Inside: Evidence Matters | Long-term Care | Special Focus: E-Health

HospitalNews™

www.hospitalnews.com

April 2022 Edition

FEATURED

Why is AI adoption in health care lagging?

Page 22

25 HEALTH CARE PROVIDERS HCP GROUP INSURANCE PLAN
CELEBRATING 25 YEARS 1997 - 2022

Receive Health Care From Anywhere!

All HCP packages and plans include a premium virtual medicine app (Telemedicine by Maple) meaning you can see a health practitioner right from your smartphone or computer!

Ask us about our Appreciation Open Enrollment window when you call!

1-866-768-1477 | www.healthcareproviders.ca

RUNNING ON EMPTY

The nursing shortages in the news every day will have a domino effect for years to come. Turning this around means investment. And that's not just money. Decision-makers must become truly invested in nurses, health-care professionals, and their patients. Sick people jammed in hallways should be seen as a tragic failure of the system, not business as usual. Nurses overwhelmed by impossible workloads must be the cause for urgent action, not more empty promises.

KeepNursingStrong.ca

ONA

Ontario Nurses' Association

April 2022 Edition

Contents

IN THIS ISSUE:

▶ e-Health 2022 Virtual Conference and Tradeshow 22

▲ Cover story: Why is AI adoption in health care lagging? 22

▲ Creating universal blood-type organs for transplant 20

COLUMNS

Editor's Note 4

In brief 6

Evidence matters 32

Long Term Care 42

▲ First in-human use of Ringer™ Perfusion Balloon Catheter 10

▲ Scientist and research team receive nearly $1 million grant to study autism 36

▲ Making waves in the delivery of health services to Senegal and West Africa 12

▶ Hospitals are experiencing a global blood tube shortage 34

Canada is wasting its research talent

By David Robinson

Policy makers looking for new research talent to take on the biggest problems of today need look no further than the front of today's university and college lecture halls. There is an entire generation of trained researchers to whom we have granted PhDs but failed to provide jobs that allow them to conduct research. In the past two decades, universities and colleges have quietly been relying on contract academic teachers – most of whom are stretched too thin by their teaching contract or not supported to do innovative research.

The most immediate challenge – other than the elephant in the room, which is restoring adequate funding to the post-secondary education system – is getting a handle on this changing workforce. On this mark, we simply don't have sufficient data.

University and college administrators will often invoke the red herring of the "happy moonlighter," that is, the law firm partner who occasionally teaches a class for fun. The reality is, outside of campus professional schools, contract academics are not happy, they're not moonlighting and despite wanting to do research, find many roadblocks in their way.

For most, contract teaching is a decades-long career cobbled together while hoping for permanent work.

Contract academic staff are reporting mental health struggles and career burnout as they chase short-term teaching contracts while being unable to make life plans beyond the end of a semester. They also struggle to do research at their own personal expense (they do not qualify independently for federal research funding) to keep their CVs up-to-date so that they might apply for a permanent position.

Policy makers need data to measure and understand the ranks of our "missing" research talent: contract academic teachers who lack the job security or recognition to produce innovative research.

Luckily, the federal government has within hand a tool it can expand to collect better data about the university and college sector's workforce: Statistics Canada's University and College Academic Staff System (UCASS) survey.

UCASS has been providing data about academics permanently employed in Canadian universities since the 1930s (despite the name, community colleges have never been included). Along with the Long Form Census, UCASS was axed by the Harper government but brought back in the early days of the Trudeau government. That decision came with a promise to expand the survey to better reflect today's post-secondary education landscape by including college teaching staff and contract academics and collecting more information about the equity makeup of the workforce.

Continued on page 6

UPCOMING DEADLINES

MAY 2022 ISSUE

EDITORIAL: April 5
ADVERTISING:
Display – April 22 | Material – April 26

Monthly Focus:
Surgical Procedures/Pain Management/ Palliative Care/Oncology: Non-invasive surgery, plastic surgery, orthopedic surgery and new surgical techniques including organ donation and transplantation procedures. New approaches to pain management andpalliative care delivery. Approaches to cancer diagnosis and treatment.

+ National Nursing Week

JUNE 2022 ISSUE

EDITORIAL: May 10
ADVERTISING:
Display – May 27 | Material – May 31

Monthly Focus:
Precision Medicine/Volunteers and Fundraising/ Pharmacy and Medication Management: Developments in the field of personalized medicine. Innovative approaches to fundraising and the role of volunteers in healthcare. An examination of safe and effective use of medications in hospitals including medication management.

+ ANNUAL HOSPITAL PHARMACISTS' ASSOCIATION SUPPLEMENT + SPECIAL FOCUS: CANNABIS

THANKS TO OUR ADVERTISERS Hospital News is provided at no cost in hospitals. When you visit our advertisers, please mention you saw their ads in Hospital News.

Hospital News

610 Applewood Crescent, Suite 401
Vaughan Ontario L4K 0E3
TEL. 905.532.2600|FAX 1.888.546.6189
www.hospitalnews.com

Editor
Kristie Jones
editor@hospitalnews.com

Advertising Representatives
Denise Hodgson
denise@hospitalnews.com

Publisher
Stefan Dreesen
stefan@hospitalnews.com

Accounting Inquiries
accountingteam@mediaclassified.ca

Circulation Inquiries
info@hospitalnews.com

Director of Print Media
Lauren Reid-Sachs

Senior Graphic Designer
Johannah Lorenzo

ADVISORY BOARD

Barb Mildon,
RN, PHD, CHE
VP Professional Practice & Research & CNE,
Ontario Shores Centre for Mental Health Sciences

Helen Reilly,
Publicist
Health-Care Communications

Jane Adams,
President
Brainstorm Communications & Creations

Bobbi Greenberg,
Health care communications

Sarah Quadri Magnotta,
Health care communications

Dr. Cory Ross,
B.A., MS.C., DC, CSM (OXON), MBA, CHE
Vice President, Academic
George Brown College, Toronto, ON

ASSOCIATE PARTNERS:

Medtech Canada
ipac pci
The Canadian Coalition for Green Health Care
Coalition canadienne pour un système de santé écologique

Hospital News is published for hospital health-care professionals, patients, visitors and students. It is available free of charge from distribution racks in hospitals in Ontario. Bulk subscriptions are available for hospitals outside Ontario.

The statements, opinions and viewpoints made or expressed by the writers do not necessarily represent the opinions and views of Hospital News, or the publishers.

Hospital News and Members of the Advisory Board assume no responsibility or liability for claims, statements, opinions or views, written or reported by its contributing writers, including product or service information that is advertised.

Changes of address, notices, subscriptions orders and undeliverable address notifications. Subscription rate in Canada for single copies is $29.40 per year. Send enquiries to: subscriptions@hospitalnews.com

Canadian Publications mail sales product agreement number 42578518.

PRINTED IN CANADA

Acute kidney injury associated with severe COVID-19 leads to high mortality rates

Severe cases of a COVID-19 infection can cause a host of serious complications, one of them being acute kidney injury. In a recent published study, scientists at Lawson Health Research Institute (Lawson) have found that acute kidney injury in patients with a severe COVID-19 infection is leading to a high mortality rate.

"These are patients who did not have kidney disease, or kidney injury prior to contracting COVID-19," explains Dr. Peter Blake, Lawson researcher and Provincial Medical Director at the Ontario Renal Network. "This is what we call acute kidney injury, and in the case of these severe COVID-19 patients the kidney injury led to the need for acute dialysis."

By accessing data collected through the Ontario Renal Network (ORN), Dr. Blake and his colleagues were able to examine 271 people at 27 renal programs across the province, including patients at London Health Sciences Centre (LHSC), who received acute dialysis for acute kidney injury due to a COVID-19 infection. The data examined was from the duration of the first two waves of the pandemic, up to January 31st, 2021.

"This is a complication that is occurs in 10 per cent of ICU COVID-19 cases," says Dr. Blake, who is also a nephrologist at LHSC. "Men accounted for more than 75 per cent of this condition, half of the patients were diabetic and the majority of these patients were not seniors in the later stages of life, but rather middle-aged people."

The provincially-collected data through the ORN also showed that patient populations living in postal codes with high ethnocultural deprivation were more likely to get this condition, at a rate of more than 60 per cent, and survival rates were not promising.

"The mortality rate was shockingly high with 64 per cent of these patients dying within 90 days," adds Dr. Blake. "Many of those who survived remained in hospital for a long period of time and the one in five that did survive have remained on long-term dialysis."

This study has been published in the Clinical Kidney Journal. Looking ahead, the research team plans to follow up with patients who have survived this severe complication to track what lasting health affects occur within a six- to twelve-month post-survival period.

ABOUT LAWSON HEALTH RESEARCH INSTITUTE

Lawson Health Research Institute is one of Canada's top hospital-based research institutes, tackling the most pressing challenges in health care. As the research institute of London Health Sciences Centre and St. Joseph's Health Care London, our innovation happens where care is delivered. Lawson research teams are at the leading-edge of science with the goal of improving health and the delivery of care for patients. Working in partnership with Western University, our researchers are encouraged to pursue their curiosity, collaborate often and share their discoveries widely. Research conducted through Lawson makes a difference in the lives of patients, families and communities around the world. To learn more, visit www.lawsonresearch.ca.

RNAO

JOIN NOW!
at join.RNAO.ca
800-268-7199

You've seen RNAO in action supporting nurses. You've been meaning to join us.

JOIN NOW

$256.36
It's only
$100
- taxes & PLP included

Physician burnout nearly doubles during pandemic

Preliminary data from the Canadian Medical Association's (CMA) National Physician Health Survey offers a concerning outlook on the health of physicians, battered from over two years of a global pandemic. The survey, conducted in November 2021, shows more than half of physicians and medical learners (53 percent) have experienced high levels of burnout, compared to 30 percent in a similar survey conducted in 2017. As well, nearly half (46 percent) of Canadian physicians who responded are considering reducing their clinical work in the next 24 months.

"We should be deeply alarmed that half of the physician workforce is considering reducing their clinical workload. The downstream impact to patient care will be significant as we are already experiencing access to care issues," says Dr. Katharine Smart, CMA president. "There is no question that the pandemic has greatly affected our health workforce. As we look to rebuild our health care system, we need to prioritize the people who work within it and call on all governments to take action now."

The preliminary survey data has been released following an emergency meeting of close to 40 national and provincial health organizations representing Canada's health workforce. The organizations were united in their call for urgent action to address the worsening health workforce crisis, with key priorities focused on creating a robust source of data, implementing a national human health resources strategy and rebuilding Canada's health care system for the future.

Additional insights from the National Physician Health Survey reveal that:

- 59 percent of physicians indicated that their mental health has worsened since the onset of the pandemic. This worsened mental health has been attributed to: increased workload and lack of work-life integration (57 percent), rapidly changing policies/processes (55 percent), and other challenges.
- Nearly half of physicians (47 percent) reported low levels of social wellbeing, which has increased from 2017 data (29 percent). Emotional and psychological wellbeing have also suffered compared to pre-pandemic levels.

The CMA National Physician Health Survey was conducted in the fall of 2021. The survey was open for five weeks and received more than 4,000 responses from Canadian physicians and medical learners. A fulsome report will be published later this year. H

Continued from page 4

Research talent

Among the many benefits of expanding UCASS is that it will provide data to measure whether equity initiatives like the Dimensions program and the Scarborough Charter are truly improving equity, diversity and inclusion in our sector. It would also bring Canada into line with other OECD countries who collect far more robust data about their academic workforce.

The Canadian Association of University Teachers estimates approximately one-in-three academic staff today are on contract appointments. Among those, there are some indications that there are disproportionately more women, racialized people, people with disabilities and other members of other equity deserving groups. But we need better data to get a more complete picture that would help us to identify and eliminate discriminatory barriers.

UCASS' current annual budget is approximately $500,000. Expanding this survey would cost, at most, an initial investment of $2.5 million but give policy makers more comprehensive data for understanding the workforce behind Canadian innovation.

A feasibility study on expansion was recently completed. The next step would be to fund and run a pilot expansion with the aim of expanding UCASS in the next two years to community colleges, to Indigenous and equity deserving groups, and to cover contract staff. Without expanded UCASS data, Canadian policy makers will always have an incomplete picture of the workforce underpinning innovation, and the efficacy of equity, diversity and inclusion programs in the sector.

