# I U U U K I M PACT

New Look. New Voice. Same Foundation.

Issue 1 / Summer 2021



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Welcome to the 2021 summer issue of YOUR IMPACT magazine. We are incredibly proud to present London Health Sciences Foundation's (LHSF) powerful new brand, updated and upgraded for a decade already defined by change. This refresh aims to fully encompass what we stand for as an organization: putting others first. We continue to be your trusted Foundation, focused on the betterment of every patient who visits London Health Sciences Centre (LHSC).

With this refined brand, we want to reflect the values and beliefs of our donors – your unwavering support truly embodies what it means to care. Your generosity is what makes stories like the ones found in this issue possible. Because you choose to care, we can change the lives of those within our community and beyond. We're thrilled to finally share our new identity and showcase how our organization will move forward with you, our donors. Together, we will pave the way toward a better tomorrow for patients and their families at LHSC.



### MESSAGE FROM THE CEO

As I sit here writing you this message, I am reminded of those reading who have had varying experiences over the past yearand-a-half. We are still far from "business as usual," and although things look a lot different than before, we continue to push forward.



Perhaps some of you coped in the early stages of the pandemic learning to make bread. Maybe you took longer walks each morning. Maybe you finally read that book collecting dust on your bedside table. However, I am also conscious of those who have experienced significant loss and heartache – languishing as the hours, days and months rolled by.

And while our experiences differ, I've been inspired by the resilient nature of the human spirit. It's been both impressive and encouraging to bear witness to the outpouring of support within our community and beyond as we fight to overcome these challenging times.

You see, as much as it kept us apart, the pandemic also brought us together against a common threat. And through this togetherness, our ability to do good and change lives hasn't faltered. If anything, our commitment toward one another only became stronger. For that, I want to thank our donors and our staff; an entire community of supporters who have been at our side every step of the way.

The COVID-19 pandemic has cast a long shadow on much of life as we knew it, but I can say with confidence, I remain optimistic. One thing is clear: our donors, patients, staff and supporters are uncompromising in their commitment to leave the world better than they found it.

London Health Sciences Foundation will continue to be there for our community. We are a team comprised of people who encourage each other and those around us to dream, grow and thrive. So, in the spirit of togetherness, I humbly ask you to continue being there for us. Your support is the flame lighting our path forward.

This issue of YOUR IMPACT magazine is a celebration of individuals who persevered, made a difference and changed the lives of those around them. They are the true heroes of our time, and I am so grateful we can share their stories with you.

Yours,

John H. MacFarlane, BBA, LL.B, MPA President & CEO London Health Sciences Foundation



HOW DONORS FOSTERED A CULTURE OF WELLNESS AMIDST A PANDEMIC







The COVID-19 pandemic has reshaped life as we know it. There's hardly been a corner of our world left unaffected. Not surprisingly, one of the hardest hit populations has been health-care workers. Long, strenuous hours, staff shortages and the increased risk of exposure to the virus turned hospital hallways into veritable trenches. But as the pandemic raged, London Health Sciences Foundation (LHSF) launched the COVID-19 Response Fund, which in part, went toward supporting frontline health workers at London Health Sciences Centre (LHSC).

To address the mounting pressure on staff, LHSC's manager of just culture, wellness and staff support, Nancy Lawrence and the COVID Wellness Task Force engaged with staff and leaders alike to better understand the needs of the organization from a wellness perspective.

"We identified two key strategies to help support staff," says Nancy. "First, was the implementation of a Wellness Response Team (WRT), and second was the creation and installation of wellness information boards."

Acting as a point of contact for departments, the role of WRT members is to quickly and effectively respond to emerging issues. Personal resiliency, self-care and organizational supports are some of the major themes promoted by the WRT. The purposeful exploration and acknowledgement of one's feelings as a way to move forward instead of allowing negative thoughts to gestate and fester in silence.

To make this data more accessible to frontline staff, 15 wellness information boards were placed in high traffic areas at both Victoria Hospital and University Hospital. Material highlighting the Employee and Family Assistance Program, staff benefits and in-themoment "micro-practices" detailing mindfulness and grounding techniques are just some examples of what's featured on the boards.

Word got out, too. Within 48 hours of those first 15 boards being installed, calls were coming in from individual units requesting their own. This prompted an additional 35 being ordered, funding for which was provided by the generous donors of LHSF's COVID-19 Response Fund, followed by another 62 ordered at the units' own expense. In total, 112 wellness information boards are spread throughout LHSC, including all offsite locations.

