younger patients between the ages of two and six, also at a community site. The counselling includes discussions for the whole family around lifestyle changes, healthy eating, physical activity, and supports that are available in the community. The frequency and number of weeks of counselling are based on the needs of the family.
- To learn more about HOPPS, please contact the team at 647-461-7030, or HOPPS@rougevalley.ca. To participate in HOPPS, patients will need a referral from their family physician. Referral forms are available at www.rougevalley.ca/HOPPS and www.tsh.to/hopps, and can be faxed to the central booking office at 416-281-7313.

Legal update

Continued from page 15

The scope of information that could be requested is wide. Bill 210 empowers the Lieutenant Governor in Council (the Premier) to make regulations under the LHSIA requiring "prescribed persons and entities" to provide information and reports to a LHIN about the following:

i. physician resource issues such as opening and closing of practices, transitions and changes to practices, retirements from practices and change of location of practices, and
ii. physician practices in the local health system such as policies for accepting and discharging patients, practice profiles, practice wait-times, and practice coverage for after-hours services, vacations, leaves and other absences.

The LHINs' funding powers under Bill 210 will also allow them to fund providers for services provided in or for their own LHIN or another LHIN. Providers will be required to enter into SAAs with the LHIN, the terms of which, failing good faith negotiations, may be "set" by the LHIN on notice to the provider and the Minister.

It appears in this regard that all AFAs howsoever termed (AFP, APP, RNGPA, HOCC Funding, etc.) will effectively become SAAs under Bill 210.

Finally, LHINs are granted the power under Bill 210 to appoint investigators or supervisors over providers that have entered into SAAs (but these powers do not apply to long-term care homes or, in the case of supervisors, to hospitals). The only "check" on these powers are the overriding powers granted to the Minister under Bill 210 to issue binding directives to LHINs or appoint investigators or supervisors over LHINs.

Michael Watts is a Partner and David Solomon is an Associate in the Toronto office of law firm Osler, Hoskin & Harcourt LLP.

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Trial aims to prevent Alzheimer's in those genetically predisposed

Ted, a participant of the DIAN-TU trial, on the left, with Dr. Mario Masellis on the right.

By Nadia Norcia Radovini

A first-of-its-kind study is testing the use of antibody drugs to prevent or slow down the onset of Alzheimer's disease in individuals genetically destined to develop the illness at an early age.

"We want to stop this disease in its tracks, before symptoms begin to emerge, or when in the very early stages," says Dr. Mario Masellis, neurologist and lead investigator of the trial at Sunnybrook Health Sciences Centre, one of the few Canadian sites of an international study – The Dominantly Inherited Alzheimer Network Trials Unit (DIAN-TU) drug trial.

Autosomal dominant Alzheimer's disease (ADAD, or also referred to as early-onset familial Alzheimer's disease) is genetically inherited or passed down through families. Individuals who have a parent with a genetic mutation have a 50 per cent chance of carrying the gene.

Those who have the gene will begin to experience symptom onset as early as their 30s and 40s; generally 20 to 30+ years earlier than the majority of people whose Alzheimer's develops sporadically later in life.

Scientists suspect that the build up of a sticky plaque in the brain made up of a protein called beta-amyloid and another, called tau protein, may be the first steps in a process in the development of Alzheimer's disease (AD). Amyloid and tau changes in the brain have been shown to occur greater than15 years before symptoms appear in genetic cases.

"We think amyloid is the initiating effect," says Dr. Masellis, also an assistant professor of neurology at University of Toronto. "When it starts to gum up and stick together, we think it causes inflammation of brain cells leading to memory and thinking impairment, and eventually pre-mature brain cell death."

In what is one of the longest and most aggressive preventive Alzheimer's drug trials in history, the researchers are testing two experimental anti-amyloid drugs, solanezumab and gantenerumab, both of which aim to lower levels of the substance that forms amyloid plaques.

While ADAD makes up less than one per cent of all Alzheimer's cases, the predictable age of onset makes it possible to test drugs years before symptoms begin. This is when anti-amyloid therapies are hypothesized to be most effective.

"The Alzheimer's Association feels confident that this study will help to accelerate the scientific community's ability to determine whether an early intervention can delay or stop Alzheimer's disease," says Dr. Maria Carrillo, Ph.D., chief science officer at the Alzheimer's Association.

Dr. Randall J. Bateman of Washington University School of Medicine, the study's principal investigator, says, "The important milestone of reaching the first stage of enrollment brings us one step closer to finding out whether these two drugs will work as preventive therapies. We will keep going until there are drugs to effectively prevent and treat Alzheimer's disease."

A novel approach for the field of Alzheimer's disease research, this study has an adaptive clinical trial design, which means there is potential for adding new drugs to the trial for testing, as they become available.

DIAN-TU is a public-private partnership of academic centers, the Alzheimer's Association, Eli Lilly and Company, Roche, and the U.S. National Institute on Aging, amongst other supporters.

The ADAD population has historically been excluded from Alzheimer's trials due to the rarity of this disorder and hypothesized different routes to disease compared to sporadic, late-onset Alzheimer's disease. The DIAN-TU trial is the first global trial to enrol dominantly inherited Alzheimer's participants and is currently operational at 24 sites in seven countries and four languages.

More information on the study is available at: www.dianexr.org or 1-844-DIAN-EXR (844-342-6397). H

Nadia Norcia Radovini is a Communications Advisor at Sunnybrook Health Sciences Centre.

Psoriatic Arthritis Clinic is first of its kind in Canada

By Sarah Warr

The Psoriatic Arthritis (PsA) Clinic at Women's College Hospital (WCH) is Canada's first Rapid Access Clinic offering a self-referral system for individuals with psoriasis and psoriatic arthritis, a type of inflammatory arthritis.

Psoriatic arthritis affects approximately one-third of individuals with psoriasis. The main symptoms of PsA are joint pain, stiffness and swelling that can affect any part of the body; the severity of these symptoms can range from mild to severe.

"Our clinic offers a new model of care that involves a self-referral option and a triage system to improve access to rheumatology care for patients with psoriasis who might have PsA," says Dr. Eder, a staff rheumatologist and scientist at Women's College Research Institute, WCH. "Research shows that seeing a rheumatologist and receiving an early diagnosis can help prevent long-term joint damage and improve patients' quality of life."

Patients who come to the PsA Clinic will receive a diagnosis based on information from their medical history, physical examination, blood tests and imaging. In addition, musculoskeletal ultrasound assessment of their joints is performed in the clinic to check for joint inflammation.

"Up to 35 per cent of the psoriasis patients may have psoriatic arthritis that has not been diagnosed," says Dr. Eder. "If left untreated, PsA can lead to irreversible joint damage that can negatively impact individuals' activity levels."

Patients visiting the clinic receive treatment from a multidisciplinary team of specialists including two rheumatologists, a dermatologist and an advanced practice physiotherapist. Treatment of PsA focuses on controlling the symptoms and preventing damage to the joints to reduce further complications.

In addition to providing patient care, the clinic team is also conducting a study to investigate the causes of PsA such as environmental exposures and genetic mutations to help identify populations that are at a higher risk of developing the disease.

The PsA Clinic at WCH operates on Thursdays from 9 a.m. to 5 p.m. Individuals who suspect they might have PsA can self-refer to the clinic by filling out an electronic form to request an appointment.

For more information, please visit the PsA Clinic website at www.womenscollegehospital.ca/psa. H

Sarah Warr is a Communications Assistant at Women's College Hospital.

The PsA Clinic Team (from left to right): Dr. Lihi Eder (Rheumatologist), Dr. Dana Jerome (Rheumatologist), Dr. Jensen Yeung (Dermatologist), Keith Colaco (Research Coordinator), Chandra Farrer (Advanced Practice Physiotherapist).

Women's College Hospital's Acute Ambulatory Care Unit helps reduce time spent in hospital

By Atifa Hamir

Members of the AACU team from left to right: Dr. Tara O'Brien, medical director; Norma Keen-Cambell; Alice Jacob; Pat DiRaimo, clinical manager; Miriam Young and Pat Cruz.