With a modest injection of funding, policymakers and the public can better understand the academic workforce and put us in a position to strengthen our ability to solve some of today's most pressing problems. H

David Robinson is the Executive Director of the Canadian Association of University Teachers.

Largest ever psychedelics study maps changes of conscious awareness to neurotransmitter systems

Psychedelics are now a rapidly growing area of neuroscience and clinical research, one that may produce much-needed new therapies for disorders such as depression and schizophrenia. Yet there is still a lot to know about how these drug agents alter states of consciousness.

In the world's largest study on psychedelics and the brain, a team of researchers have shown how drug-induced changes in subjective awareness are anatomically rooted in specific neurotransmitter receptor systems.

The researchers gathered 6,850 testimonials from people who took a range of 27 different psychedelic drugs. In a first-of-its-kind approach, they designed a machine learning strategy to extract commonly used words from the testimonials and link them with the neurotransmitter receptors that likely induced them. The interdisciplinary team could then associate the subjective experiences with brain regions where the receptor combinations are most commonly found – these turned out to be the lowest and some of the deepest layers of the brain's information processing layers.

Using thousands of gene transcription probes, the team created a 3D map of the brain receptors and the subjective experiences linked to them, across the whole brain. While psychedelic experience is known to vary widely from person to person, the large testimonial dataset allowed the team to characterize coherent states of conscious experiences with receptors and brain regions across individuals. This supports the theory that new hallucinogenic drug compounds can be designed to reliably create desired mental states.

For example, a promising effect of some psychedelics for psychiatric intervention is ego-dissolution—the feeling of being detached with the self. The study found that this feeling was most associated with the receptor serotonin 5-HT2A. However, other serotonin receptors (5-HT2C, 5-HT1A, 5-HT2B), adrenergic receptors Alpha-2A and Beta-2, as well as the D2 receptor were also linked with the feeling of ego-dissolution. A drug targeting these receptors may be able to reliably create this feeling in patients whom clinicians believe might benefit from it.

"Hallucinogenic drugs may very well turn out to be the next big thing to improve clinical care of major mental health conditions," says Professor Danilo Bzdok, the study's lead author. "Our study provides a first step, a proof of principle that we may be able to build machine learning systems in the future that can accurately predict which neurotransmitter receptor combinations need to be stimulated to induce a specific state of conscious experience in a given person." H

Stroke hospital visits down markedly in first year of COVID-19 pandemic

The first year of the COVID-19 pandemic saw fewer hospital visits for stroke, fewer stroke therapies, more treatment delays and a higher risk of in-hospital deaths in the subsequent COVID-19 waves, according to an Alberta study published in *CMAJ (Canadian Medical Association Journal)*.

"It is unlikely that the observed reductions in patients presenting to hospital with stroke reflect true declines in stroke occurrence, and more likely that it reflects pandemic-related hospital avoidance, as reported for other emergencies," writes Dr. Aravind Ganesh, University of Calgary, Calgary, Alberta, with coauthors.

Researchers looked at data on 19 531 patients in Alberta during the prepandemic period (January 1, 2016, to February 27, 2020) and 4900 patients across the five pandemic phases from February 28, 2020, to March 31, 2021. According to World Stroke Organization data, hospital visits and admissions for ischemic stroke decreased in Wave 1 compared with the pre-pandemic period, rebounded somewhat during the lull before Wave 2 and declined further in Wave 3. Treatments for stroke, such as thrombolysis and endovascular therapy, also declined compared with the prepandemic period.

STUDY AUTHORS NOTED A SUBSTANTIAL INCREASE IN OUT-OF-HOSPITAL STROKE DEATHS AS A PROPORTION OF ALL STROKE-RELATED DEATHS IN THE PROVINCE DURING THE PANDEMIC PERIODS.

As SARS-CoV-2 positivity is associated with subsequent cardiovascular issues, emergency departments would be expected to see more cases of heart disease and stroke in later waves.

"Especially during the second- and third-wave periods of our study, when COVID-19 cases surged, we expected to observe an increase in stroke presentations instead of declines," the researchers write.

Study authors noted a substantial increase in out-of-hospital stroke deaths as a proportion of all stroke-related deaths in the province during the pandemic periods.

The study provides additional evidence of the pandemic's effect on medical emergencies such as strokes. Data from Spain showed a decrease of 40 per cent or more in admissions for myocardial infarction and stroke, and preliminary reports from Italy showed a 25 per cent drop in admissions for stroke and a 14 per cent drop in thrombolysis to treat stroke.

"We have shown not only that the early COVID-19 pandemic was associated with decline in presentations for ischemic stroke and use of acute therapies, even after adjustment for confounding variables, but that these problems persisted in later waves," write the authors. "Importantly, the lower population-level incidence of thrombolysis and endovascular therapy appeared to reflect declines in stroke presentations rather than any therapeutic inertia."

Public health messaging should encourage patients to seek care for emergencies, even during a pandemic.

"Changes in ischemic stroke presentations, management and outcomes during the first year of the COVID-19 pandemic in Alberta: a population study" is published March 28, 2022.

Free communications course in Health Sciences

OSLT Occupation-specific Language Training

COLLEGES ONTARIO | COLLÈGES ONTARIO

Formation linguistique axée sur les professions FLAP

Improve your workplace communication skills with free Occupation-specific Language Training courses

Workplace Communication Skills for Health Care
- Dental Hygienist
- Medical Laboratory Technologist
- Medical Radiation Technologist
- Nurse
- Personal Support Worker
- Sleep Technologist

Workplace Communication Skills for Interprofessional Health Care Teams
- Dietitian
- Nurse
- Occupational Therapist
- Physiotherapist
- Social Worker

Eligibility: you are a permanent resident of Canada or a protected person, with training or experience from another country or from Canada in one of the occupations listed under each course, and with English at an intermediate level (Canadian Language Benchmark 6-8).

Learn more at: co-oslt.org/health-sciences

GEORGE BROWN COLLEGE

Funded by: Immigration, Refugees and Citizenship Canada

Financé par : Immigration, Réfugiés et Citoyenneté Canada

ALGONQUIN COLLEGE

The COVID-19 surgery crisis

is a once-in-a-generation opportunity to re-imagine surgery delivery in Canada

By David Gomez and David R. Urbach

Access to elective surgery has been decimated by the COVID-19 pandemic. The first three months alone were responsible for over 28 million elective surgeries being delayed or postponed worldwide. The Canadian Institute for Health Information (CIHI) estimates that 560,000 fewer surgeries than expected were performed across Canada between March 2020 and June 2021, and that doesn't include data from Quebec.

This is catastrophic. Without a significant intervention, many Canadians who are waiting for elective surgeries may never have an operation. The burden of suffering and its impact on our mobility, vision, fertility and quality of life will be felt for years to come.

Formulating a surgical recovery strategy is an urgent policy priority. But addressing the crisis will take more than time and money; it will require a radical overhaul away from traditional individual surgical practice toward integrated group models of care.

The need to conserve hospital and critical care capacity for COVID-19 illnesses resulted in public health directives to stop all elective surgery in many Canadian provinces. The resulting backlog of unmet need has continued to grow as healthcare professionals are redeployed away from surgery to care for COVID-19 patients, are sick with COVID-19 themselves, or have left the profession altogether.

But we can't only blame the pandemic for poor access to elective surgery. Our surgical wait time woes predate the pandemic.

The Commonwealth Fund 2021 report ranked Canada second to last among 11 similar economies in access to care. Even before the pandemic, approximately 30 per cent of patients awaiting joint replacements or cataract surgery, for example, exceeded Canadian wait time targets.

AT ITS CORE, ACCESS TO SURGERY IS DETERMINED BY THREE FACTORS: SUPPLY, DEMAND AND COORDINATION.

Long wait times for services have long been grudgingly accepted by Canadians as an acceptable tradeoff in our single-payer, universal, publicly funded healthcare system. However, patience with the status quo will be tested once the real impact of the COVID-19 pandemic on elective surgeries becomes apparent.

How do we recover? We need to begin first by changing our mindset.

The term "elective surgery" is frequently misunderstood. In Canada, "elective" does not imply optional surgery. "Scheduled surgery" has been suggested as a more accurate term for operations that may be required for conditions such as cancer, cardiovascular disease, vision loss or debilitating chronic joint pain. While different wait time targets are acceptable for different types of scheduled surgeries – for example, cancer surgeries were prioritized throughout the pandemic given the potential of cancer progression – prolonged wait times for non-cancer surgeries can cause deterioration in health that may be life or limb-threatening, lead to poor quality of life, major economic burdens, and potentially even render a patient ineligible for scheduled surgery.

Canada needs a surgical recovery strategy. But increasing health care spending without fundamentally re-engineering how surgery is coordinated and delivered in Canada will not be enough. In fact, throwing more money into the existing system will only exacerbate systemic inequities that currently discriminate against disadvantaged patient groups, as well as certain health care providers, such as women surgeons.

At its core, access to surgery is determined by three factors: supply, demand and coordination. Most backlog recovery strategies focus on increasing the supply of surgical services: broader use of hospital payment models, increased hospital efficiency and rebuilding the health care work force.

We could also reimagine the way we use hospitals, incorporate new anesthesia techniques and anesthesia care providers, and expand virtual care for recovery at home, which can all reduce costs and free up hospital beds to further increase the supply of surgical procedures.

These would all be important steps. But without first addressing the lack of system-wide coordination of surgical services, this won't be enough.

Importantly, we need to implement single-entry models for surgery and move away from traditional independent surgical practice towards integrated group models of care. By aligning doctors within groups, patients can enter a single referral queue and can be seen by the next available surgeon, slashing wait times and creating a more equitable system of care. Almost every other industry where people wait for services – banks, call centres, amusement parks – uses single-entry models to manage wait times.

Reimagining our system of surgery must begin with ensuring that all patients have faster and more equitable access to surgical services.

We have a once-in-a-generation opportunity to redesign the way Canadians receive surgical care and restore the public confidence that is required to preserve our unique health care system for future generations. H

David Gomez is an Assistant Professor of Surgery at the University of Toronto and a Scientist at the Li Ka Shing Knowledge Institute of Unity Health Toronto. David R. Urbach, MD is the Lead Medical Executive and Head of the Department of Surgery at Women's College Hospital, Toronto and Professor of Surgery and Health Policy at the University of Toronto.

Interoperability standards:

Focusing on collaboration, consensus and commitment

By Michael Green

We know Canada's health system is capable of rapid change in an emergency.

When the COVID-19 pandemic struck two years ago, Canada Health Infoway and the federal, provincial and territorial governments collaborated with vendors, clinicians and other health system stakeholders to quickly develop, implement and enhance virtual care solutions across the country. It was an unprecedented collaborative effort that helped Canadians immensely in a time of great need.

As we emerge from the pandemic, how do we maintain that intensity so we can make other changes that will improve our health system and health outcomes for Canadians? Collaboration, consensus and commitment will be the keys to success in everything we do.

Let's use interoperability standards as a case study for the "art of the possible."

Interoperability refers to the ability of different IT systems with different infrastructures to share data, like patient health information, in the context in which it was collected. Interoperability could not happen without standards.

There are three types of interoperability standards in the health care context: content or data standards for clinical content and clinical guidelines; terminology standards, which are structured vocabularies or codes that represent clinical ideas or concepts; and exchange standards, which enable the formatting of messages exchanged between systems.

When used together, these standards set expectations about how and what data will be shared in a standardized manner, in the appropriate clinical context. And they give health care providers confidence that they will have a common understanding of the tests performed, the results, and the clinical assessments they are sharing, so they and their patients can make informed decisions about a patient's health and care.

Canada Health Infoway is the home of many pan-Canadian standards, including the Canadian edition of SNOMED CT (Systematized Nomenclature of Medicine – Clinical Terms), the pan-Canadian LOINC (Logical Observation Identifiers Names and Codes) database known as pCLOCD, HL7 (Health Level 7) Canada and IHE (Integrating the Healthcare Enterprise) Canada.

For many years, we have been connecting, convening and galvanizing stakeholders to work toward a standardized pan-Canadian approach. We share knowledge and lessons learned, and we provide access to various standards and tools, as well as opportunities for collaboration, through our InfoCentral website and communities (infocentral.infoway-inforoute.ca).

Our goal is to improve data quality, data use, and re-use of information to enable a better and more connected experience for everyone, especially patients. In partnership, we strive to support the accessibility of quality information to the right people, at the right place, at the right time.