Furthermore, the WRT and LHSF purchased hundreds of what are known as PASS kits. An acronym for Panic, Anxiety and Stress Support, PASS kits are portable mental health resources designed to manage daily stressors while also fostering meaningful connection between staff members.

"We're encouraging people to buddy up with someone who will understand their experience and be able to help them manage the stress and anxiety they may be feeling," Nancy explains. "Because it's not just about personal accountability, it's about organizational accountability. These tools are helping us really be there for our staff."

With vaccines now being rolled out, our communities will soon be able to come together once again with more confidence and a joy long overdue. However, the toll this past year-anda-half has had on health staff is sure to leave its mark. But within the chaos and confusion, despite the anguish, it should be known how people stood next to one another choosing compassion over surrender; that our capacity to care outweighed our fear of an enemy all but invisible.



# **QUARANTINED INCRISIS** When the COVID-19 pandemic forced a country-wide lockdown in March, 2020, London turned eerily quiet.

The hustle and bustle vanished from shops and sidewalks. The typical droning of traffic was absent from rush hour hot spots. Fear gripped our shared consciousness. But for many already living with mood and anxiety disorders, the tension was triggering.

For over a decade, the First Episode Mood and Anxiety Program (FEMAP) has been providing enhanced mental health services to London's youth between ages 16 and 25. From psychiatry, psychology and social work, to addictions counselling and family therapy, the program represents a safe haven for those approaching crisis. And despite an expansion currently underway to increase capacity and reduce wait times, lockdowns suddenly cut FEMAP off from the community.

"We were concerned about vulnerable people developing more severe symptoms," explains Dr. Elizabeth Osuch, FEMAP's founder and lead physician.

Like everywhere else, virtual became the new business as usual. However, with therapy relying heavily on in-person contact to help establish meaningful connection, there was only so much Dr. Osuch and her team could do. Many appointments ended up getting cancelled as a result of public health mandates. But as the old saying goes: when life gives you lemons, do research.



Dr. Elizabeth Osuch

Not ones to waste time, Dr. Osuch and her colleagues at FEMAP switched to observation mode. Thanks in part to the donors of London Health Sciences Foundation (LHSF), the team was able to put together and roll out a study designed to monitor the effect COVID-19 was having on their patients.

"We couldn't see people in-person anymore, so what were we supposed to do?" Dr. Osuch asks, not really waiting for an answer. "We thought, 'Well, let's find out what's going on."

Within a week, questionnaires were prepared and sent for research approval, then distributed to FEMAP's 326 patients by email, 114 of whom participated. The team was on the lookout for worsening signs of depression, anxiety or quality of health. Those who were flagged for indicating heightened, more severe symptoms were sent a message asking if they'd like to be contacted by the team. As a quick, accessible method for people to communicate their mental health needs, the study proved to be easily implemented.

Overall, and perhaps not so surprisingly, the results were bleak. Cannabis and alcohol use went up across the board. People who lost their jobs or who were glued to social media reported lower moods. Thoughts were rife with doom and gloom.

#### "COVID has been devastating to youth," Dr. Osuch says. The gravity of her research pulls her voice down an octave.

As the first study of its kind to gather mental health data from a vulnerable population during the pandemic, Dr. Osuch hopes to pave the way for widespread integration. With support from donors, a pilot program is being developed allowing patients to update their well-being via smartphone. Real-time feedback for clinicians will help them provide faster care to the people who are experiencing crisis in the moment. Because now more than ever, for youth struggling with mental illness, every second counts.

# A LEGACY LIGHTING THE WAY FOR NEW

Welcoming new life into the world is a delicate thing. Whether it's someone's first child or their fifth, becoming a new parent is as exciting as it is scary. One cannot help but look inward and take stock of who you were before and who you will become.

At the same time, rarely do we talk about the finer details of this process. We certainly do not dwell on the tools and technology today's hospitals invest in to ensure the best possible outcome for both mother and baby. But for philanthropist Jan Oates, and the birthing unit at London Health Sciences Centre (LHSC), no detail was too small.

As a staunch advocate for improving the patient journey, Jan understood well the need to support health care. A past volunteer, donor, and grateful patient, Jan's involvement with LHSC goes back some two decades, where her passion for giving back saw her make numerous donations to numerous hospital programs during her lifetime. Sadly, Jan passed away in early 2020, but her selfless devotion to others continues to make a difference today. Jan's philanthropy included a legacy gift through her estate planning in support of LHSC's Women's Care Program – a contribution that would prove most illuminating.