Where does a patient go when their needs are too complex for a community or family physician but may not require inpatient hospitalization or a trip to the emergency room?

Since 2012, the Acute Ambulatory Care Unit (AACU) at Women's College Hospital (WCH) has been helping patients in this very situation by providing urgent assessment, investigation and management for patients with new or chronic medical illnesses.

"Our goal is to prevent long trips to the emergency room and lengthy inpatient hospitalizations," says Patrizia DiRaimo, clinical manager of the AACU, WCH. "If we can provide patients with the care they need within 18 hours in the AACU, then we can reduce the time they spend at a hospital and lessen the pressure on other local healthcare facilities."

The AACU team works with patients dealing with conditions such as COPD, asthma, heart failure and those who need IV antibiotics or rapid diagnostic workup for a new medical problem. The unit operates 24 hours a day, from Monday to Friday and is staffed by several nurses and a physician who specializes in general internal medicine. The AACU team has access to a wide range of medical testing such as radiology tests, non-invasive cardiac testing, pulmonary function tests, laboratory requests and more. They can also arrange for urgent referrals to other specialists.

To access the AACU, patients must be referred by a physician, be medically stable and able to come for outpatient followup. If a patient is required to stay overnight, the healthcare team at the AACU will often speak to them about personal items to make their stay more comfortable, such as their own toiletries and reading materials. Patients are also able to bring specialized dietary items such as gluten-free and/or lactose-free foods if needed.

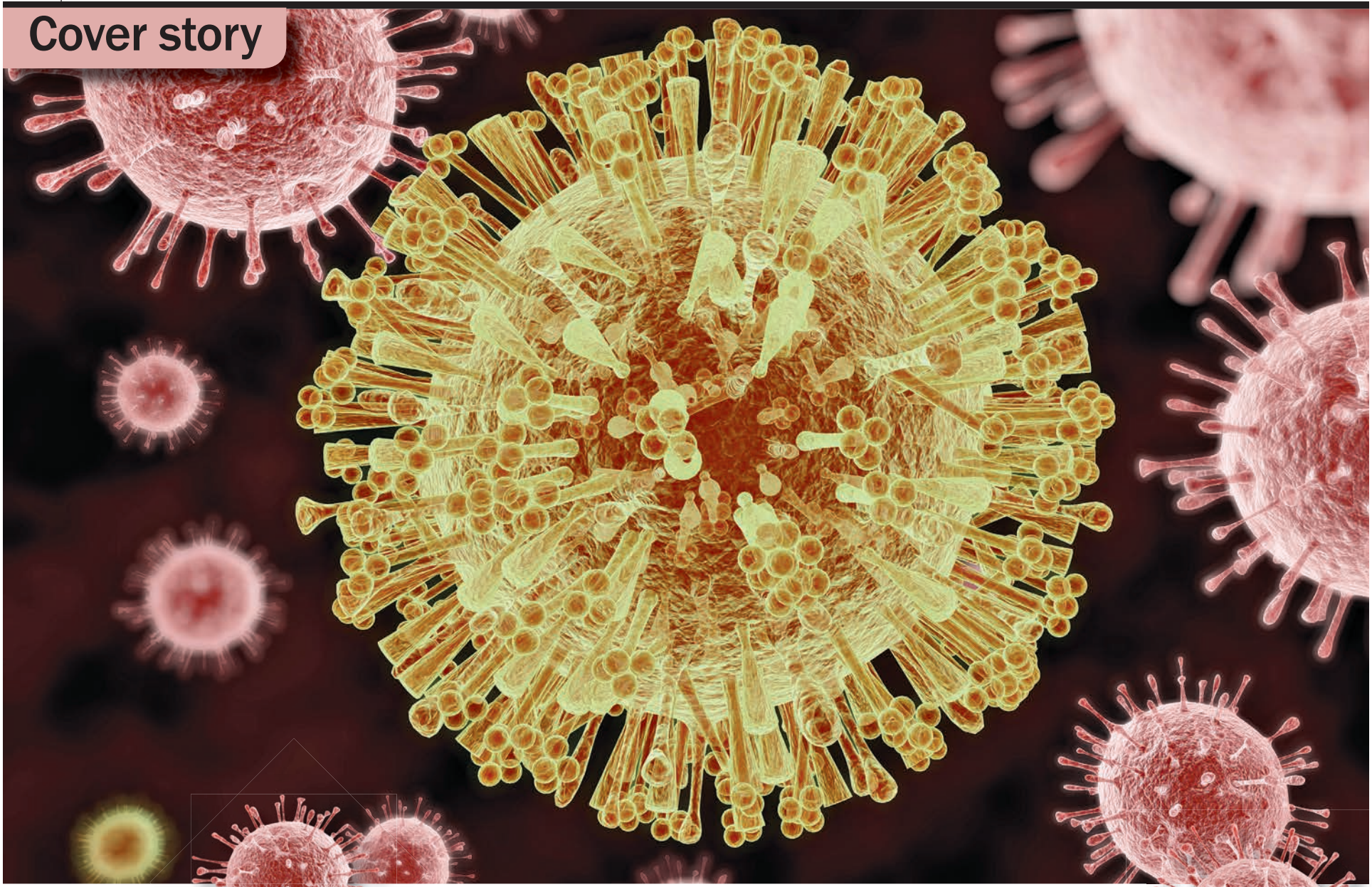
Since patients may be in the unit for longer than just a couple of hours, the AACU team places a strong emphasis on ensuring that communication is as easy as possible for non-English speaking patients. Program pamphlets are offered in Portuguese, Italian and Cantonese – languages spoken by some of the clinic's largest patient populations. The team also has access to translation services for other languages.

"In addition to providing the right kind of care in the right timeframe, we want to make sure our patients are comfortable and feel safe," says DiRaimo. "As our patient population evolves, we are ready to evolve with them."

To learn more about the AACU's services, please click here.

Atifa Hamir is a Communications Co-ordinator at Women's College Hospital.

Cover story



The Zika virus

By Alexandre Brolo

Mosquito-borne diseases are not usually a hot news topic in North America, despite the fact that nearly half a million lives were lost to malaria just last year. Recently, however, Zika fever, a member of the group known as "neglected tropical diseases", has been dominating the media. The Zika virus is primarily transmitted by the females of the Aedes aegypti (and Aedes albopictus) mosquitoes. The disease crept into Brazil last summer, taking most by surprise.

I was in Brazil in 2013 discussing with Brazilian researchers the application of fast diagnostic methods for dengue fever (the most common member of the Zika family, dengue is a disease that affects about 400 million people every year worldwide), and they were very concerned with the appearance of the first cases of Chikungunya (another of Zika's cousin) in Brazil. There was no mention of Zika. It was simply not on their radar.

Zika fever (first discovered in 1947) was virtually unknown (only about 14 cases were formally documented before 2007) and mainly confined to tropical Africa, Southeast Asia, and the Pacific Islands. The Brazilian Zika outbreak in 2015 raised concerns, but appeared to be a relatively mild problem when compared to both dengue and Chikungunya. Although all three diseases (Zika, dengue and Chikungunya) share the same vector and present similar symptoms (fever, skin rash, headache), the effects (mainly muscles and joint pain) are generally less debilitating in Zika than for the others. Moreover, Chikungunya and dengue appeared more prone to further complications than Zika.

Zika is spreading at a breathtaking velocity

Overall, Zika seemed to be the less threatening of the Aedes-transmitted virus family. However, a few months after the first Zika outbreak, Brazilian health officials started to observe a much higher than normal incidence of microcephaly and other severe birth defects from regions that had been hardest hit by Zika. Babies with microcephaly have much smaller heads, due to improper development of the brain during pregnancy. The condition can lead to several problems, including very slow cognitive development; seizures; difficulties in dealing with routine voluntary movements, such as swallowing; hearing and vision impairment. A direct causal relationship between Zika and those birth defects was confirmed last April. A relationship between Zika and other complications such as Guillain-Barré syndrome has also been established.