So collaboration, consensus and commitment have been the cornerstones of success in the Canadian standards community for many years.

As a result, we were well positioned when the pandemic and the shift to virtual care heightened the need for interoperability standards that enable the secure and precise capture and sharing of heath information. We were able to act quickly during the early days of the pandemic, and sustain our commitment over the past two-plus years.

Throughout the pandemic, we have achieved consensus to add and update COVID-19 terms, concepts and diagnostic tests to the Canadian and International Editions of SNOMED CT and LOINC/pCLOCD. This has helped detect new variants of the virus and it has helped patients get the care and the information they need, such as online access to lab test results. It also equipped our public health professionals with tools to track and monitor the spread of the illness, and measure outcomes.

During 2021, Infoway worked with Health Canada, the Public Health Agency of Canada, CANImmunize and our provincial and territorial partners to add World Health Organization and Health Canada approved COVID-19 vaccines to the Canadian edition of SNOMED CT via our Public Health Surveillance Community on InfoCentral. We worked with experts to ensure that the vaccine content was appropriately modelled so the capture and use of the information placed patients and their safety first.

Our public health agencies were able to use the information to track the administration of these life-saving vaccines. The information was also used to demonstrate proof of vaccination in various vaccine certificates.

All of this work by the Canadian standards community has made a real difference to Canada's pandemic response and it will make a real difference to our post-pandemic health system.

It's a great example of the art of the possible – how collaboration, consensus and commitment can improve our health system and health outcomes for Canadians.

We look forward to working with all health system stakeholders to continue to advance interoperability and to support other important digital health initiatives that will modernize our health system. H

Michael Green is President and CEO of Canada Health Infoway

First in-human use of Ringer™ Perfusion Balloon Catheter

By Emily Santos

It's late January, in the midst of a stressful global pandemic, but cardiac patient Vernetta Calvin-Smith is waking up renewed. Her family is in the next room, with the sounds of children at play, and a lively energy fills the air. Today, Vernetta has a lot to celebrate.

It's been several months since the vibrant 77-year-old Oshawa resident walked out of Scarborough Health Network's (SHN) regional cardiac centre at Centenary Hospital, after undergoing a life-saving, historical medical procedure: the first-ever, in-human use of a Ringer™ Perfusion Balloon Catheter.

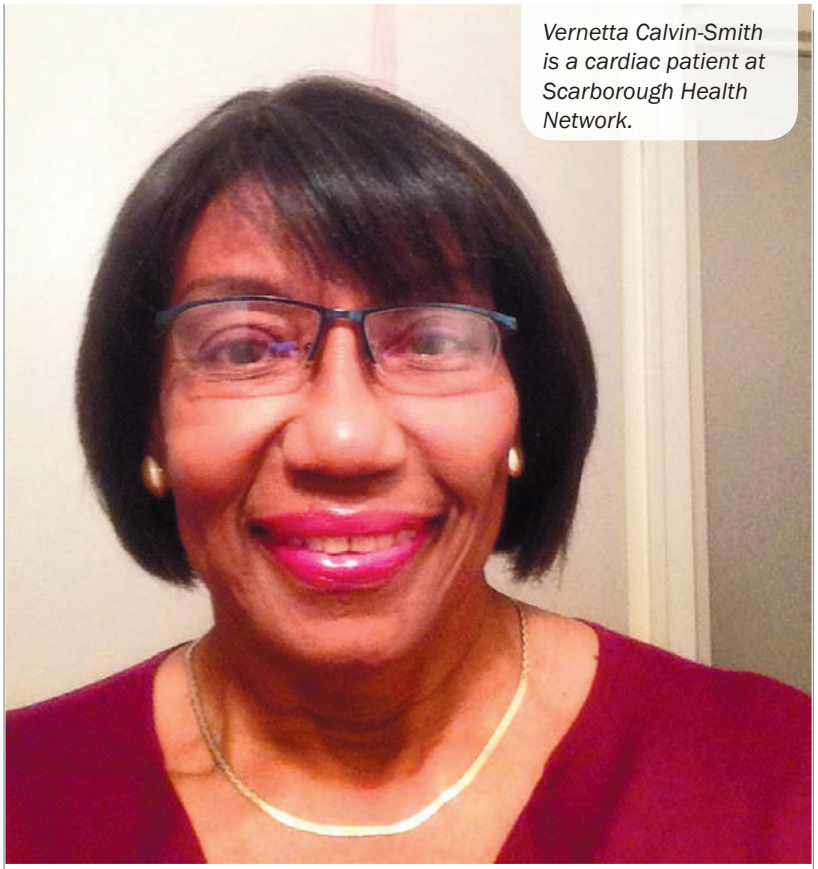
Her journey to better heart health started while searching for help with breathing problems and chest pains; she had an undoubted self-awareness that something was critically wrong.

Vernetta was right. Ninety-five per cent of her right coronary artery was blocked and she needed medical care, right away. Little did she know, after being referred and sent to SHN, she would soon make medical history.

As home to the regional cardiac centre servicing Scarborough, Durham and other communities across the Central East region of Ontario, SHN offers closer-to-home specialized care from some of the country's leading cardiac experts, including interventional cardiologists Drs. Christopher Li and Ram Vijayaraghavan.

They were each a part of the compassionate cardiac care team delivering exceptional, innovative, and life-saving care to Vernetta, whose artery was too blocked to implant a stent – a tiny mesh tube that helps open up the artery – simply because the mesh wire could not penetrate.

Vernetta was advised that due to her age, open heart surgery would not be advisable; instead she would undergo a procedure to help open her artery – making it possible to insert a stent.



Vernetta Calvin-Smith is a cardiac patient at Scarborough Health Network.

When arriving for her procedure at one of SHN's three catheterization labs, Vernetta said she was in a different headspace. Nervous, scared, but optimistic for the outcome.

DECIDING TO USE THE RINGER™ PERFUSION BALLOON CATHETER

Catheterization procedures involve guiding a thin, flexible tube (catheter) through a blood vessel into the heart to diagnose and treat heart conditions, including clogged arteries. During her procedure, Vernetta had a calcified lesion with mild bleeding that had to be dealt with right away. This led Dr. Li's quick-thinking team to insert a Ringer™ Perfusion Balloon Catheter to manage any hemorrhaging.

"The Ringer™ Perfusion Balloon Catheter is like 10 to 15 doughnuts stacked together, so there's a hole in the middle. When you inflate the balloon, it seals off the side wall to stop the bleeding and you still have the hole in the middle to allow blood to flow to the heart. The patient won't have any chest pains, heart attack or other complications," explained Dr. Li.

SHN is one of three hospitals that is part of the University of Toronto's Chronic Total Occlusion (CTO) research group, which stocks the Ringer™ Perfusion Balloon Catheter under the Special Access Program (SAP) of Health Canada. Previously bench tested in a lab, the Ringer™ Perfusion Balloon has not yet been authorized for sale in Canada, but through SAP, health care professionals may access these medical devices.

"This collaborative group works with complex and high-risk cases. So, to have access to this device, and its positive outcome, is a fairly big deal," said Dr. Li. "Since we presented our findings in November at the Transcatheter Cardiovascular Therapeutics (TCT) conference – the biggest of its kind each year – more Canadian hospitals are asking for this device."

Dr. Li added this type of technology is great news for Canada, but there is still work and research that needs to be done.

"We only have limited experience," he explained. "There's an ongoing study about it in the United States, but I predict, it will be used more and more in the future. SHN is at the forefront of testing, and reporting our data to the rest of our colleagues around the world."

POSITIVE PATIENT OUTCOME

As for Vernetta, she was discharged the next day.

"I thank God that this ringer perfusion balloon fixed the problem. I was the first person in the world to receive this particular treatment, and it worked," she said. "SHN's cardiologists have the knowledge and experience that make the difference, and now I feel significantly better."

Vernetta said she feels very special and has a deeper perspective and appreciation for life.

"I feel blessed. So many people tell you that you're going in for something routine, so you shouldn't worry. But you can never be sure anything is ever routine," she said. "I don't just take anything for granted. I am thankful to God who placed me in the gifted and experienced hands of the brilliant cardiologists working at Scarborough Health Network. Life is wonderful." H

Emily Santos is a Communications Specialist at Scarborough Health Network.

The Pandemic Has Left Caregivers Burnt Out

Health and service providers have felt the impact of Covid-19 on their mental health. The impact has been similar on family caregivers who support a family member, friend or neighbour. In fact, 58% say they feel burnt-out as a result of their caregiving role.

The next time you meet a family caregiver, let them know the Ontario Caregiver Organization is here to help.

Free programs and services are available to Ontario caregivers:

- 24/7 Helpline (1-833-416-2273)
- Helpful Webinars (Live and Recorded)
- e-Learning and Educational Resources
- Dedicated Resource for Young Caregivers: youngcaregiversconnect.ca
- Group and 1:1 Peer Support (online or by phone)
- Group and 1:1 Counselling
- Toolkits for Caregivers (For New and Working Caregivers)
- Time to Talk Podcast

Learn more at ontariocaregiver.ca

THE ONTARIO caregiver ORGANIZATION

Making waves in the delivery of health services to Senegal and West Africa

For over 40 years, Mercy Ships has provided free critical life-altering and life-changing services to people in developing nations through floating hospital ships. Mercy Ships has worked in more than 55 developing countries and has transformed the lives of more than 2.8 million people by providing free surgeries and other medical procedures to people in great need. Recognizing that accessible healthcare to all members of the community is a justice issue, women's health needs are at the forefront of Mercy Ship's surgical schedule as we returned to Senegal.

Each year, more than 1,200 volunteers including surgeons, dentists, nurses, health care trainers, and other marine and technical professions, help provide direct surgical care for more than 2,400 patients. In addition, more than 8,000 patients receive dental care, and training and mentoring is provided to more than 1,400 medical staff through partnerships with local government health care departments.

In 1989, Canada signed onboard to that dream of the founders Don and Deyon Stephens with the creation of Mercy Ships Canada, which is now one of 16 offices throughout the world. Darryl Anderson, Executive Director of Mercy Ships Canada said. "One only has to walk alongside the children, their parents, and other adults who have had life changing surgeries to know that we are on the right mission." Through the invitation of African movements such as the Republic of Senegal and their Ministry of Health and Social action, Mercy Ships is helping to bring accessible health care to those who would otherwise continue to suffer.

IN WEST AND SUB-SAHARAN AFRICA, 93 PERCENT OF THE POPULATION CANNOT AFFORD MEDICAL CARE OR LIVE TOO FAR FROM A HOSPITAL TO ACCESS TREATMENT.

Despite the great strides countries like Senegal are making in health care, in West and sub-Saharan Africa, 93 percent of the population cannot afford medical care or live too far from a hospital to access treatment. Many are forced to walk days just to reach a clinic and even then, have no guarantee of receiving care. Over 85 percent of children need surgical care before their 15th birthday and countless surgical procedures are needed throughout West Africa. "While these statistics are tough to read, bringing a hospital ship and medical care directly to people can contribute to turning things around" Anderson said. "And this year is a special year as 2022 will see the introduction of the world's largest civilian hospital ship the Global Mercy.™

This modern hospital ship is 174 meters long, with six operating rooms, 200 beds, a laboratory, general outpatient clinics, as well as eye and dental clinics. "This will more than double our capacity to provide free surgery, medical services and medical training," noted Darryl.

However, Mercy Ships is not just about shipboard medical care for people near a port. In the last year, medical staff have visited the 14 regions in Senegal to identify potential patients, arrange transportation, housing, and ensure all Covid-19 protocols are followed prior to their operation. The Hope Center, which provides both pre and post op care as well as nourishing food, ensures a place for patients to gain strength and confidence for the coming surgery.

Mercy Ships is also partnering with the government of Senegal to purchase and install six new waste converters in selected hospitals and clinics where hazardous waste material, including potentially harmful or deadly viruses are sterilized through a state-of-the-art disinfection process based on microwave technology. This makes the process safer and ensures harmful material is dealt with in an environmentally and economically sustainable manner. This is a very important initiative that the Canadian national office is leading in funding the million dollars plus project.