The 16 birthing suites at Victoria Hospital are state-of-the-art settings designed to accommodate soon-tobe-mothers with all the comforts and necessities for a healthy delivery. From Jacuzzis for relaxation to spare beds for partners to remain close-by, LHSC's Obstetrical Care Unit is beautifully and thoughtfully equipped to facilitate the nearly 6,000 births it sees a year.

"We provide an environment that strives for optimal care in all circumstances," says Dr. Jordan Schmidt, of Victoria Hospital's obstetrics and gynecology department. "We want to be able to give people the best experience possible because it's the actual delivery and care post-partum couples remember for the rest of their lives." One of the environmental factors, which is perhaps more essential than people realize, is lighting. For the birthing team to provide the best quality of care during and after delivery, each room is outfitted with powerful, remote controlled lighting systems recessed into the ceiling. However, some require immediate replacing: a costly, and time-consuming endeavour.

"The integrated birthing lights in our delivery suites allow for a less obtrusive process, especially for the nursing staff and support people as we don't need to clutter the area with portable lights," explains Dr. Schmidt.

With the various instruments, mirrors, and eyeballs all fixed on them during such a vulnerable time, mothers too appreciate the extra breathing room.

Thanks to Jan's altruistic vision of health care, four of these light fixtures have already been purchased, carrying with them a 15-year lifespan. So, in a sense, Jan herself has become the guiding light for thousands of lives who are still yet to be. Such is a legacy any of us should be proud to achieve.



# UNDERSTANDI BREAS

## For anyone,

a cancer diagnosis is a devastating revelation. The mind reels as one's mortality is suddenly thrust into the spotlight sooner than anticipated. More disheartening still must be the moment someone learns of its return after a months- or years-long battle. But with the help of a highly specialized team of researchers, London Health Sciences Centre (LHSC) is spearheading novel studies to better understand the various intricacies of breast cancer.

As a city well-recognized for the role it plays in breast cancer research, London sits on the world stage as a centre of excellence relating to metastasis: the spread of cancer away from its original site. And while breast cancer is generally known for having better outcomes, this is only true if it remains localized.

"About 25% of patients with breast cancer will develop metastatic disease, and metastasis is the main cause of cancer death," says Dr. Alison Allan, director of the Breast Cancer Society of Canada Translational Research Unit at LHSC. "Metastasis is really the big unsolved problem when it comes to breast cancer, and London has maintained that as an important area of focus."

In the last several years, the Breast Cancer Society of Canada (BCSC) has been making a concerted effort to identify and fund centres across the country breaking new ground in the field. To this end, the BCSC recently made a \$2.5 million commitment, further solidifying its two-decade-long support of breast cancer research in London. Accompanying this pledge, the research unit was renamed the Breast Cancer Society of Canada Translational Research Unit at the London Regional Cancer Program (LRCP).

# NG THE LANGUAGE OF TCANCER THROUGH TRANSLATIONAL RESEARCH

As a multidisciplinary team effort, translational research is all about supporting one another toward a common goal. One such collaboration pertains to the cutting-edge research led by Braeden Medeiros, PhD graduate student at Western University, who is examining how and why certain breast cancer cells travel to the lung, where survival rates drop dramatically.

"In the first aspect of my project published last year, we showed how the lung develops a supportive environment allowing cancer cells to travel from the breast to the lung," says Medeiros. "We wanted to determine why this is happening and finally, to prevent it."

The initial study, partially funded by donors, showed how particles known as extracellular vesicles can travel from the primary tumour to the secondary site, acting as a sort of communicator to help cultivate an environment for additional cancer growth in the lung. However, this environment only develops based on particular sub-types of breast cancer. With this in mind, Medeiros and the BCSC Translational Research Unit are now in the process of trying to cut off communication from tumour to lung, and so far, things appear promising.

"We've taken an FDA approved drug and shown how it's able to prevent this communication, thereby reducing instances of lung metastasis," he says.

Apart from the work being done with metastasis, Dr. Ana Lohmann, clinician researcher at LHSC, is studying late recurrence: cancer that returns after more than 5 years in remission.

"If we can identify patients at risk of late recurrence using a specialized 'liquid biopsy' blood test as a means of prediction, we can potentially offer treatment before metastasis becomes clinically identified," Dr. Lohmann says. Currently, there are no specific blood tests available capable of identifying women who are at high risk of late recurrence. Recruiting patients from around the continent, this Late Recurrence Study has become the epitome of collaboration, garnering international attention with coordination from the Canadian Cancer Trials Group.