These discoveries have triggered alarm bells across the world. Zika virus was declared a "public health emergency" by the World Health Organization (WHO) in February 2016 for two reasons. First, Zika is spreading at a breathtaking velocity. Zika outbreaks are not only confined to Brazil and have reached most of the Latin America and Caribbean regions. Active Zika virus transmission (through mosquito bite) has reached as far as the North states of Mexico. Although no locally-acquired Zika case has been reported in the continental USA, almost 2,500 people were infected by mosquito bites in Puerto Rico. The ferocity in which Zika moved North from Brazil suggests that some southern states in the continental USA could fall victim of the disease soon. In contrast to dengue and Chikungunya, Zika virus has been isolated in semen and cases of sexual transmission have been confirmed. There is also some evidence that Zika can be transmitted through deep kissing, since the virus has been found in saliva.

Most of the established Zika cases in Canada (~150) are travel associated, which leads to the second reason for Zika's world-wide prominence. In August 2016, Rio de Janeiro will host the Olympic games, arguably the most popular sports event in the world. Therefore, Brazil will receive millions of tourists and thousands of athletes. Although the incidence of Zika from the 2016 outbreak in Brazil is declining (the games will be in the winter in the southern hemisphere, therefore, the mosquito population will have diminished significantly) and the risk of infection is lower, the situation cannot be taken lightly; mainly for women who are, or intend to become pregnant in the near future.

Canadians who are planning on attending the games (or, more generally, who are planning to travel to Zika affected areas) must take some important precautions. The use of mosquito repellent and the wearing of long sleeves and long paints are simple common sense provisions. Pregnant women should take extra care and immediately see a doctor if they experience any flu-like symptoms.

The fact that Zika is potentially transmitted sexually greatly raises concern. Zika symptoms are sometimes mild and an infected man might not even realize that he is sick. This means that men can unknowingly pass the virus to his partner. In fact, the virus appears in the semen even before the development of symptoms of the disease, and then it remains after the symptoms have ceded. The Zika virus persists in semen longer than in blood, but it is unknown for how long.

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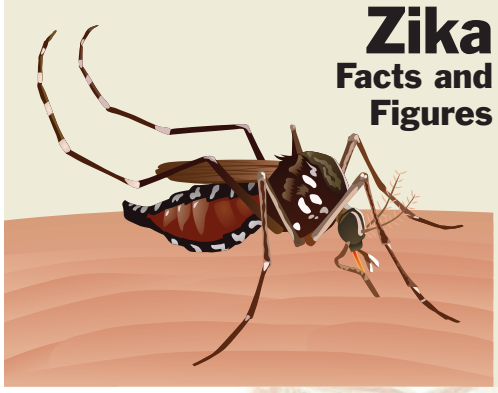
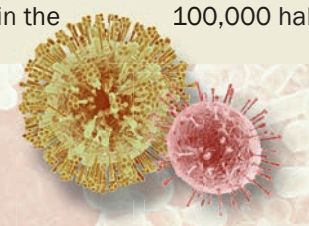


Zika Facts and Figures

- Zika has been reported in 40 countries and two US territories in the Americas.
- It is estimated that only about one in 4 people infected with Zika virus develop noticeable symptoms.
- It usually takes between 3 to 12 days for symptoms to appear after infection. The disease symptoms are usually mild and last for 2 to 7 days.
- About 430,000 of suspected Zika cases have been reported in the Americas between 2015-2016.
- Only 9 deaths have been directly linked to Zika (excluding the ones related to microcephaly and other Zika consequences) in the Americas between 2015-2016.
- About 3,000 newborns with microcephaly were reported in Brazil in 2015.
- The average incidence of Zika in Brazil in 2016 is about 80 cases per 100,000 habitants. However, the 2016 average incidence in the state of Rio de Janeiro (Olympic venue) is about 280 cases per 100,000 habitants. The estimated incidence during the games (winter) should be less than 5 cases per 100,000 habitants.
- There have been 162 cases of Zika in Canada. 161 were travel-related and one was sexually transmitted. No Zika related death or birth defects have been reported in Canada.



Continued from page 20

All this means that the use of condoms (or sexual abstinence) is highly recommended for travellers. Since the lifetime of the Zika virus in semen is unknown, it is better to be on the safe side and continue to use condoms for six to eight months after returning from travel to a Zika affected area. It is also a good idea to postpone any plans to conceive for at least six months.

There is no specific treatment for Zika virus infection. The disease is managed like the common flu; with acetaminophen or paracetamol to control fever (aspirin and non-steroidal anti-inflammatory drugs (NSAIDS) are not recommended), plenty of rest and fluids to avoid dehydration. Antihistamines can be used to help with the itching. Experimental Zika vaccines have been approved for first human trials (including one vaccine developed by a collaboration between researchers from the Université Laval in Quebec and US partners), but there is nothing available yet.

It is estimated that Brazil alone had around 350,000 less births in 2015-2016 due to Zika concerns.

The bottom line is that the response to Zika outbreaks has focused on the time tested solution used for all mosquito-borne diseases around the world – to kill the mosquito. It turns out that decimating a mosquito population is not as straightforward as it sounds. Simple techniques, such as mosquito traps, can be useful. Avant-garde methods include the use of genetically modified mosquitos or the introduction of a large population of radio-sterilized males that are able to mate but leads to inviable female eggs. Currently, the most efficient approach for mass-destruction of mosquitoes is the use of insecticides and larvicides. However, it is not practical to "spray" indiscriminately large densely populated areas in urban settings.

A good amount of logistics is involved in deciding where and how to deploy measurements for mosquito control. Governmental health organizations in affected countries generally employ an army of public health officers (PHOs). In Brazil, PHOs go door-to-door around neighborhoods to check standing water in items such as tires, flower pots and toys for the presence of the larvae and the mosquito. They arrive armed with official brochures and posters in an attempt to educate the general public on simple methods to control potential mosquito breeding grounds. They then report the infested areas back to the government. These reports then guide the spraying.

It is clear that this process (which has been repeated every year for decades) is inefficient and time-consuming. The significant delay between the report and response allows the disease to spread. Better surveillance technologies are required to improve response time and containment of the outbreaks.

Over the last 15 years, my research group has been exploring optical effects (colors) observed in very small gold chunks ("nanogold" – gold pieces that are 1000's times smaller than the diameter of a human hair). As the Zika crisis developed, we decided to use this expertise in nanotechnology to provide the PHOs with a new tool that would allow them to report the presence of Zika in real-time.

The idea is to develop a low cost platform that consists of immobilizing "nanogold" in a simple plastic strip and then coat it with a Zika virus antigen. The result is a biosensor that looks like a litmus test for Zika. The plastic strip changes color when in contact with Zika infected saliva. We decided to target saliva, rather than blood (which is more common for Zika diagnosis), for two reasons: 1) the goal is to provide a tool for PHOs. They generally do not have medical training and are not equipped to handle complex biological samples; 2) the amount of Zika virus is actually high in saliva. Saliva sampling is also easier to extract from infants, children and the elderly. The material cost per strip is less than CDN $5.00. If mass-produced, the cost per strip could be less than $1.00.

The vision is to equip PHOs with the strips and a piece of hardware ("reader") attached to their cell phones. The hardware will quickly detect the presence of Zika (by measuring the color change), and upload the location of the contaminated individual in real-time (in Google maps, for instance). This would allow health officials to monitor trends and the spread of the infection instantly, leading to a more rapid response and deployment of resources.

The initial steps to develop this technology have recently been funded by a Zika Innovation Award from Grand Challenges Canada (http://www.grandchallenges.ca/). This seed grant has led to successful preliminary proof-of-concept experiments realized here in Victoria (saliva from health students spiked with Zika antibodies were used in the experiments). We are now in the process of ramping up production of the plastic strips to deploy them in a pilot test in Brazil next August. Another goal in the near future is to develop specific strips also for dengue and Chikungunya, so a PHO would be able to report not only the presence of the infection, but also the type of disease in a particular area. The technology is still in the early stages of development and we are still fighting non-specific detection (false positives).