In closing, Mr. Anderson noted that 2022 will be a milestone year with the return of the Africa Mercy® to Senegal along with reading the Global Mercy™ for the vessel's first service. "With new opportunities comes new responsibilities". Anderson said. "I hope we will earn your trust and support by donating or volunteering to serve the people of Senegal. I promise you it will be an experience for you and perhaps even your family". For more information, please visit Mercy Ships Canada's website at www.mercyships.ca for more information. H

Benefits That Work Full-Time For Those Who Don't

Specifically designed for part-time, casual, contract and temporary employees and retirees, HCP provides valuable health & dental coverage and income protection benefits to those not covered by the hospital's group plan. Offerings include:

NEW Virtual Medicine App (Telemedicine by Maple) Included In All Plans

- Three Benefit Packages (Signature, Supreme & Standard) Available
- Signature Package (Life, LTD, ADD&D ONLY) For Those With Spousal Benefits
- Competitive Extended Health Plans & *Two* Optional Dental Plans
- *BONUS* $1000 LTD Offering For Eligible Employees Under 35

To celebrate the dedication of healthcare workers, we're hosting a special Appreciation 60 Day Appreciation Open Window!
To find out if you are eligible to take advantage of this limited-time offer, reach out today!

www.healthcareproviders.ca | 1-866-768-1477

25 HEALTH CARE PROVIDERS HCP GROUP INSURANCE PLAN
CELEBRATING 25 YEARS
1997 • 2022

Achieving success during great uncertainty

St. Joseph's Healthcare Hamilton earns HIMSS 7 accolade

How would you feel if you won the award of awards? If you received the highest international recognition possible, for years of determined and focused effort? If you are part of St. Joseph's Healthcare Hamilton's (SJHH) Digital Solutions team… you now know the feeling very well. The organization, led by the Digital Solutions team has received the Healthcare Information and Management Systems Society (HIMSS) Electronic Medical Record Adoption Model (EMRAM) Stage 7 designation --- the highest designation possible, for its digital health information system.

It seemed like a lofty goal, eliminating in one fell swoop the use of pens to chart every aspect of patient care. But the launch in 2017 of electronic medical records (EMR) enabled St. Joe's to reach that target, removing what had been commonplace for more than a century. Branded as Dovetale, the system successfully joined compassionate care with the most advanced healthcare technology.

"St. Joseph's is committed to making a difference in people's lives and the future of our community through integrated services, and internationally recognized clinical and research programs," says Tara Coxon, Vice President and Chief Information Officer, St. Joseph's Healthcare Hamilton. "We were driven to implement a state-of-the-art EMR system by the need for tools to support both the hospital's future academic and research missions, and the desire to enhance the quality and safety of patient care."

St. Joseph's leadership knew the organization would benefit as a whole by further attaining the highest level of the internationally recognized scale for digital health records, HIMSS 7. Achieving this milestone meant the organization needed to employ only digital systems and meet key performance indicators for more than 100 criteria, spanning clinical practice to records management.

With this intent over the last four years, SJHH has begun to explore all the digital capabilities of Dovetale. The benefits have been significant. Areas such as access to care, organizational flow and efficiencies, and communication with community providers have all been impacted favourably.

The patient experience has also been enhanced. As an example, Dovetale allows St. Joe's to collect the best possible medication history for admitted patients, avoiding potential medication discrepancies and improving patient safety.

In Dovetale a patient's story is accessible to everyone on the care team, eliminating the need to repeat the same information to multiple practitioners and leading to greater patient satisfaction.

The staff and physicians of St. Joseph's have also embraced all that Dovetale has to offer. It's not a stretch to say there was apprehension among the workforce of more than 6500 at the prospect of going completely digital. But in the months of planning, tweaking and training it became clear the system had been tailored to the use of frontline staff. The workflow and content in the digital tool meet the needs of the clinical teams who use it daily.

For researchers as well, Dovetale is a proven winner. Data matching specific criteria for patient studies or treatment options can be pulled with ease.

"Embracing the data that we capture from Dovetale, allows us to strive towards providing the best patient care possible," says Andriana Lukich, Director of Digital Solutions at St. Joseph's Healthcare Hamilton. "It provides us both a birds-eye view and a granular level of insight into the challenges we face in an increasingly complex healthcare environment."

The HIMSS 7 designation was awarded to SJHH in November 2021. Considering most of this in-depth digital transformation occurred in the last two years is serendipitous. Having access to dependable data while managing an overcapacity hospital during a pandemic better positioned St. Joe's to handle the COVID-19 crisis than it would have prior to the implementation of Dovetale. And not just from a patient safety perspective.

Effective hospital policies and governance for data security are critical components of a successful transition to electronic medical records. The HIMSS Electronic Medical Record Adoption Model (EMRAM) guides the organization in policymaking for the appropriate use of the data Dovetale stores and the level of access available to clinicial teams and others within the organization.

"SJHH is still only beginning to realize the potential impact that Dovetale can have on the care that we are honoured to provide to our community," says Dr. Dan Perri, Chief Medical Information Officer at St. Joe's. "And if the last two years has taught us anything, it's that health care organizations need to be nimble and have the best tools on-hand so we can adapt, because there will always be a new challenge to test our abilities. Achieving HIMSS 7 is an acknowledgement that we are on the right path to using data and technology to optimize the delivery of safe and effective health care." H

This article was submitted by St. Joseph's Healthcare Hamilton

Forward Together

One partner to support your needs.

Your ally in providing better outcomes for you and those in your care. Now and for the future.

TENA Cutimed® Leukoplast® JOBST®

essity

For more information, contact us at
1-877-978-5526 | essity.com

New Concordia research: Origins of diabetes may be different in men and women

By Patrick Lejtenyi

Over the past four decades, global cases of Type 2 diabetes mellitus have skyrocketed. According to the World Health Organization, the number of people estimated to have the disease jumped from 108 million in 1980 to 422 million in 2014, with the fastest growth observed in low- and middle-income countries.

Although the disease is common, there is still much research left to be done to fully understand it. For instance, while diabetes is linked to obesity, researchers still do not know the exact reasons why obesity causes diabetes.

FAT APPEARS TO EXHIBIT DIFFERENT FEATURES IN MEN AND WOMEN. THEY GROW DIFFERENTLY, ARE DISPERSED DIFFERENTLY AND INTERACT WITH THE INFLAMMATORY AND IMMUNE SYSTEM DIFFERENTLY.

In a new paper published in the journal *Obesity Reviews*, Concordia researchers Kerri Delaney and Sylvia Santosa look at how fat tissue from different parts of the body may lead to diabetes onset in men and women. They reviewed almost 200 hundred scientific papers looking for a deeper understanding of how fat operates at the surface and tissue level, and the mechanisms by which that tissue contributes to diabetes onset.

"There are many different theories about how diabetes develops, and the one that we explore posits that different regions of fat tissue contributes to disease risk differently," says Kerri Delaney, a PhD candidate at Concordia's PERFORM Centre and the paper's lead author. "So the big question is, how do the different depots uniquely contribute to its development, and is this contribution different in men and women?"

Kerri Delaney (left) and Sylvia Santosa: "The big question is, how do the different fat depots uniquely contribute to the development of diabetes, and is this contribution different in men and women?"

FROM SURFACE TO CELL LEVEL

Men and women store fat in different places. Diabetes, like many other diseases, is closely associated with ab-

Streamline your Digital Health Solutions Procurement Process

Acquiring a digital health solution can be a complex undertaking. Now you can shorten your time to market with our collection of requirements for the procurement of virtual visit and remote patient monitoring solutions, including privacy and security requirements.

Get started: Infoway.ca/ProcurementToolkit

Canada Health Infoway

THOUGH MORE RESEARCH IS NEEDED, THERE WERE OVERALL DIFFERENCES OBSERVED IN THE IMMUNE CELL, HORMONE, AND CELL SIGNALLING LEVEL IN MEN AND WOMEN THAT SEEM TO SUPPORT DIFFERENT ORIGINS IN DIABETES BETWEEN THE SEXES.

dominal fat. Women tend to store that fat just under the skin. This is known as subcutaneous fat. In men, abdominal fat is stored around the organs. This is visceral fat.

Fat appears to exhibit different features in men and women. They grow differently, are dispersed differently and interact with the inflammatory and immune system differently. For example, in men fat tissue expands because the fat cells grow in size; in women, fat cells multiply and increase in number. This changes with the loss of the protective hormone estrogen that disappears with menopause and may explain why men are more susceptible to diabetes earlier in life than women.

Working from the hypothesis that diabetes risk is driven by expansions of visceral fat in men and of subcutaneous fat in women, the researchers then looked through the papers to see what was happening in the cell-level microenvironments.

Though more research is needed, there were overall differences observed in the immune cell, hormone, and cell signalling level in men and women that seem to support different origins in diabetes between the sexes.

Delaney and Santosa hope that by identifying how diabetes risks are different in men and women, clinical approaches to treatment of the disease can be better defined between the sexes.

Kerri Delaney (left) and Sylvia Santosa: "The big question is, how do the different fat depots uniquely contribute to the development of diabetes, and is this contribution different in men and women?"

"Currently, the treatment of diabetes is similar for men and women," says Santosa, an associate professor in the department of Health, Kinesiology and Applied Physiology. "If we understood the differences between them better, we could consider these mechanisms in recommending treatments to men and women based on how diabetes medications work."

Read the cited paper: "Sex differences in regional adipose tissue depots pose different threats for the development of Type 2 diabetes in males and females." H

Patrick Lejtenyi is the Advisor, Public Affairs at Concordia University.

IT'S TIME YOU TOOK BACK CONTROL OF YOUR SUPPLY CHAIN

CPDN provides **simple, consolidated, direct** and **economical** pharmaceutical distribution

• Manufacturer-led versus Wholesale
• Transparent Inventory Control • Nationwide next-day Delivery
• Accurate Daily Sales Reporting • First Choice by Hospitals
• Flexible service tailored to your needs

Contact us to help you enable sales growth and enhance the customer experience.

1-800-680-3839 • info@cpdn.ca • www.cpdn.ca

CPDN
Canadian Pharmaceutical Distribution Network
Hospital Direct. Simplified.
Services simplifiés directement aux hôpitaux.

Tackling the COVID-19 pandemic through research

As we mark the second year of the global pandemic, scientists at Lawson Health Research Institute (Lawson) are leading the way in new, innovative and groundbreaking COVID-19 research.

In early 2021, a team of researchers at Lawson developed and tested an artificial neural network for diagnosing COVID-19. The AI system was trained to learn and recognize patterns in ultrasound lung scans of patients with confirmed COVID-19 infections at London Health Sciences Centre (LHSC) and differentiate them from ultrasound scans of patients with other types of lung diseases and infections.

"The AI tool that we developed can detect patterns that humans cannot," explained Dr. Robert Arntfield, Lawson Reseacher and Medical Director of the Critical Care Trauma Centre at LHSC. "Lung ultrasound scans of patients with COVID-19, as well as other lung diseases, produce a highly abnormal imaging pattern, but it is also impossible for physicians to tell apart different types of infections by looking at these images."

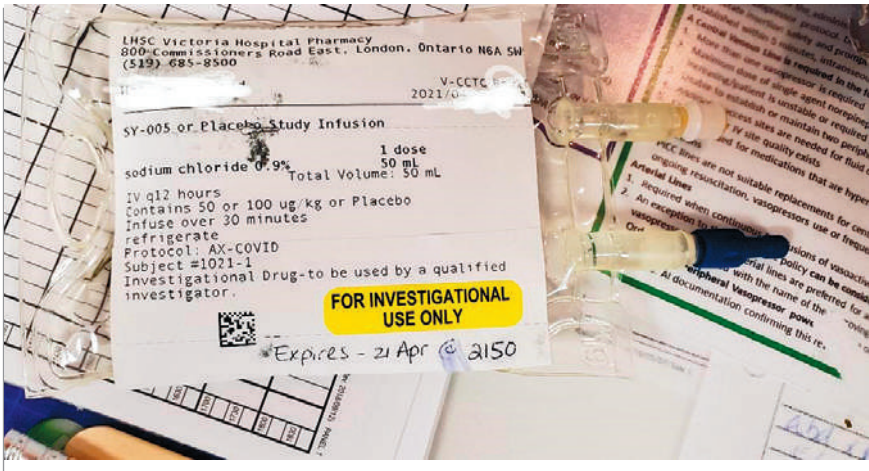
Meanwhile, another team at Lawson has been busy examining a discovery that has been more than ten years in the making: the use of a human protein to potentially treat patients with sepsis. Lawson Scientist Dr. Qingping Feng noticed that a human protein called annexin A5 showed positive results with sepsis back in 2007. Fast forward to 14 years to now, and this discovery could very well be the first ever viable treatment for sepsis patients, inlcuding severe COVID-19 patients who develop sepsis.