Dr. Lohmann is also leading a multicentre study in Ontario and Quebec to diagnose breast cancer recurrence using less invasive tools. When physicians suspect there are recurrences, a tissue biopsy is performed to confirm – an invasive, time-consuming process. Dr. Lohmann and team want to streamline detection using a single blood draw for a liquid biopsy to identify cancer cells or pieces of tumour DNA in the bloodstream.

To solve difficult problems in the clinic, you need to have the people in place willing to think outside of the box. Thanks to our donors, who are able to see the value in supporting these types of initiatives, researchers can drive translation to the clinic, making progress much faster. By not only preventing the disease from communicating its way through the body, but also improving efficiencies in prediction methods, LHSC's BCSC Translational Research Unit is aiming to stop breast cancer fast in its tracks.





Dr. Ana Lohmann

Dr. Alison Allan



## MOVING STEP-BY-STEP WITH

ADVANCEMENTS IN ORTHOPAEDIC RESEARCH





#### A large part of life in Canada is our ability and willingness to move across the land. It doesn't take long for our sprawling cityscapes to give way to the vast open countryside.

Unfortunately, ability isn't always a guarantee, as some people find regular activity difficult due to various traumas or degenerative disorders. Thankfully, London Health Sciences Centre's (LHSC) world-renowned hip and knee arthroplasty program has been offering advanced solutions in joint replacement to get people back up and doing the things they love faster, safer and more comfortable than before.

One major breakthrough in the last two decades has been the development of highly cross-linked polyethylene (XLPE) as a bearing for total hip replacement. Prior to this, the plastics and metals commonly used in joint replacement lasted only 10–15 years before patients would require revision surgery. While total joint replacement was highly successful in and of itself, it was often just a temporary solution. But at the turn of the millennium, everything changed.

"The introduction of XLPE has been the single biggest thing to come along in my career," says Dr. Richard McCalden, professor of surgery at Western University, and fellowship director of the Adult Reconstruction Unit at LHSC.

As one of the first groups of investigators to run randomized clinical trials with XLPE, Dr. McCalden and his colleagues found a zero per cent failure rate over 13 years in patients using this new joint technology. Considering the alternative, where thousands upon thousands of people required additional surgeries to remove old, disintegrating replacements, the clinical benefit of XLPE was made abundantly clear. However, a curious spirit is never fully satisfied – the need to know more is as much a part of us as any bone, muscle or cell. And same as how research is the catalyst for innovation, donor funding plays a pivotal role in bringing new ideas to light by paving the way for the next generation of thinkers. And indeed, the future is already upon us.

The orthopaedic team at LHSC is a multigenerational collaboration of minds keen on continuing the tradition of improving care through emerging technologies. Dr. McCalden recognizes the importance of adopting these new advancements but he wants to do so safely.

"Robotics are the future of orthopaedics," he says. "For the next year or two, we're going to examine the role they play in the operating room. We want to study them a little more objectively to fully understand their benefits and make sure there's no risk to our patients."

The team is also looking into incorporating virtual reality systems to provide students the opportunity to practice certain procedures in a risk-free environment. With a thorough and measured approach, LHSC's orthopaedic department is ensuring everyone visiting their operating room receives the best possible care with the best possible outcome.

By supporting vital programs such as orthopaedics, donors are helping people celebrate the spaces in between, connecting us all. From pathways to skate parks, sidewalks to supermarkets, Dr. McCalden and the other hip and knee replacement surgeons at LHSC understand that while daily living isn't something to take for granted, neither should it be something any of us should have to sacrifice.

> Visit LHSF's YouTube channel youtube.com/LHSFCanada today to get a virtual tour of orthopaedics and other amazing programs at LHSC



## PUTTING KIDNEY DISEASE ON THE ROPES

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Today, there are more than two million Canadians suffering from some form of kidney disease. Whether it be diabetes, high blood pressure, or kidney stones, even with today's treatments, people's quality of life is severely affected. And with more than 3,000 people currently on a wait list for a kidney transplant, it's projected the number of Canadians requiring dialysis will double in the next decade. However, for the past 12 years, the Showdown in the Downtown event has been bringing the fight to kidney disease. Literally.



What began as a combat sports event, Showdown in the Downtown is responsible for \$2.4 million in donations since the gong first sounded. In the years since, Showdown has switched between hosting amateur fighting competitions and live concerts, all in the name of supporting those suffering from kidney related illnesses. But with 2020's raging bull of a pandemic flipping society on its head, Showdown's dedicated committee of volunteers had to sidestep out of the way and reassess.