Considering the potential individual impact of Zika, it is possible that our technology might one day be used as an off-the-shelf test, available in regular clinics and drug stores. The low-cost plastic strip test could then be a new tool for prenatal care in countries infested with Aedes mosquitoes.

Beyond the obvious health concerns, Zika carries other global consequences. For instance, the governments of Colombia, El Salvador, Jamaica and (of some States in) Brazil advised women to postpone their plans to have a child. It is estimated that Brazil alone had around 350,000 less births in 2015-2016 due to Zika concerns. This means that some kindergarten classrooms in those countries will be between 10 – 30 per cent emptier only six years from now due to this crisis. It is also important to point out that birth control strategies in several of the Latin American and Caribbean countries are not accessible to the majority of low-income families, and they are the ones who will have to deal with the devastating effects of the disease in newborns. This points to a bleak future unless advanced technologies for mosquito control, disease surveillance, prevention and diagnosis are generated. It is our hope that our low cost screening method will play an important role in managing this global crisis. H

Alexandre G. Brolo is a professor of chemistry at the University of Victoria. His research interests are related to the application of nanotechnology to develop biomedical devices.

A path to healing

By Kimberley Kearsey

The government has passed legislation that will make life a little easier for first responders struggling with PTSD. But nurses are now left wondering why the day-to-day trauma in their profession is not being acknowledged as a trigger for mental illness.

"When I first started nursing in 2002, I never imagined that 12 years later, I would be crippled by nightmares, anxiety and depression as a result of my job," says Julie Prince. "Yet that's exactly where I ended up."

> **"It is both offensive and ludicrous to exclude nurses as first responders when they are regularly among the first to assist during emergency situations"**

A full-time labour and delivery RN for three years, who also worked occasionally in the neonatal intensive care unit (NICU), Prince describes feeling immense anxiety at the start of each shift for at least a year before she decided to leave bedside nursing in the fall of 2014. She says she felt as though she "just didn't want to take care of anyone anymore."

Two months after her departure, her symptoms of post traumatic stress disorder (PTSD) began to peak, and she couldn't even drive past the hospital without experiencing anxiety. During those initial months away from work, she says "the grief and depression was unbearable at times." Many evenings, she would just sit on her couch crying. "While I sobbed, all I could see were the images of dead babies and feel haunted by the multitude of tragic stories where I had played a role as a nurse."

Prince was formally diagnosed with depression and PTSD in December 2014. "I thought I was burned out and... I was," she explains. "I just didn't realize the complexities of all that was happening within my psyche."

Prince kept silent about her diagnosis until she heard about the provincial government's Supporting Ontario's First Responders Act (Bill 163), which received royal assent on April 6 this year. When she learned the new legislation does not recognize nurses as first responders – which means nurses are not afforded the same accommodation as other first responders seeking support for job-related PTSD – Prince took to Facebook to open up about her own mental health challenges directly related to her day-to-day work as an RN.

"My story is just one of many," she says. "While I have held this part of my life very private for more than a year now, I do believe that good can come out of my decision to share…and I am seeing that already." In fact, her Facebook post on April 5 has been viewed by more than 21,000 people. It has been shared more than 3,100 times. "I have had responses from many, many nurses, and also families that have been on the other side," Prince says. "It has been very moving and also a step of healing on my own journey. I am remarkably encouraged because it is getting nurses talking about the day-to-day traumas and cumulative sorrow that we face."

Prior to her struggles with PTSD, Julie Prince travelled with World Partners Canada to Tanzania, where she provided general health care in the Mwanza District, alongside local health professionals. These twins at the Urafiki Medical Centre were born on the first day she arrived in Tanzania.

Bill 163 recognizes that first responders develop PTSD during their employment, and entitles them to improved access to benefits under the Workplace Safety and Insurance Act. The legislation covers firefighters, fire investigators, police officers, paramedics, emergency medical attendants, and workers in correctional institutions or secure custody.

Appalled by the omission of nurses, the Registered Nurses' Association of Ontario (RNAO) issued an action alert on April 8, and sent an open letter to Premier Kathleen Wynne and Minister of Labour Kevin Flynn, urging an immediate fix to this mistake.

"It is both offensive and ludicrous to exclude nurses as first responders when they are regularly among the first to assist during emergency situations," RNAO wrote in its letter to the premier. "How fast is our government forgetting the SARS crisis, or the Ebola scare? And, how little do political leaders know about what nursing work entails?"

Nurses experience physical violence, oftentimes from patients who are cognitively or mentally impaired, the letter notes, suggesting triggers that lead to PTSD can also be associated with work-related violence. And it is not just limited to in-patient settings either.

"In the community, nurses work in neighbourhoods with high crime rates, and in home care, nurses enter patients' private residences to provide care. Nurses also have roles during events that require immediate action at their organizations… that could trigger the onset of PTSD: cardio-respiratory arrests, violent persons, missing patients, infant abductions, hostage situations, bomb threats, pandemics, and patients with life-threatening blood loss."

In 2006, Brenda Leonard was working in the ICU. The RN with 30 years of nursing experience was caring for a patient who began losing blood so rapidly that it went from the bed to the floor and onto Leonard's hands. "I literally had blood on my hands," she recalls of the incident that triggered her PTSD. She had to leave the job she loved to go on disability for two years, and when she was formally diagnosed with PTSD and approached the Workplace Safety and Insurance Board (WSIB) for help, she received nothing. "This is part of your everyday job." That's what I was told over and over again," Leonard said in an emotional television interview following the passing of Bill 163.

Going public with her story was not easy, but Leonard says she did it because people – particularly nurses – don't talk about this, and they need to. "I felt so much shame and I held that shame for years," she says. "Nobody would recognize nurses get post traumatic stress, and I had nowhere to go."

The one place Leonard knew she would not go was back to the bedside, but she didn't want to let that stop her from moving on with her career in nursing. She headed back to school, and 10 years later, she has master's degrees in both counseling psychology and education. Leonard now runs her own business and provides counseling to individuals with anxiety, depression and PTSD.

"I'm very proud of where I am today. It made me who I am today. But I wish it didn't have to be this way, because for 10 years, it was really hard," she says. "And I think it could have been a lot better if there were people to support me."

In his remarks during the opening ceremonies of RNAO's annual general meeting in May, Ontario's Health Minister Eric Hoskins told nurses he knows about the realities of PTSD. "I am very understanding of your disappointment," he acknowledged, adding that he wants to "…keep this conversation going."

The admission is welcome by nurses, but not without cautious optimism given the legislation falls under the ministry of labour, not the ministry of health. Whether it leads to legislative change, and an acknowledgement of nurses as first responders, remains to be seen. Meanwhile, the realities of everyday practice – and the risk of PTSD in the nursing workforce – continue to weigh heavy on the minds of RNs.

Kimberley Kearsey is managing editor/ ommunications project manager for the Registered Nurses' Association of Ontario (RNAO).

Reimagining care through the eyes of a child

By Alicia Hall

Broken bones. Earaches. Coughs and colds. Like many parents with young children, Rob Hamilton and Shari Burkholder have seen their fair share of tears and spent many nights caring for their children when they were unwell.

"You're always nervous, especially the first few times your kids get sick and you don't know what to expect – you just want them to be alright," says Rob Hamilton, a father of two young girls.

His daughter Paige has never been one to shy away from an adventure. At 11-years-old, she enjoys skating, swimming, and playing outside with her older sister Sydney and friends from around the neighbourhood. Like most kids her age, there have been a few times when her daring adventures have landed her in the hospital. "The first time I broke my arm, I was trying to swing from the couch to the door frame," she recalls. "I caught it, but I ended up falling. It hurt a lot – I remember thinking my arm is not connected anymore."