"With COVID intitially, it is in the airway and then in the lungs, then from there the inflammatory response in fact spreads to the whole body," says Dr. Feng, Ivey Chair in Molecular Technology at Western's Schulich School of Medicine & Dentistry. "Sepsis causes major organ dysfunction and carries a high mortality unfortunately."

UNDERSTANDING THE COVID-19 VIRUS HAS ALSO BEEN A KEY FOCUS FOR SCIENTISTS

In one study, researchers at Lawson and Western University have teamed up with a local biotech company, Diagnostic Biochem Canada Inc. (DBC), to help us better understand COVID-19 and the body's immune response to the infection. A published study followed 28 critically ill patients at LHSC; 14 who tested positive for COVID-19 and 14 who tested negative. They also followed 14 mildly ill non-hospitalized patients with COVID-19 and 14 healthy controls. The researchers tracked their body's immune repsonse and found that all COVID-19 positive patients had a robust antibody response to the infection, even those with poorer outcomes.

SCIENTISTS HAVE BEEN STUDYING THE IMPACTS OF THE PANDEMIC ON YOUNG ADULTS WITH MOOD AND ANXIETY DISORDERS, AS WELL AS THE IMPACTS TO VETERANS AND THEIR FAMILIES, MOTHERS AND THEIR BABIES



THE AI SYSTEM WAS TRAINED TO LEARN AND RECOGNIZE PATTERNS IN ULTRASOUND LUNG SCANS OF PATIENTS WITH CONFIRMED COVID-19 INFECTIONS

Examining the impacts the COVID-19 pandemic has had on people's mental health has also been a large focus for researchers at Lawson.

Scientists have been studying the impacts of the pandemic on young adults with mood and anxiety disorders, as well as the impacts to Veterans and their families, mothers and their babies, and there is also important research taking place surrounding the mental health of our front-line health care workers.

Lawson has also been recognized for its research surrounding the virus itself.

When the COVID-19 pandemic hit, Dr. Douglas Fraser, Pediatric Critical Care Physician at LHSC and Lawson Scientist, quickly sprang into action to begin researching the SARS-CoV-2 virus. As patients started being admitted to LHSC due to COVID-19, Dr. Fraser, who is also an associate professor of pediatrics at Western University, began a research study and became the first in the world to understand the immune response and several pathophysiological features of the virus. This work led to the critical understanding of how the virus was impacting patients and revealed potential avenues for therapy.

As a result of his outstanding advancements, WORLDiscoveries, the technology transfer and business development office for Western, Lawson and Robarts Research Institute, has announced that Dr. Douglas Fraser has been awarded as Innovator of the Year for the 2021 Vanguard Awards.

As the pandemic continues, Lawson's commitment to patients and our community through research will also continue. The discoveries made surrounding COVID-19 will not only make a difference in the lives of many, but will extend and enhance other areas of research far beyond COVID-19.

CELEBRATE

National Medical Laboratory Week

April 10th-16th, 2022

Medical laboratory professionals perform millions of lab tests every day. They help diagnose everything from cancer to COVID-19, saving lives along the way.

CSMLS is encouraging Canadians to take a closer look at what medical laboratory professionals do!

CSMLS SCSLM

csmls.org | scslm.org

Learn more at:
med**lab**professionals.ca

Creating universal blood-type organs for transplant

A study published in *Science Translational Medicine* performed at the Latner Thoracic Surgery Research Laboratories and UHN's Ajmera Transplant Centre has proved that it is possible to convert blood type safely in donor organs intended for transplantation. This finding is an important step towards creating universal type O organs, which would significantly improve fairness in organ allocation and decrease mortality for patients in the waitlist.

"With the current matching system, wait times can be considerably longer for patients who need a transplant depending on their blood type," explains Dr. Marcelo Cypel, Surgical Director of the Ajmera Transplant Centre and the senior author of the study.

"Having universal organs means we could eliminate the blood-matching barrier and prioritize patients by medical urgency, saving more lives and wasting less organs," adds Dr. Cypel, who is also a thoracic surgeon at UHN's Sprott Department of Surgery, a Professor in the Department of Surgery at the University of Toronto and the Canada Research Chair in Lung Transplantation.

Blood type is determined by the presence of antigens on the surface of red blood cells – type A blood has the A antigen; B has the B antigen; AB blood has both antigens; and O has none. Antigens can trigger an immune response if they are foreign to our bodies. That is why for blood transfusions we can only receive blood from donors with the same blood type as ours, or universal type O.

Likewise, antigens A and B are present on the surfaces of blood vessels in the body, including vessels in solid organs. If someone who is type O (meaning they have anti-A and anti-B antibodies in their bloodstream) received an organ from a type A donor, for example, the organ in all likelihood would be rejected. Consequently, donor organs are matched to potential recipients in the waitlist based on blood type, among other criteria.

Photo credit: UHN

"HAVING UNIVERSAL ORGANS MEANS WE COULD ELIMINATE THE BLOOD-MATCHING BARRIER AND PRIORITIZE PATIENTS BY MEDICAL URGENCY, SAVING MORE LIVES AND WASTING LESS ORGANS."

Patients who are type O wait on average twice as long to receive a lung transplant compared to patients who are type A, explains Dr. Aizhou Wang, scientific associate at Dr. Cypel's lab and first author of the study.

"This translates into mortality. Patients who are type O and need a lung transplant have a 20 per cent higher risk of dying while waiting for a matched organ to become available," says Dr. Wang.

This disparity is also present for other organs, she adds, where a patient who is type O or B in need of a kidney transplant will be on the waitlist for an average of four to five years, compared to two to three years for types A or AB.

"If you convert all organs to universal type O, you can eliminate that barrier completely," Dr. Wang says.

THE EXPERIMENT

This proof-of-concept study was done at Dr. Cypel's research lab, part of Latner Thoracic Surgery Research Laboratories. The experiment used the Ex Vivo Lung Perfusion (EVLP) System pioneered in Toronto as a platform for the treatment. The EVLP system pumps nourishing fluids through organs, enabling them to be warmed to body temperature, so that they can be repaired and improved before transplantation.

Human donor lungs not suitable for transplantation from type A donors were put in the EVLP circuit. One lung was treated with a group of enzymes to clear the antigens from the surface of the organ, while the other lung, from the same donor, remained untreated.

The team then tested each of the lungs by adding type O blood (with high concentrations of anti-A antibodies) to the circuit, to simulate an ABO-incompatible transplant. The results demonstrated that the treated lungs were well tolerated while the untreated ones showed signs of rejection.

Gut enzymes key to creating universal organs

This study was successful because of important interdisciplinary efforts across multiple organizations in Canada, including UHN, University of Toronto, University of British Columbia and University of Alberta.

"By exchanging ideas across disciplines and across the country, we became one collaborative effort to tackle an important problem in organ transplantation," says Dr. Wang.

UBC biochemist Dr. Stephen Withers and his team found a group of enzymes in 2018, which was key to this first step in creating universal blood-type organs. These enzymes were delivered to the lungs in this study using the EVLP circuit.

"Enzymes are Mother Nature's catalysts and they carry out particular reactions. This group of enzymes that we found in the human gut can cut sugars from the A and B antigens on red blood cells, converting them into universal type O cells.

"In this experiment, this opened a gateway to create universal blood-type organs," explains Dr. Withers.

"This is a great partnership with UHN and I was amazed to learn about the ex vivo perfusion system and its impact for transplants. It is exciting to see our findings being translated to clinical research," adds Dr. Withers.

As next step, the team of researchers is working on a proposal for a clinical trial within the next 12 to 18 months. H

This article was submitted by UHN News.

SPONSORED CONTENT

The Michener Institute's New Program in Digital Health and Data Analytics

The Michener Institute of Education at UHN offers a new full-time program to meet the needs of the healthcare system for digitally-literate health professionals.

The new Digital Health and Data Analytics Program is designed to be pragmatic, practical and job oriented – anticipating the needs of the workplace of the future and using the best education science and methodologies to meet those needs. A combination of in-class teaching and hands-on learning at high-profile public institutions and businesses will give graduates the skills and knowledge to care for patients in an increasingly machine and data-driven healthcare environment.

"I entered Michener's Digital Health and Data Analytics Program as a frontline clinician with minimal experience in data science, but a keen interest in technology," says Theatania Maceda, a first-year student in the program. "The instructors are experts in their fields and the material they present is information that I know will help me promote high-quality healthcare services integrated with data-driven strategies."

Key components of the curriculum include:

- Digital health, including virtual care, simulation and virtual reality
- Data science, including the analysis and use of clinical data
- Machine learning, AI and robotics, including personalized medicine and ethics
- Project management, product development and change management
- Design thinking, including user experience
- Hands-on learning, including practicums and placements

The program is geared toward healthcare providers, graduate students and IT professionals who want to advance their career in healthcare and work on cutting edge digital, analytics and AI healthcare initiatives. The program is delivered entirely online. Students can sub-specialize in areas such as artificial intelligence and robotics, and can exit after four successful semesters, having met their Post-Diploma Certificate requirements. Those students continuing with the program will have two semesters of workplace practicum experience in addition to a possible sub-specialty course in order to complete the six-semester Advanced Diploma program.

As Canada's only "school within a hospital" dedicated exclusively to healthcare education, Michener is uniquely positioned to prepare healthcare professionals in these emerging fields. Michener's new program will support healthcare professionals at every point in their career pathway through virtual learning, workplace learning, data simulation and modelling, micro-credentialing and collaboration with other institutions.

Interested candidates can email ***dhda@michener.ca*** for more information

Why is AI adoption in health care lagging?

Avi Goldfarb and Florenta Teodoridis

Artificial intelligence (AI) technologies have improved rapidly over the past decade, largely driven by advances in machine learning, which is closely related to data science and statistical prediction. Several aspects of the health care system involve prediction, including diagnosis, treatment, administration, and operations. This connection between machine learning's capabilities and needs of the health care system has led to widespread speculation that AI will have a large impact on health care.

For instance, Eric Topol's "Deep Medicine: How Artificial Intelligence can make Health Care Human Again," highlights AI's potential to improve the lives of doctors and patients. The progress and promise of clinical AI algorithms range from image-based diagnosis in radiology and dermatology to surgery, and from patient monitoring to genome interpretation and drug discovery. There are dozens of academic and industry conferences dedicated to describing the opportunity for AI in health care. For example, AI Med and the Ai4 Healthcare Summit are two of many conferences dedicated to facilitating the adoption of AI in health care organizations. ML4H and CHIL, in contrast, provide forums for scholars to present the latest advances in academic research. The major medical journals have all dedicated space to research articles and editorials about AI. These sentiments have been detailed in numerous reports from nonprofits, private consultancies, and governments including the World Health Organization and the U.S. Government Accountability Office.

Avi Goldfarb

Florenta Teodoridis

THIS CONNECTION BETWEEN MACHINE LEARNING'S CAPABILITIES AND NEEDS OF THE HEALTH CARE SYSTEM HAS LED TO WIDESPREAD SPECULATION THAT AI WILL HAVE A LARGE IMPACT ON HEALTH CARE.

In 2019, 11 per cent of American workers were employed in health care, and health care expenditures accounted for over 17 per cent of gross domestic product. U.S. health care spending is higher per capita than other OECD countries. If AI technologies have a similar impact on healthcare as in other industries such as retail and financial services, then health care can become more effective and more efficient, improving the daily lives of millions of people.

However, despite the hype and potential, there has been little AI adoption in health care. We provide an early glance into AI adoption patterns as observed through U.S. job advertisements that require AI-related skills. Job advertisements provide a window into technology diffusion patterns. As a technology evolves and spreads across application sectors, labor demand adjusts to include the type of skills required to adopt the technology, up to a point when the technology is sufficiently pervasive that such skills are no longer explicitly listed in job postings.

Figure 1 shows the percentage of U.S. job advertisements that require AI-related skills by industry (defined by two-digits NAICS codes) for the years 2015-2018.

Continued on page 24

Insights. Experience. Results.