Used to having to think on its feet, the committee opted to host a virtual concert featuring the musical talents of Canada's own, Our Lady Peace. To help raise awareness for the various causes backed by this event, the concert was free-of-charge, allowing viewers to donate as they saw fit. A smashing success, 2020's improvised Showdown raised over \$280,000.

As two of Canada's leading research facilities focused exclusively on solving major challenges in organ transplantation, the Matthew Mailing Centre for Translational Transplant Studies and the Lilibeth Caberto Kidney Clinical Research Unit (KCRU) have been fortunate to receive the support of this event for many years.

"Our aim is to better understand and prevent organ injury associated with organ donation, as early events in the donation process can reduce long-term function and lead to premature failure," says Dr. Anthony Jevnikar, Mailing Centre's lead scientist and co-director for the Multi-Organ Transplant Program. Harnessing the latest technology in thermal dynamics, the Mailing Centre team is working to create storage and transportation devices specifically designed for transplant organs. With the ability to optimize organ preservation temperatures, these units will increase their healthiness and viability en route to transplantation. Clinical trials are set to begin soon in London.

Similarly, researchers at the KCRU are working hard to improve therapies as they pertain to kidney disease. Many who undergo dialysis understand the need to do so, but are disheartened at having to sacrifice their quality of life. From wearable artificial kidneys, to arterial implants designed to protect the heart and brain during dialysis, Dr. Chris McIntyre and his team are championing innovative clinical techniques to enhance patient care.

These physicians know, when people are faced with overwhelming odds, the will to turn the tide is that much more pervasive. And with Showdown in the Downtown in their corner, along with the generous donors who support it, they're confident in their ability to KO kidney disease once and for all. This is the driving force behind both the KCRU's and Mailing Centre's group of researchers: to boldly break new ground in hopes of providing as many people possible with a second, healthier chance at life.



### THE SCIENCE OF SLEEPING ORGANS: **PROMISING NEW RESEARCH TO IMPROVE ORGAN TRANSPLANTATION**

Ideas can really take on a life of their own. And like any other living thing, they require proper nourishment and a suitable environment in which to flourish. Same as how certain creatures grow relative to their surroundings, so too do ideas need room to reach their full potential. Such are the minds at The Sener Laboratory.

For nearly 12 years, Dr. Alp Sener, chair and chief of urology at London Health Sciences Centre, has been asking himself: how can we improve organ function for transplant patients? Today, once an organ is harvested, it's flushed with a solution and stored in a fridge for up to two days. But the more time passes, the more damage an organ sustains. Some organs, such as the kidneys, can even take a while before becoming fully functional again.

"It's like the kidney is almost stunned. We call it a sleepy kidney," explains Dr. Sener. His enthusiasm is contagious. You can tell he's building to something.

To address problems affecting transplant organs, Dr. Sener began looking into hydrogen sulfide. As part of a three-molecule family which includes nitric oxide and carbon monoxide, hydrogen sulfide, like the others, is a poisonous gas. Only it's a gas our bodies produce naturally as a sort of protection. This led him to consider hibernation. As an animal's temperature, breathing and heart rate slow down upon entering hibernation, hydrogen sulfide levels in the blood go up. Studies have also shown how hibernating animals can't survive when hydrogen sulfide production is blocked, whereas increasing it can induce a state of hibernation. Similar to how an organ's metabolic rate drops and is deprived of oxygen when cooled, Dr. Sener remembers it sounded an awful lot like what organs go through when placed in a cooler prior to transplant.

Experiments confirmed transplant organs flushed with standard preservation solution combined with hydrogen sulfide outperformed the standard solution on its own. However, hydrogen sulfide donor molecules, such as those used in the initial animal experiments, weren't approved for human testing. The team soon came across sodium thiosulfate, a similar compound readily available to clinicians.

After several more years of testing and making the necessary adjustments to the dosage, Dr. Sener and his team were delighted to find similar results using sodium thiosulfate. And on March 21, 2021, Dr. Sener performed the world's first human transplant using this new preservation method.



"The day following transplant, our patient was making urine. This was remarkable as she normally made no urine while on dialysis. It's very exciting," Dr. Sener exclaims. He hopes replicating this success will encourage transplant programs across Canada to participate in multicentre studies – all of which will require more funding.

Dr. Sener considers himself incredibly fortunate because without donor support, vital research such as this would not be possible. Already, recent events have garnered some attention, spurring his investigation onward with optimism. And working alongside a team driven by innovation and improving patient care, Dr. Sener is cultivating an environment wherein ideas thrive, research inspires and people go on to live healthier, more fulfilling lives.



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