A trip to the hospital can be a frightening experience for any young child, but Paige has made a full recovery from breaks and fractures to both of her arms and she remembers how St. Joe's physicians helped her feel at ease. "Dr. Wood put his hand on the saw and showed me that it wouldn't cut my skin when he removed my cast," she says. "After that I wasn't afraid."

From emergencies to more complex paediatric consultations, St. Joe's has all the healthcare services the family has needed as their children have grown. Dr. Eddy Lau, Chief of Paediatrics happens to be the girls' physician, they've had their concerns about Paige's pronunciation addressed, and visited the walk-in clinic for after-hours paediatric care.

"Kids always seem to get sick on a weekend or when the doctor's office is closed – having the CIBC Just for Kids Clinic walk-in clinic at St. Joe's gives us peace of mind," Rob says.

Building on a long history of providing paediatric care, we recently put donor support to work by redesigning our children's floor with the needs of our smallest patients in mind. "We didn't want the space to feel like a sterile, clinical environment. Children are often anxious when they come in, if we can alleviate their fears, it makes it easier for them to receive the care they need," says Dr. Lau.

St. Joe's worked with Diamond and Schmitt Architects, a professional children's book illustrator and an artist to create a welcoming environment that inspires kids' curiosity and encourages play.

The paediatric surgical day unit for pre- and post-operative care were transformed with new equipment and improvements to enhance flow. Two private examination rooms were added to the walk-in clinic which will allow physicians to see patients in a more timely way. Outdoor spaces were also renovated to create a safe environment for children to enjoy the open air.

The newly redesigned CIBC Just for Kids Clinic.

"Many of our paediatric programs are together now on one unit. Our teams really benefit from the opportunity to collaborate and share information," said Dr. Lau. "We're also able to create seamless transitions for our patients from the clinic to the in-patient unit."

All of the artwork and decor was selected to reflect local natural landscapes and animals in High Park and nearby waterways like Grenadier Pond and Lake Ontario – creating a sense of familiarity and comfort. "These enhancements make our children's floor more welcoming – it feels like an extension of the neighbourhood," says Dr. Lau.

For the Burkholder-Hamilton family this is just another example of how St. Joe's feels like home. "Our neighbourhood is pretty tight-knit. When the girls play outside, we can relax knowing there's a parent looking out for them," said Shari Burkholder. "The same goes for St. Joe's; we know the staff there - we trust that if anything happens we can depend on them for the very best care." H

Alica Hall is a Communications Associate at St. Joseph's Health Centre.

EMR investments in ambulatory clinics paying off

By Dan Strasbourg

Recent investments in Electronic medical record (EMRs) for use in ambulatory care, coupled with complementary technologies such as diagnostic imaging systems or laboratory information systems, are making a positive impact on workflow and the patient experience, according to a new PricewaterhouseCoopers (PwC) study commissioned by Canada Health Infoway.

Health system and patient benefits from ambulatory care EMR use are valued at $200 million and enhanced system efficiencies enabled 1.2 million more patient visits in 2015 alone.

The new report, Emerging Benefits of EMR Use in Ambulatory Care in Canada: Benefits Evaluation Study, points to more upside potential with advanced use and continued EMR adoption in ambulatory care settings. It drew on more than 200 research publications, as well as recent Canadian research and reports, and key informant interviews.

"Interoperable EMRs are an important tool in supporting coordination and quality of care between hospital-based ambulatory clinics and other care settings," explains Michael Green, President & CEO, Canada Health Infoway. "Health system and patient benefits from ambulatory care EMR use are valued at $200 million and enhanced system efficiencies enabled 1.2 million more patient visits in 2015 alone."

Study lighlights:

- 57 per cent of EMR-enabled clinics reported that EMR use had been beneficial for improving quality of care
  - Clinics with access to external data sources, those using more advanced functions and those that transitioned to a fully paperless environment were more likely to report EMR use had a positive impact on improving quality of care (66 per cent, 74 per cent and 87 per cent respectively)
- Estimated $200 million in annual value realized in 2015
  - $95 million from reduced clinician time spent on chart management processes
  - $46 million from avoided duplicate laboratory tests and $37 million from avoided duplicate diagnostic tests
  - $13 million from reduced hospitalizations due to adverse drug events
  - $4 million realized by patients when availability of required heath information avoided unnecessary delays in care
- Approximately 1.2 million additional patient visits in 2015 resulting from enhanced clinic efficiency
- The report includes a special focus highlighting the specific values in outpatient cancer care:
  - 201,000 – the estimated number of fewer days patients spent waiting from consultation to first treatment
  - 15,500 – additional radiation therapy treatments conducted as a result of increased capacity
  - 4,000 – additional systemic therapy treatments

"When ambulatory EMRs are used with complementary technologies such as decision support and comprehensive medication profiles across settings, they help reduce adverse drug events leading to fewer emergency department visits and hospitalizations," says Green.

The study also outlines the most common barriers to realizing benefits such as mixed paper/electronic systems, multiple logins, system design and functionality gaps, misalignments with clinical requirements and workflow, and a lack of available equipment.

"The use of EMRs in ambulatory care is still relatively new, and there is potential for even greater benefits with increased adoption," adds Green. "With approximately 45 million ambulatory care visits in Canada in 2014, the potential benefits for patients, specialists, and the health care system is significant."

The full study document includes a core set of recommendations, priority research areas, and critical success factors for future implementations.

In partnership with hospital organizations and the provinces and territories, Infoway's investments included 22 ambulatory care EMR implementation projects impacting approximately 25,000 clinicians in nine provinces.

Infoway helps to improve the health of Canadians by working with partners to accelerate the development, adoption and effective use of digital health across Canada. Through our investments, we help deliver better quality and access to care and more efficient delivery of health services for patients and clinicians. Infoway is an independent, not-for-profit organization funded by the federal government. H

Dan Strasbourg is the Director of Media Relations at Canada Health Infoway.

Using Information and collaboration to improve patient and clinical interactions

By Matt Belbeck

Quality patient care starts with information, but access and collaboration between patients and caregivers can be challenging with critical information coming from so many different sources. Today, new technology is emerging to help bridge these gaps to allow for critical information to be accessed, shared and used collaboratively for better communication, reduced administrative workload and improved patient experiences.

At eHealth 2016 in Vancouver, Ricoh unveiled its new healthcare collaboration workflow including interactive whiteboards, unified communication technology and health integration software. Together, the technologies form a unique end-to-end solution designed to improve image management and enhance related patient and clinical interactions. With the touch of a screen, clinicians can access, mark-up and annotate patient images requiring analysis. They can also collaborate directly on-screen with specialists working remotely or at another facility in real-time to ensure the right people are involved in the assessment. Images and all related information can then be saved and easily attached to the patient record for future access, directly from the interactive whiteboard. The process supports connected care and information mobility initiatives while linking the right people, to the right information, at the right time.

Common uses for the Ricoh collaboration technology include, but are not limited to morbidity and mortality rounds, tumor reviews and treatment rounds and telehealth workflows. It is an ideal fit in scenarios requiring patient-clinician interaction both in person or where co-location is not practical. After a consultation, clinicians can even print directly from the whiteboard to send patients and their families home with the images and information they just reviewed. The solution can also be used for non-clinical purposes such as the coordination of projects across locations, linking "war rooms" for crisis management, or for educational purposes.

To provide timely and effective medical intervention, hospitals require intelligent clinical and back office systems, and technology tailored to its industry's patient centric requirements. Collaboration and healthcare image management workflows represent just a couple of the many industry-specific use cases that Ricoh has developed that reinforce the organization's commitment to making information work for healthcare. H

Matt Belbeck is a Product Manager in Ricoh Canada's healthcare group.

Questions on recent changes to accident benefits in Ontario

Q: What are the changes in accident benefits that took effect on June 1?