Accelerating Care Pathways

Optimizing efficiency in healthcare delivery

Developing high-performance organizations

Implementing digital care innovation

Every day, we put our expertise and creativity to work, helping healthcare providers rapidly transform to meet today's growing challenges, and inspiring new possibilities for integrated and equitable care.

Medtronic
Engineering the extraordinary

Learn more about
Integrated Health Solutions
www.medtronic.ca/ihs

Continued from page 22

AI adoption

This data, collected by Burning Glass Technologies, is based on over 40,000 online job boards and company websites. At the top of the figure is the information industry, which includes large technology companies such as Google and Microsoft. More than one in 100 of all jobs in the information industry require some AI-related skills. Professional services and finance also rank relatively high. The next few industries – manufacturing, mining, and agriculture – may be a surprise to those that have been less focused on how AI has enabled opportunities in robotics and distribution. At the bottom is construction. Just above construction is health care and social assistance, where 1 in 1,850 jobs required AI skills. The relatively low rate of AI in job postings is not driven by social assistance. Even for the relatively-skilled job postings in hospitals, which includes doctors, nurses, medical technicians, research lab workers, and managers, only approximately 1 in 1,250 job postings required AI skills. This is lower than other skilled industries such as professional, scientific, or technical services, finance and insurance, and educational services.

The skills listed in job postings are just one measure of technology adoption. Still, they allow for a systematic comparison across industries. While we expect these numbers to rise over time – both in and out of health care – health care appears to lag. This suggests a puzzle. How can we reconcile the hype around AI in health care with the relatively low rate of adoption?

BARRIERS TO ADOPTION OF AI IN HEALTH CARE

Our starting point is to understand how AI adoption in health care might vary with attributes identified as central to technology adoption. What lesson can we draw from observing prior waves of technological adoption in health care?

A first-order attribute emphasized by much of the literature is the role of complementary innovations in the successful adoption of AI and other information technology by companies.[9] For example, the successful adoption of electronic medical records required innovation in integrating software systems and involved new processes for doctors, pharmacists, and others to interact. Human capital management software was most effectively deployed when firms also changed their processes for performance pay and human resources analytics. Internet adoption involved changing contracts with supply chain partners. These complementary innovations take resources and expertise, and so they tend to be easier in larger companies and in larger cities. Therefore, because the necessary complementary innovation is less expensive in large companies and large cities, we expect to see more AI adoption in larger health care organizations and in larger cities.

To analyze this hypothesis in the context of AI adoption in health care, we focused on 1,840,784 job postings by 4,556 different hospitals. These included 1,479 postings that required AI skills from 126 different hospitals – Burning Glass Technologies identifies a comprehensive list of job postings that are categorized as requiring "AI skills," with examples including "Analytics Architect," "Bioinformatics Analyst," "Cardiac Sonographer," "Physician – Internal Medicine," and "Respiratory Therapist." Overall, 60 per cent of these AI jobs were clinical, 34 per cent were administrative, and the remaining six per cent were primarily research.

With just 1,479 AI job postings, the main conclusion of the analysis has already been stated: Surprisingly few jobs in health care required AI-related skills. Consistent with the work on other information technologies, the 126 hospitals that posted these AI jobs have more employees and are located in larger cities. While it is still early in the diffusion of AI, this result is no surprise. Just like electronic medical records, computers, and the business internet, AI adoption is more likely to start in big firms and big cities.

In order to understand the kinds of complementary innovations that might lead to more adoption of AI in hospitals, it is useful to understand why hospitals might hesitate to adopt. Four important barriers to adoption are algorithmic limitations, data access limitations, regulatory barriers, and misaligned incentives.

ALGORITHMIC LIMITATIONS

Advances in neural networks pushed forward the possibility boundaries of AI at the cost of interpretability. When neural networks are used, it is often difficult to understand how a specific prediction was generated, meaning without substantial effort, some AI algorithms are so-called "black boxes."

MEDICAL PROFESSIONALS OFTEN RESENT THE DATA COLLECTION PROCESS WHEN IT INTERRUPTS THEIR WORKFLOW, AND THE COLLECTED DATA IS OFTEN INCOMPLETE.

As a result, if there is no one proactively looking to identify problems with a neural network-generated algorithm, there is a substantial risk that the AI will generate solutions with flaws only discoverable after they have been deployed – for examples, see work on "algorithmic bias." This lack of transparency can reduce trust in AI and reduce adoption by health care providers, especially considering that doctors and hospitals will likely be held accountable for decisions that involve AI. The importance of complementary innovation in trustworthy AI, for example through technologies or processes that facilitate AI algorithm interpretation, is widely recognized. There are several large-scale initiatives that focus on developing and promoting trustworthy AI. Interpretable AI might increase trust by eliminating the black box problem, allowing health care workers to understand how AI reaches a certain recommendation. Others are innovating in developing clinical trial standards for AI systems. These innovations are likely to facilitate the adoption of AI in health care because it would allow health care professionals to better understand the likelihood that an AI reached its recommendation in a biased or incomplete manner.

DATA ACCESS LIMITATIONS

The performance of AI algorithms is also contingent on the quality of data available. Thus a second barrier to adoption is limited access to data. Medical data is often difficult to collect and difficult to access. Medical professionals often resent the data collection process when it interrupts their workflow, and the collected data is often incomplete. It is also difficult to pool such data across hospitals or across health care providers. Electronic Healthcare Record (EHR) systems are largely not compatible across government-certified providers that service different hospitals and health care facilities. The result is data collection that is localized rather than integrated to document a patient's medical history across his health care providers. Without large, high-quality data sets, it can be difficult to build useful AIs. This, in turn, means that health care providers may be slower to take up the technology.

REGULATORY BARRIERS

Some of the algorithmic and data issues derive from underlying regulatory barriers. Three types of regulations are particularly important. First, privacy regulations can make it difficult to collect and pool health care data. With especially strong privacy concerns in health care, it may be too difficult to use real health data to train AI models as quickly or effectively as in other industries. Second, the regulatory approval process for a new medical technology takes time, and the technology receives substantial scrutiny. Innovations can take years to navigate the approval process. Third, liability concerns may also provide a barrier as health care providers may hesitate to adopt a new technology for fear of tort law implications. Regulation in health care is, appropriately, more cautious than regulation in many other industries. This suggests that reducing barriers to AI adoption in health care will require complementary innovation in regulation, ultimately allowing opportunities from AI to be realized without compromising patient rights or quality of care. Complementary regulatory innovations could include changes to all three regulatory barriers: who owns and can use health care data, how AI medical devices and software are approved, and where the liability lies between medical providers and AI developers.

Continued on page 26

Does your Ontario Health Team need help engaging primary care clinicians? OntarioMD can get the job done.

Who is OntarioMD? We're the trusted digital health advisor to more than 20,000 community clinicians across Ontario. We help clinicians adopt and use electronic medical records to access lab test results, hospital reports, drug information and much more. We live in your OHT in every area of the province and understand your unique needs.

Use our expertise to advance digital health in your OHT.

Take advantage of our clinician engagement strategies:

- Digital health training and education
- Efficient, practical onboarding to digital health services
- Knowledge of our OHT Peer Leaders who understand the gaps and needs of OHTs at different levels of maturity
- Support for quality improvement and population health goals
- Help with proposals for digital health initiatives funded by Ontario Health, and implementing those initiatives

Contact **support@ontariomd.com** to get started | **ontariomd.ca** | **1-866-744-8668**

OntarioEMRs OntarioMDInc OntarioMD OntarioMD.blog OntarioMD

OntarioMD is a wholly owned subsidiary of the Ontario Medical Association and receives funding from the Province of Ontario. The views expressed are the views of OntarioMD and do not necessarily reflect those of the Province.

Continued from page 25

AI adoption

MISALIGNED INCENTIVES

Innovation in algorithmic transparency, data collection, and regulation are examples of the types of complementary innovations necessary before AI adoption becomes widespread. In addition, another concern that we believe deserves equal attention is the role of decisionmakers. There is an implicit assumption that AI adoption will accelerate to benefit society if issues such as those related to algorithm development, data availability and access, and regulations are solved. However, adoption is ultimately dependent on health care decisionmakers. Not infrequently, medical professionals are the decisionmakers, and AI algorithms threaten to replace the tasks they perform.

For example, there is no shortage of warnings about radiologists losing their jobs. In 2016, Geoff Hinton, who won computer science's highest award, the Turing Award, for his work on neural networks, said that "We should stop training radiologists now; it is just completely obvious deep learning is going to do better than radiologists." This prediction was informed by the very promising advances of AI in image-based diagnosis. Yet there are still plenty of radiologists.

Why has Hinton's prediction not yet come to pass? The challenges include lack of trust in the algorithms, challenges in data collection, and regulatory barriers, as noted above. They also include a misalignment of incentives. In our study analyzing AI adoption through job postings, we find that adoption indeed varies by type of job and by hospital management structure. AI skills are less likely to be listed in clinical roles than in administrative or research roles. Hospitals with an integrated salary model, which are more likely to be led by individuals who have focused their career on management and take a systematic approach to administration, have a higher rate of adoption of AI for administrative and clinical roles but not for research roles compared to hospitals more likely to be managed by doctors. Teaching hospitals are no different from other hospitals in their adoption rate.

ONE INTERPRETATION OF THESE PATTERNS IS THAT HOSPITALS WITH AN INTEGRATED SALARY MODEL, AND HENCE PROFESSIONAL MANAGERS, HAVE LEADERS THAT RECOGNIZE THE CLINICAL AND ADMINISTRATIVE BENEFITS OF AI, WHILE OTHER HOSPITALS MIGHT HAVE LEADERS THAT DO NOT RECOGNIZE THE BENEFITS.

One interpretation of these patterns is that hospitals with an integrated salary model, and hence professional managers, have leaders that recognize the clinical and administrative benefits of AI, while other hospitals might have leaders that do not recognize the benefits. However, we have seen that there are several reasons why AI adoption might be slow in hospitals. In other words, even if professional managers are more likely to adopt AI, they are not necessarily right to engage in adoption at this stage. For example, while it may be that doctor-led hospitals have not adopted AI because they view it as a threat to their jobs, it may also be that doctor-led hospitals have leaders who have a better grasp of the other adoption challenges – algorithmic limitations, data access limitations, and regulatory barriers.

POLICY IMPLICATIONS

AI has received a great deal of attention for its potential in health care. At the same time, adoption has been slow compared to other industries, for reasons we have described: regulatory barriers, challenges in data collection, lack of trust in the algorithms, and a misalignment of incentives. Before discussing potential policy solutions to each of these, it is important to acknowledge that this may not be due to a market failure. AI adoption may be slow because it is not yet useful, or because it may not end up being as useful as we hope. While our view is that AI has great potential in health care, it is still an open question.

The regulatory barriers have the most direct policy implications. Innovation is needed in the approval process so that device makers and software developers have a well-established path to commercialization. Innovation is needed to enable data sharing without threatening patient privacy. Perhaps least controversially, clear rules on who is liable if something goes wrong would likely increase adoption. If we believe AI adoption will improve health care productivity, then reducing these regulatory barriers will have value.

The policy implications related to challenges in data collection and the lack of trust in algorithms are more related to continued funding of research than new regulation. Governments and nonprofits are already directing substantial research funds to these questions, particularly around lack of trust. In terms of misaligned incentives, complementary innovation in management processes is difficult to achieve through policy. Antitrust policy to ensure competition could help, as competition has been shown to improve management quality. Otherwise, there are few policy tools that could change these incentives.

Overall, relative to the level of hype, AI adoption has been slow in health care. Policymakers can help generate useful adoption with some innovative approaches to privacy and the path to regulatory approval. However, it might be the familiar tools that are most useful: clarify the rules, fund research, and enable competition. H

Avi Goldfarb is a consultant with Goldfarb Analytics Corporation, which advises organizations on digital and AI strategy. Florenta Teodoridis is Assistant Professor of Management and Organization – USC Marshall School of Business. *This article was reprinted with permission from Brookings, brookings.edu*

aws healthcare & life sciences

AWS for Healthcare

To deliver patient-centered care, organizations in the healthcare industry need to increase the pace of innovation and unlock the potential of data, all while keeping health information secure and private. Amazon Web Services (AWS) empowers health organizations to improve patient outcomes and accelerate the digitization and utilization of their data with the broadest and deepest portfolio of cloud services and purpose-built partner solutions.

Analytics & Artificial Intelligence / Machine Learning

AWS enables organizations to easily deploy analytics and machine learning tools to derive insights from their health data. With AWS' purpose-built AI services for vision, transcription, natural language processing, and document understanding as well as the most comprehensive ML platform, organizations can use analytics and ML to address a range of health industry issues – from reducing the rising cost of healthcare to reducing physician burnout. Transform data into a strategic asset with AWS and AWS Partner solutions for analytics & AI/ML.

Learn more at: **AWS for Healthcare**

https://aws.amazon.com/health/healthcare/solutions

Cloud computing helps hospitals with forecasting patient bed needs

How AWS, UBC Cloud Innovation Centre, and Trillium Health Partners are collaborating to improve hospital occupancy planning

When people arrive at a hospital, staff want to ensure they have enough room and beds to help. This doesn't happen by chance. Instead, hospital administrators engage in complex calculations called "census forecasting" to understand how many patients they'll see in the days ahead. These numbers are vital, especially as patients flood the healthcare system with COVID-19 and hospitals are often operating at well over 100 per cent of its budgeted bed capacity.

Canada's largest community-based hospital, Trillium Health Partners (THP), is no different. Located in the western greater Toronto area, its four inpatient sites have more than 1,350 beds with the ability to expand to 1,550 beds when needed. Even before the COVID-19 pandemic, THP ran close to 100 per cent of its budgeted occupancy, making reliable monthly, weekly, and even daily projections critical to its operations. As a research and innovation institute with a focus on population health and improvement of health services, THP's Institute for Better Health (IBH) felt there had to be a better way to use data more efficiently to plan ahead.

"Capacity has always been a challenge for hospitals, because we need to decide whether to set up extra space between one and seven days out, and patient health is very challenging to predict in advance," said Jonathan Ranisau, project lead, Data Discovery, Institute for Better Health. "We started investigating how to solve it prior to COVID, and it took on greater emphasis after the pandemic set in."

Ranisau and his team believed data held the key to breaking down and analyzing the different markers faster to make more accurate forecasts. They needed to find the right partner with the right expertise in cloud computing to bring the project to life.

"Our goal was to improve a predictive algorithm by harnessing the power of cloud technology. We felt this would improve hospital capacity forecasting and help us ensure we have the right number of beds to meet patient demand," said Ranisau.

The right partner came from the University of British Columbia (UBC) Cloud Innovation Centre (CIC), a public-private collaboration between UBC and Amazon Web Services, Inc. (AWS). Opened in 2020, the UBC CIC focuses on solving health and well-being issues that matter to the community. Public organizations collaborate with with UBC students, staff and AWS experts to find solutions to real-world problems through technology.

"Trillium Health Partners wanted to be one of the first healthcare organizations in Canada to use cloud computing and analytics to change how hospitals forecast the number of beds it needs," said Coral Kennett, Education Lead for AWS Canada. "Any solution the CIC works on becomes publicly available. We felt this has the potential to help a huge number of people across Canada, but also globally."

Quickly the THP and CIC teams identified data sharing as key: "We find a very common problem in a lot of large organizations – government, healthcare, education – is that they have a lot of data but it's not all working together," Kennett said. "It's in different systems and different applications, all siloed from each other throughout the organization."

While analytic tools can draw limited insights from these siloed data libraries, Kennett said, they aren't powerful enough to solve challenges such as THP's capacity forecasting, which required pooling all data into a single cloud-based server called a data lake. The data lake allows many different data sources to be stored in one location, providing organizations better collaboration and the ability to run several different types of real-time analytics from dashboards and visualizations to machine learning to guide better decision-making.

"You need to put all that data together to get some really interesting insights about what impacts the organization and how," Kennett said.

Funded by the Trillium Health Partners' Foundation and internal stakeholders, the finished solution automatically analyzes data such as present occupancy rates and historical trends in order to calculate the number of beds needed over the course of a week. Administrators review a report with the algorithm results before recommending a course of action. THP sees this project as a major advancement in ensuring it always has enough beds to meet demand. They are continuing to perfect the algorithm with hopes to one day soon roll this project out to other hospitals across Ontario. They hope the impact will be felt even further.

Ranisau said THP was eager to work with the CIC because its team members acted as mentors and guides, providing not only cloud computing expertise but also insight into Amazon's innovation processes.

"We have our own technical staff, but adding a team of experts they could collaborate with gave us the best of both worlds," he said. "Our internal team members had data and operational knowledge, while the CIC provided technical recommendations at every step of the solution development process. That partnership resulted in something better than we could have developed on our own."

"Working together with the UBC CIC and AWS has given us the confidence to explore more ways to use cloud technology at THP," said Ranisau, noting the project took less than six months to implement start to finish. "We are excited to discover how these new technologies can improve our delivery of patient services in the years to come." H

e-Health 2022
Virtual Conference + Tradeshow • June 1st + 2nd

LEARN
CONNECT
NETWORK

e-Health 2022
Virtual Conference & Tradeshow

JUNE 1ST AND 2ND, 2022

LEARN CONNECT NETWORK

The annual e-Health Conference is the vital epicentre of Canadian digital health discussion and debate. This year is no different as we feature in-demand keynote presenters, expert panelists and exhibitors, promising memorable education and networking opportunities.

At e-Health 2022, we will be presenting a wealth of engaging discussions on virtual care, AI, mental health, data management, virtual emergency rooms, health apps, and so much more. Attendees will gain new insights about digital tech projects taking place in Indigenous, rural and remote areas nationally, from the west to the east coast.

Patient participation

e-Health strives to meet the goals of the Patients Included™ conference charter. This means that we are committed to incorporating the experiences of patients as experts in living with their conditions, while ensuring they are neither excluded nor exploited.

Patients participate in the planning of the conference, in the selection of patient scholarship awardees, in patient partner meetups, and all special planning.

Virtual Library

Unable to attend this year's conference but want to access some of the education? The e-Health Virtual Library is the ultimate online resource for the health informatics industry and anyone working in the digital health field. Recordings, PDFs, and presentations are available on-demand. Complimentary access is provided to conference attendees for the year they have attended so that they may view presentations they may have missed post-conference.

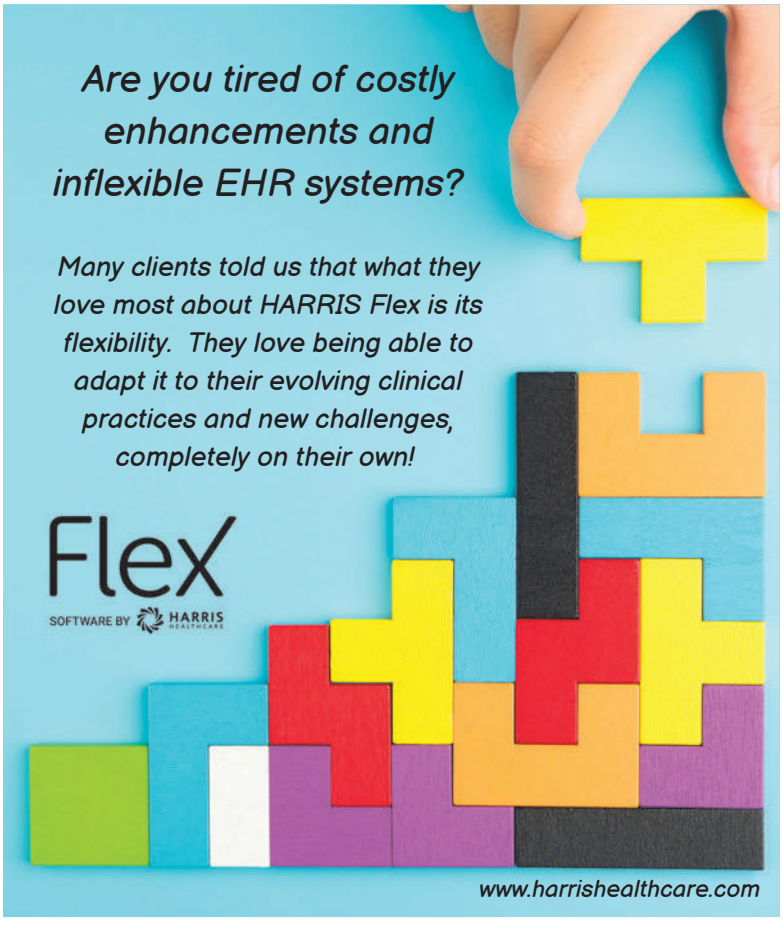
Meet our keynote speakers

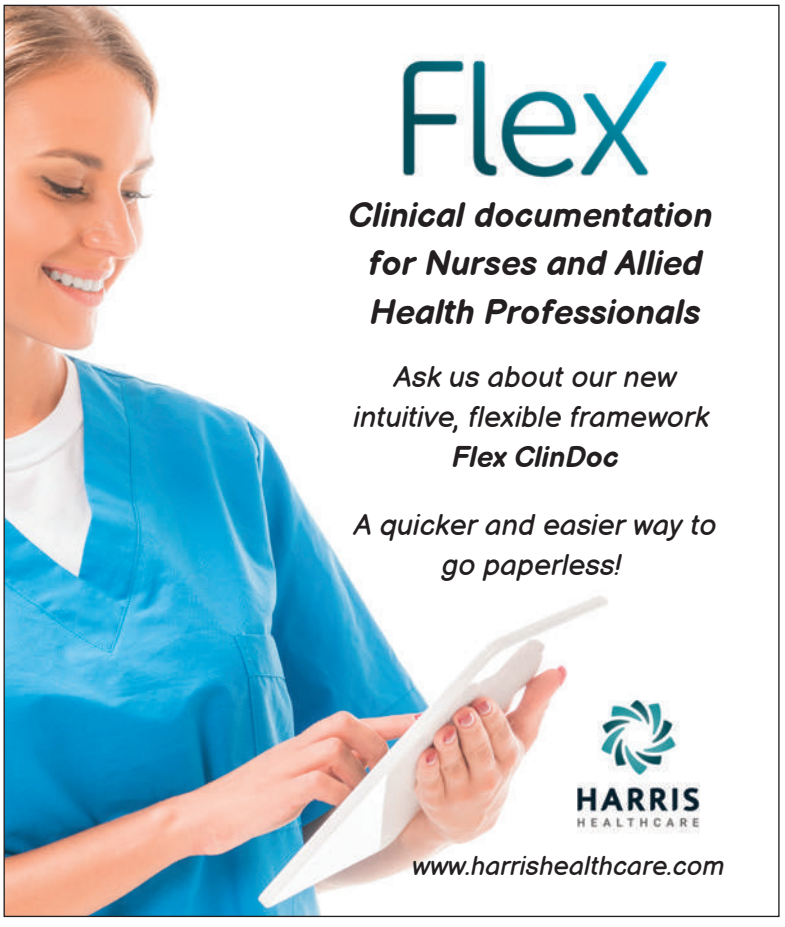
OPENING KEYNOTE:

Dr. Rowland Illing
Innovation in Healthcare — A Global Perspective
Wednesday, June 1, 2022
10:30–11:15 a.m. EST
Sponsored by Amazon Web Services
Our opening keynote is Dr. Rowland Illing, Chief Medical Officer and Director of International Public Sector Health for Amazon Web Services (AWS). Illing is responsible for healthcare strategy and operations for AWS internationally, which encompasses healthcare providers, payors and health technology companies. He is passionate about the delivery of person-centred care, increasing access, and improving outcomes at a lower cost by accelerating the digitization and utilization of healthcare data.

CLOSING KEYNOTE:

Dr. Brad Nieder
Laughter is the Best Medicine
Thursday, June 2, 2022
4:00 p.m. EST
Sponsored by Novartis
Dr. Brad Nieder, MD, CSP, is an expert on health and wellness and one of the best motivational keynote speakers and clean comedians in the meetings industry today. While in medical school at the University of Colorado he began delivering his unique brand of healthy humour to corporate audiences, convention crowds, and conference attendees. Known as the Healthy Humorist®, he is often described as "Jerry Seinfeld with an MD."