A: There are significant changes to the accident benefits that took effect June 1, 2016 for people who are injured in a motor vehicle accident. The limits for medical/rehabilitation benefits and attendant care benefits for both catastrophic and non-catastrophic injuries are being severely reduced. In addition, there are changes to the definition of Catastrophic Impairment which will dramatically reduce the number of injured people whose injuries will qualify as being a catastrophic impairment.

Q:How wide ranging are the changes and who will the changes affect?

A: The changes are as follows:

For Non-Catastrophic injuries, the previous $50,000.00 for medical/rehabilitation benefits and $36,000.00 for attendant care benefits has been reduced to a combined limit of $65, 00.00 for both categories.

For Catastrophic injuries, the previous $1,000,000.00 for medical/rehabilitation benefits and $1,000,000.00 for attendant care benefits have been reduced to a combined limit of $1,000,000.00

The Definition of Catastrophic Impairment has been changed for virtually every category of injury. The former Glasgow Coma Scale test has been deleted, essentially removing the only test which was available to have someone's injury deemed catastrophic at an early stage following the accident. The new definitions will build in a minimum of a six month delay, and often longer, in order to have an injured party's injury deemed to be a catastrophic injury, which would entitle them to the increased accident benefits funding.

Q: How will the changes affect hospitals and hospital workers?

A: The changes are going to have a huge impact on hospitals and hospital workers, particularly when dealing with seriously injured people. Under the new legislation, since very few people will qualify as suffering a catastrophic injury while they are still in hospital, there will be no entitlement to a case manager or other healthcare provider who can assist the injured party with the transition from hospital to rehabilitation facility or hospital to home. A few examples of how these changes are going to impact on the staff at hospitals:

i) If an injured person needs additional attendant care services or other services over and above what can be provided by a hospital, it is unlikely that such care will be able to be arranged, because the insurer will likely take the position that the person has yet to be deemed catastrophic, and therefore no approval of these services will be granted.

ii) Hospital case managers and discharge planners will be forced into the role of organizing and getting approval from the insurer for all services required by the injured party upon discharge from hospital. In addition, hospital case managers and discharge planners will be asked by families to assist in deciding what medical/rehabilitation/attendant care services should take priority upon discharge from hospital, because injured people will be concerned about using up their reduced insurance limits too quickly.

iii) when a person is ready to be discharged from hospital, if their injury has still not been deemed catastrophic, there will likely be no private health care professionals (case manager, OT etc.) involved in the case, who will be able to assist in transferring the patient to a rehabilitation facility/home or to arrange appropriate assessments of the home to ensure that necessary modifications are made to accommodate the injured party's needs.

iv) since the overall limits for medical/rehabilitation benefits and attendant care have been cut in half, when people run out of these funds their only resort for continuing treatment and care will be to resort to the public health care system. Therefore hospitals are likely to be inundated with people coming back into hospital for treatment/care once their insurance funding runs out.

v) Since accident benefit funding is going to be cut in half for the most seriously injured people, many of these patients will have to make hard choices about what medical/rehabilitation/attendant care services they can afford to continue with in order to preserve this fund of money for future services. This may lead to people not pursuing various treatment or services which they require, which in turn can lead to slower recovery, deteriorating of their condition, or the development of other conditions which arise because the injured party did not get the benefit of all of the necessary treatment they required.

Q: What can we do as hospital workers to help patients and families in view of the reduction in benefits?

A: Hospital workers, social workers and discharge planners will have to work more closely with lawyers and private rehabilitation professionals to try to come up with a workable approach to assisting those seriously injured in a motor vehicle accident. It will be more important than ever that injured people and their family consult with legal counsel as soon as possible following an accident, to understand their rights and to begin planning for how to manage the limited accident benefits available for those suffering catastrophic injuries. H

For more information about these changes contact Leonard Kunka at lkunka@thomsonrogers.com or go to the Thomson Rogers website at www.thomsonrogers.com

Educational & Industry Events

Hospital News H

To list your event, send information to "events@hospitalnews.com".

We try to list all events and information but due to space constraints and demand, we cannot guarantee it. To promote your event in a larger, customized format please send enquiries to "advertising@hospitalnews.com"

- **September 20, 2016**
  2016 iHT2 Health IT Summit
  Toronto, Ontario
  Website: www.ihealthtran.com
- **September 20-21, 2016**
  4th Annual Patient Experience Summit
  Toronto, Ontario
  Website: www.patientexperiencesummit.com
- **September 28, 29 & 30, 2016**
  Mental Health For All Conference
  Hilton, Toronto
  Website: www.conference.cmha.ca
- **September 29-30, 2016**
  Ontario Hospital Association-Health Care Financial Management
  Toronto, Ontario
  Website: www.coha.com/financialmanagement2016
- **October 16, 2016**
  Sustainable Compassion Training Workshop
  Emmanuel College, University of Toronto
  Website: https://bit.ly/ECABSI
- **October 17-18, 2016**
  Saskatchewan Health Care Quality Summit
  Saskatoon, Saskatchewan
  Website: www.qualitysummit.ca
- **October 17-18, 2016**
  AFHTO 2016 Conference
  Westin Harbour Castle, Toronto
  Website: www.afhto.ca
- **October 24-25, 2016**
  CHIMA National Conference 2016
  Chateau Lacombe Hotel, Edmonton AB
  Website: www.chima-conference.com
- **October 30-November 2, 2016**
  Critical Care Canada Forum
  Toronto, Ontario
  Website: www.criticalcarecanada.com
- **November 7-9, 2016**
  HealthAchieve
  Toronto, Ontario
  Website: www.healthachieve.com
- **November 27–December 2, 2016**
  RSNA 2016
  McCormick Place, Chicago, United States
  Website: www.rsna.org
- **December 8, 2016**
  Data Analytics for Healthcare
  Toronto, Ontario
  Website: www.strategyinstitute.com
- **January 24, 2017**
  Mobile Healthcare
  Toronto, Ontario
  Website: www.strategyinstitute.com

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Product Feature: Specialized seating from Seating Matters

Advertorial

Pressure injuries cause the death of thousands of patient every year. Sadly, these cases are often under reported and many of them are avoidable. Currently, it costs a staggering $44,000-90,000 to treat one patient who suffers from a pressure injury in Canada. Pressure injuries undoubtedly represent one of the most pressing issues in healthcare. The cost to individuals, health institutions and governments is staggering – especially considering these are avoidable injuries.

Today, one in five patients suffer from pressure injuries – in the US alone, pressure injuries impact around 2.5 million people costing up to $11 billion annually. Most victims are elderly or long-term care patients who require increased assistance for mobility.

Much of the issue lies with the lack of research and evidence based practice available for clinicians about the prevention of pressure injuries, rather than just the treatment once they have developed. There has been no research to indicate that clinical seating can stop the development of pressure injuries, until now.

The number of potentially life threatening pressure injury cases can be reduced if facilities adopt problem-solving approaches that integrate the latest clinically proven and advanced research, combined with expertise. No longer is "we have always done it that way" the reason to continue your current clinical practice if it doesn't achieve the best possible patient outcomes.

Would you administer medication to your patients that had no clinical testing? Or would you let them lie in therapeutic beds that had not be clinically trialled? Of course not. The same needs to be applied to seating. Your patients should not be sitting in chairs that have no clinical testing, as it can increase the risk of developing pressure injuries.

Seating Matters has partnered with global health science researchers, Ulster University. Together, they developed the very first clinical trial in the world that explores the connection between a patient's health, the incidence of pressure injuries and the chair a person uses, within real life care settings. The trial demonstrated pivotal results including:

- 88.3% reduction in pressure injury incidence
- 95% increase in oxygen saturation levels
- Increased functional ability
- 49% reduction in caregiver postural correction
- 80% reduction in the provision of high cost cushions
- Significant reduction in expenditure on staff labour and materials to treat pressure injuries
- Improved posture and a reduction in the development of postural deformities or sliding/falling from the chair

The reason why this study is so consequential is that it differs from other pressure management research which has traditionally focused only on the bed, mattress or cushion.

As a clinician, you have the ability to change your working practice from "we have always done it this way" to "we always do it the right, evidence-based way". Can you confidently say that the chairs used within your facility are clinically trialled to provide the best care and comfort for your patients?

Think about other medical equipment that your patients use on a daily basis. Whether it be the beds, surgical bandages or oxygen masks, everything will have been trialled and tested through evidence based research.

Perhaps you have the unfortunate reality of dealing with patients today who are suffering from pressure injuries. Do not take for granted that if your patient's bed or mattress is clinically proven, that it alone will solve the pressure injury problem. The bed is neither the full cause and alone cannot be the full solution. The bed can and should be used as part of the solution but the patient must have appropriate therapeutic, clinical seating to match that level of pressure management while sitting throughout the day. Otherwise, all the work that is done through the night whilst sleeping or during bed rest will be undone when sitting in a clinically unproven chair.

As a clinician, you have the power to improve your patient's medical care, reduce facility costs and help save lives. By replicating the significant findings from the Ulster University clinical trial you can achieve this. Take action now to put this vital research into practice.

Think of the benefits for your patients, you and your colleagues when implementing evidence based practice. If you are currently treating someone with a pressure injury, they are likely to spend 6.4 days longer in hospital. Not only is the person suffering, it is putting a financial strain on care facilities, not to mention increasing the burden on staff. Pressure injuries are avoidable not inevitable, as they are too often considered to be.

In fact, 95 per cent of pressure injuries can be prevented.

Seating Matters can help with their unique managed service, 'The Injury Prevention Program' to help you achieve the results you need. It has been seen across the world in working practice and your organization can see significant savings; so much so that the program is self-funded and Seating Matters covers the cost of capital investment in the therapeutic seating. This investment is so small; only a percentage of what it is costing to treat pressure injuries. Our clinical team will advise and support you entirely throughout the program. Once your patients' requirements have been identified, custom designed training will allow you and your staff to complete the program successfully through the replication of the study in your facility. Our team are on hand throughout the program to deal with the most complex of patient needs and in turn will allow to achieve the best patient outcomes, not to mention making huge savings. H

For more information contact: +1 (905) 507 9007, canada@seatingmatters.com or visit www.seatingmatters.com.

BIOMED PRESENTS...

NEWLY UPDATED!

BRAIN INJURY:
Stroke, Alzheimer's, & Head Trauma

NEWLY UPDATED!

A Seminar for Health Professionals

TUITION $109.00 (CANADIAN)

Instructor: R.S. Hullon, M.D., J.D.

The seminar registration period is from 7:45 AM to 8:15 AM. The seminar will begin at 8:30 AM. A lunch (on own) break will take place from 11:30 AM to 12:20 PM. The course will adjourn at 3:30 PM, when course completion certificates will be distributed.

Registration: 7:45 AM – 8:30 AM
Morning Lecture (Part One): 8:30 AM – 10:00 AM
- **The "Fragile" Brain:** "Jello-Like" Tissue Structure, Meninges, and Cerebrospinal Fluid.
- **The "Three-Part" Brain:** The Reptilian Brain Stem, Mammalian Limbic System, and Oh-So-Human Cerebral Hemispheres. The Effects of Brain Injury on Key Parts of the Brain.
- **Memory and Brain Injury.** The Structure of Human Memory. Short-Term Vs. Long-Term Memory. Memory Deficits for Facts and Procedures: Is There a Difference in Alzheimer's Disease?
- **Speech and Language:** The Most Asymmetrical of All Gifts: Left-Hemisphere Speech and Language Dominance, Aphasias, and Communicating with Aphasic Medical and Dental Patients. Spatial Functions.
- **The Microscopic Brain:** Glial Cells, Neurons, Electrical and Biochemical Signaling. Neurotransmitters and Brain Functioning. Drugs That Affect Brain Chemistry. Neuron Cell Death and Brain Damage.
- **Cortical and Subcortical Dementias:** Early Diagnosis Can Be Brain-Saving. Treatable Dementias. Irreversible Dementias: Alzheimer's, Vascular, Lewy Body, Pick's, Parkinson's, and Other Dementias

Morning Lecture (Part Two): 10:00 AM – 11:30 AM
- **Oral Care for Parkinson's Patients:** Involuntary Hand Movements. Dental Hygiene and Tooth-Brushing.
- **Alzheimer's Disease (AD):** Incidence, Pathogenesis, Genetic and Life-Style Risk Factors, and Clinical Features. The Acetylcholine Connection. Effectiveness of Current FDA-Approved Treatments. Care giving and Caregivers.
- **Alzheimer's Disease and Depression.** Differential Diagnosis of Alzheimer's and Depression. Antidepressant Interactions with Drugs Used in Dentistry.
- **Who Doesn't Get Alzheimer's Disease?** Characteristics "Super Agers," Who Live Long Lives and Avoid Dementia.
- **Medical Treatment for Alzheimer's.** New Diagnosis and Treatment and Guidelines. Is Prevention Possible?
- **Keeping the Brain "Fit":** Ways to Maintain and Increase Memory, Learning, and Thinking Skills with Nutritional and Lifestyle Changes. Does Mental Exercise Lower Alzheimer's Disease Risk? How Important is Physical Exercise.

Lunch (on your own): 11:30 AM – 12:20 PM
Afternoon Lecture (Part One): 12:20 PM – 2:00 PM
- **Salmon and the Mediterranean Diet for Your Brain:** Can Omega-3's and eating Mediterranean Reduce Dementia Risk?
- **Stroke: A True Emergency.** Types of Strokes: Ischemic and Hemorrhagic. The Significance of TIA's.
- **Critical Factors in Stroke:** Location, Timing and Size of Strokes. Transient Ischemic Attacks and Right vs. Left Hemisphere Strokes. Anterior, Middle, and Posterior Cerebral Artery Strokes: Which Is Most Likely?
- **Risk Factors for Stroke:** How the Risk of a Stroke Can Be Minimized or Avoided.
- **Gum Disease, Inflammation, and Stroke:** Is There a Connection?
- **Acute Treatments for Stroke.** Tissue Plasminogen Activator. MERCI Retriever.

Afternoon Lecture (Part Two): 2:00 PM – 3:20 PM
- **Head Trauma and Traumatic Brain Injury (TBI):** The Greatest Cause of Death and Disability in the Young. Incidence, Symptoms, Common Causes, and Outcomes. How Severe TBI Differs from Multiple Concussions.
- **Football, Boxing, and Brain Injury.** Dementia Pugilistica and Chronic Traumatic Encephalopathy. Do Multiple Minor Head Traumas and Concussions Lead to Brain Damage? Head Traumas and Concussions. Sports, Head Trauma, and 3-Stage Cognitive Decline.
- **Guidelines for Sports Concussions.** Levels of Concussions and Recommendations for Diagnosis and Treatment. New NFL Guidelines. Is Playing High School Football Dangerous? Multiple Head Traumas in Practice and Games.
- **Recovery from Traumatic Brain Injury.** How Much and How Long? How Many Recover After Severe Brain Injury?
- **Do Neurons Grow Back** After Traumatic Brain Damage? Methods of Promoting Recovery and Synaptogenesis.
- **Oral Care and Dental Management** of Brain Injured Patients. Issues with Memory, Eye-Hand Coordination, and Communication.

Evaluation, Questions, and Answers: 3:20 PM – 3:30 PM

6 CONTACT HOURS / www.biomedglobal.com

MEETING TIMES & LOCATIONS

TORONTO, ON
Tue., Nov. 1, 2016
8:30 AM to 3:30 PM
The Old Mill
21 Old Mill Road
Toronto, ON

MISSISSAUGA, ON
Wed., Nov. 2, 2016
8:30 AM to 3:30 PM
Hilton Garden Inn
1870 Matheson Boulevard
Mississauga, ON

MARKHAM, ON
Thu., Nov. 3, 2016
8:30 AM to 3:30 PM
Edward Village Hotel
50 East Valhalla Drive
Markham, ON

LONDON, ON
Fri., Nov. 4, 2016
8:30 AM to 3:30 PM
Best Western Lamplighter Inn
591 Wellington Road South
London, ON

TUITION: CHEQUES: $109.00 (CANADIAN) with pre-registration. $134.00 (CANADIAN) at the door if space remains. **CREDIT CARDS: Most credit-card charges will be processed in Canadian dollars. Some charges will be in U.S. dollars at the prevailing exchange rate.** Note: some Canadian banks may add a small service charge for using a credit card. The tuition includes all applicable Canadian taxes. At the seminar, participants will receive a complete course syllabus. Tuition payment receipt will also be available at the seminar.

ACCREDITATION

NURSES (RNs, RPNs, & LPNs)

This program is designed to provide nurses with the latest scientific and clinical information and to upgrade their professional skills. Numerous registered nurses in Canada and the United States have completed these courses. This activity is co-provided with INR.

Institute for Natural Resources (INR) is an approved provider of continuing nursing education by the Virginia Nurses Association, an accredited approver by the American Nurses' Credentialing Center's Commission on Accreditation.

PHARMACISTS & PHARMACY TECHNICIANS

Ontario-licensed pharmacists successfully finishing this course will receive course completion certificates. Biomed is an accredited provider through the American Council on Pharmaceutical Education. The ACPE universal activity numbers (UAN) are 0212-9999-16-001-L01-P and 0212-9999-16-001-L01-T. This is a knowledge-based CPE activity.

DIETITIANS

CPE Accredited Provider — Commission on Dietetic Registration

Biomed, under Provider Number BI001, is a Continuing Professional Education (CPE) Accredited Provider with the Commission on Dietetic Registration (CDR). Registered dietitians (RD's) and dietetic technicians, registered (DTR's) will receive 6 hours worth of continuing professional education units (CPEU's) for completion of this program/materials. Continuing Professional Education Provider Accreditation does not constitute endorsement by CDR of a provider, program, or materials. CDR is the credentialing agency for the Academy of Nutrition and Dietetics. This course has Activity Number 100342 and Suggested Learning Codes: 5080, 5090, 5170, and 5100.

SOCIAL WORKERS

This activity is co-provided with INR. Social Workers completing this program will receive course completion certificates. This program is approved by the National Association of Social Workers (Provider #886502971-0) for 6 social work continuing education contact hours.

PSYCHOLOGISTS

Biomed General is approved by the Canadian Psychological Association to offer continuing education for psychologists. Biomed General maintains responsibility for the program.

INSTRUCTOR

Dr. R.S. Hullon (M.D., J.D.) is a full-time physician-lecturer for INR. Dr. Hullon is a physician and surgeon specializing in trauma and orthopedics. His medical experience includes diagnosis and treatment of infectious diseases, neurological disorders, neurodegenerative diseases (multiple sclerosis, Parkinson's, and Alzheimer's diseases) and psychiatric disorders (personality and mood disorders). His medical experience also includes diagnostic laboratory work, particularly in hematology.

Dr. Hullon has had extensive surgical experience in trauma management and orthopedics and has published papers on head, back, and knee disorders and pain medications. He has also studied bovine spongiform encephalopathy (BSE or mad cow disease) and the medical and legal implications of this disease.

Biomed reserves the right to change instructors without prior notice. Every instructor is either a compensated employee or independent contractor of Biomed

LEARNING OBJECTIVES

Participants completing this course will be able to:

1) describe, with regard to language, memory, depression, and stroke, the role of the brain's left and right cerebral hemispheres.
2) outline, in cases of head trauma in children and adults, incidences, types of injuries, recovery patterns, and methods of prevention.
3) describe how diet and lifestyle can affect the risk of stroke and Alzheimer's Disease.
4) cite medications, vitamins, antioxidants, and herbal supplements known to be useful in treating or preventing stroke and Alzheimer's disease.
5) list dental concerns in cases of Alzheimer's Disease, Parkinson's Disease, head trauma, stroke, and other forms of cognitive and physical impairment.
6) describe how the information in this course can be utilized to improve patient care and patient outcomes.
7) describe, for this course, the implications for dentistry, mental health, and other health professions.

SPONSOR

Biomed is a scientific organization dedicated to research and education in science and medicine. Since 1994, Biomed has been giving educational seminars to Canadian health-care professionals. Biomed neither solicits nor receives gifts or grants from any entity. Specifically, Biomed takes no funds from pharmaceutical, food, or insurance companies.

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HOW TO REGISTER

There are four ways to register:

Online: www.biomedglobal.com

By mail: Complete and return the Registration Form below.

By phone: Register toll-free with Visa, MasterCard, American Express®, or Discover® by calling **1-888-724-6633.** (This number is for registrations only.)

By fax: Fax a copy of your completed registration form—including Visa, MasterCard, American Express®, or Discover® Number—to (925) 687-0860.

For information about seminars in other provinces, please call 1-877-246-6336 or (925) 602-6140.

REGISTRATION INFORMATION

Individuals registering by Visa, MasterCard, American Express®, or Discover® will be charged at the prevailing exchange rate. If the credit card account is with a Canadian bank, the USA tuition will be converted into the equivalent amount in Canadian dollars (approximately $109.00) and will appear on the customer's bill as such. **The rate of exchange used will be the one prevailing at the time of the transaction.**

Please register early and arrive before the scheduled start time. Space is limited. Attendees requiring special accommodation must advise Biomed in writing at least 50 days in advance and provide proof of disability. Registrations are subject to cancellation after the scheduled start time. A transfer at no cost can be made from one seminar location to another if space is available. Registrants cancelling up to 72 hours before a seminar will receive a tuition refund less a $35.00 (CANADIAN) administrative fee or, if requested, a full-value voucher, good for one year, for a future seminar. Other cancellation requests will only be honored with a voucher. Cancellation or voucher requests must be made in writing. If a seminar cannot be held for reasons beyond the control of the sponsor (e.g., acts of God), the registrant will receive free admission to a rescheduled seminar or a full-value voucher, good for one year, for a future seminar. A $35.00 (CANADIAN) service charge applies to each returned cheque. Nonpayment of full tuition may, at the sponsor's option, result in cancellation of CE credits issued.

A $15.00 fee will be charged for the issuance of a duplicate certificate. Fees subject to change without notice.

REGISTRATION FORM

Please check course date:

_____ Tue., Nov. 1, 2016 (Toronto, ON)
_____ Wed., Nov. 2, 2016 (Mississauga, ON)
_____ Thu., Nov. 3, 2016 (Markham, ON)
_____ Fr., Nov. 4, 2016 (London, ON)

For information about seminars in other provinces, please call 1-877-246-6336 or (925) 602-6140

Please print:

Name: _____ Profession: _____
Home Address: _____ Professional License #: _____
City: _____ Province: _____ Postal Code: _____ Lic. Exp. Date: _____
Home Phone: (___) _____ Work Phone: (___) _____ Employer: _____
Please enclose full payment with registration form. Check method of payment. E-Mail: _____ (needed for confirmation & receipt)

_____ Check for $109.00 (CANADIAN) (Make payable to **BIOMED GENERAL**)
_____ Charge the equivalent of $109.00 (CANADIAN) to my _____Visa _____ MasterCard _____ American Express® _____ Discover®

Most credit-card charges will be processed in Canadian dollars. Some charges will be in U.S. dollars at the prevailing exchange rate.

Card Number: _____ Exp. Date: _____ CVV: _____
(enter all raised numbers) (Card Security Code)

Signature: _____

Please provide an e-mail address above to receive a confirmation and directions to the meeting site.

Please return form to:
BIOMED
Suite 228
3219 Yonge Street
Toronto, Ontario
M4N 2L3
TOLL-FREE:
1-877-246-6336
TEL: (925) 602-6140
FAX: (925) 687-0860