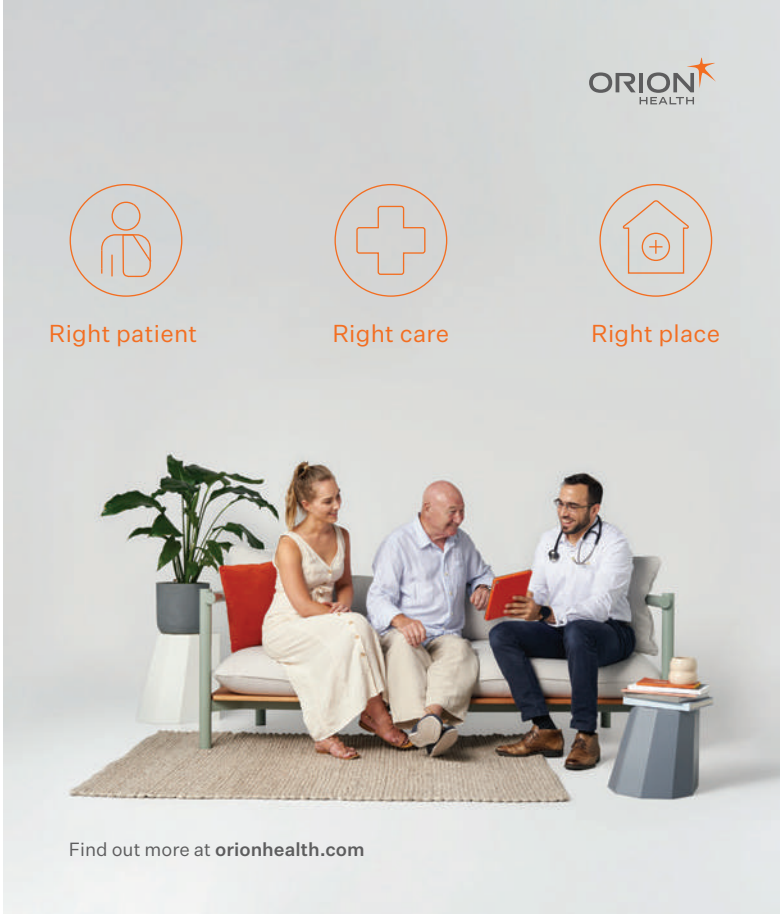




Concurrent sessions

Multiple speakers spark dynamic networking discussions around important digital health topics, including:

- eHealth innovations in Indigenous health
- Care anywhere: Coordinating interdisciplinary care virtually
- Clinical digital messaging (CDM)
- Development of a chatbot for HIV patients using participatory design
- How bots are supporting primary care with COVID-19 vaccine documentation
- ImmsBC: BC'S COVID-19 vaccine management digital solution
- Practicing responsible artificial intelligence (AI): Risks, challenges and opportunities
- Provider experience facilitating ambulatory, hospital-based synchronized virtual group health interventions
- Resolving surgical backlog with Logibec's analytics in British Columbia
- Smart and ubiquitous technologies to support patients with dementia and their caregivers at home
- Strategies to safely expand paediatric patient portal use
- Virtual care: Appropriately supporting Indigenous patients in Alberta, Canada
- Virtual care in Nova Scotia: An eConsult proof of concept
- Virtual emergency rooms (VERs): Addressing the physician shortage in rural Newfoundland communities
- Virtual follow-ups in the paediatric emergency department



Program highlights

e-Posters

We kick off each day of the conference with a dynamic set of thematic e-poster presentations on virtual care and mental health. Each digital presentation features a project or case study that informs or advises on key findings and lessons learned.

WEDNESDAY, JUNE 1, 2022

10:00–10:30 a.m. EST

Optimizing the Virtual Care Experience

- Virtual care: A roadmap for implementation
- Rural Outreach and Support by e-Health (ROSe): An innovative, virtual critical care support and teaching platform
- Co-creating a pan-Canadian framework for digital health evaluation: Lessons learned
- Virtual care: A design research discovery and strategic futures model
- Improving Indigenous peoples' health using digital health technologies

THURSDAY, JUNE 2, 2022

10:00–10:30 a.m. EST

Digital Supporting Mental Health

- Spotlight on athletes' mental health: How technology can support
- Developing implementation outcomes for a virtual mental health capacity-building program
- Data and technology driven mental healthcare: A nursing engagement strategy
- Health and long-term care nurses' technology adoption: A Delphi study
- The journey towards on-demand mental health service delivery

Visit e-healthconference for details.

Panels

Some of the topics we'll be covering in our panels are:

- Practicing responsible artificial intelligence (AI): Risks, challenges and opportunities
- Digital experiences and priorities of people with mental health concerns
- Changing remote patient monitoring strategies in the midst of COVID-19

Our Hosts

Canadian Institute for Health Information / Institut canadien d'information sur la santé

Canada Health Infoway / Inforoute Santé du Canada

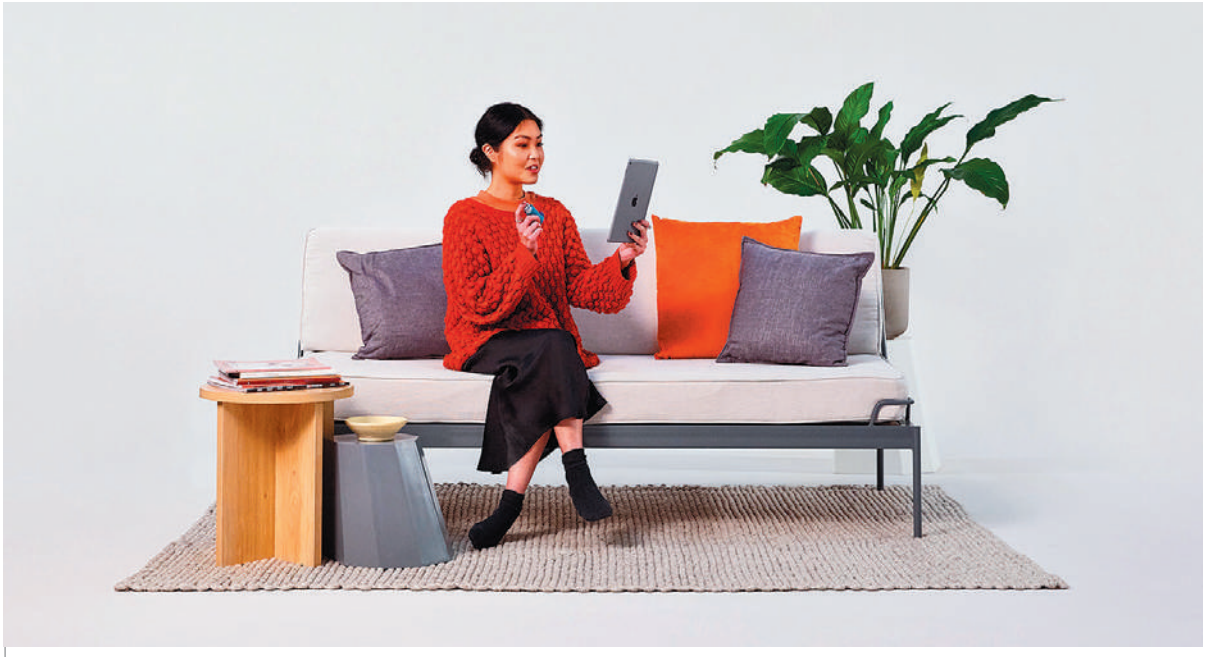
Digital Health Canada

e-Health 2022 is brought to you by Canada Health Infoway, the Canadian Institute for Health Information, and Digital Health Canada.

Redefining the healthcare experience with a digital front door

Health systems today face evolving challenges, ranging from increasing costs to a lack of transparency to poor and unconventional patient experiences. More than ever, now is the time to tackle these challenges by providing tools to empower people to navigate health systems to receive treatment and care that is streamlined, convenient, and tailored to their needs.

What if technology could help solve this and ensure that individuals consistently receive the right care for them, at the right place and at the right time?



TAKING A CONSUMER-CENTRED VIEW OF OUR HEALTHCARE SYSTEMS

One of the biggest frustrations you may experience when it comes to managing your health is the way you access and interact with the health system. Consumers often want to better manage their healthcare, but they don't know where to start – where can I get the support I need? Why am I waiting so long for my appointment? Who do I need to speak to? What happens after my appointment? In addition to managing your own health, you may also need to take care of dependents, which makes the process a juggling act and even challenging to navigate.

For all of these reasons, people can be left feeling helpless and frustrated. Imagine if you could access similar digital services that were easy to use and engaging, much like those that you receive from utility and banking services, but for your healthcare needs.

SIMPLIFY HEALTHCARE

In any geographic region, many providers offer care aligned to their area of expertise or specialty. As health systems have evolved, they have become more and more fragmented, making them overwhelming and complicated for individuals who are caring not only for themselves, but also for their dependents.

The adoption of technology such as patient portals and telehealth platforms has provided people with more options when it comes to managing their healthcare, but this technology is still generally adopted in silos. Patients and their caregivers must look in multiple places in order to book appointments with different providers and log into several different web or mobile apps to view their health records.

A DIGITAL FRONT DOOR EMPOWERS CONSUMERS TO INTERACT WITH THEIR HEALTH SYSTEM EFFECTIVELY AND EFFICIENTLY AT A TIME AND PLACE CONVENIENT TO THEM.

Fragmentation makes it confusing for consumers to understand the best place to turn when they need to access healthcare due to the right information not being easily and readily available. This can result in reliance on services, such as emergency departments, putting pressure on already strained systems.

EMPOWER CONSUMERS

The good news is that technology can help. Consumer engagement tools like digital front doors are changing the way healthcare is provided and received, helping people make informed decisions to improve their health and wellbeing and that of their dependents.

A digital front door solution provides a single hub through which all interactions can occur, for example, electronic referrals, symptom assessment, virtual care, and remote monitoring. The solution integrates a suite of tools which allows organizations to use systems already in place and adopted.

A digital front door empowers consumers to interact with their health system effectively and efficiently at a time and place convenient to them. It provides access to all of the tools and resources needed to manage their own, as well as their dependents', health and wellbeing from a central location, and seamlessly guides them through their health journey.

Having access to a digital front door as a first point of contact with the health system makes day-to-day interactions far more streamlined and simplified. Having trusted information and resources at their fingertips gives consumers the confidence to effectively care for themselves and their family.

REDEFINES HEALTHCARE EXPERIENCE

While the transformation of healthcare systems to address patient experience is long overdue, the global COVID-19 pandemic has emphasized the need for investment in technology to enable high-quality care and to deliver new ways for people to interact with their health systems.

Best regarded as a strategic platform wrapping around all consumer-facing initiatives, a digital front door addresses fragmented consumer experience as a result of silos by providing a single hub through which all interactions can occur.

By putting consumers at the center of healthcare delivery and empowering them to navigate disjointed, complex health systems, a digital front door promises to address the challenges facing today's healthcare organizations and redefine the healthcare experience. Visit orionhealth.com/ca to learn more.

ORION HEALTH

What to watch:

Technologies with high potential to transform health care

By Barbara Greenwood Dufour

Wondering what new and emerging health technologies are about to impact Canada's health care system? CADTH does too.

CADTH has released its 2022 Health Technology Trends to Watch: Top 10 List. This list describes the 10 technologies Canada's health care system decision-makers should prepare for over the next 2 years. CADTH is an independent, not-for-profit organization responsible for providing health care decision-makers with objective evidence to help make informed decisions about the optimal use of drugs, medical devices, tests, and procedures.

To develop its "watch list," CADTH convened a working group of health care and technology innovation experts. Then, CADTH's Horizon Scanning service gathered information about new and emerging technologies by surveying health care stakeholders and conducting a literature search. From this information, CADTH and the working group developed a list of 16 technologies to be ranked. CADTH then held a workshop, attended by a diverse group of stakeholders, who ranked the technologies to arrive at a top 10.

This article describes the top 5 technologies featured in the watch list.

REMOTE CARE TECHNOLOGIES

Until recently, many of us probably wouldn't have considered accessing health care remotely rather than in person. But, during the COVID-19 pandemic, many of us have had to do so. The convenience remote care offers may be driving a new interest in remote care technologies. These technologies are ranked #1 in the list.

Emerging technologies to support remote care include internet-connected medical devices for a patient to use during a virtual medical appointment. These devices (e.g., thermometer, stethoscope) are designed for use at home to collect and transmit data in real time to the clinician.

Remote care technologies have the potential to allow health care resources to be allocated more strategically and expand the reach of services to those who face barriers accessing care.

POINT-OF-CARE TESTING

In the #2 spot, point-of-care testing is another technology many of us have used during the pandemic, thanks to the substantial uptake of COVID-19 point-of-care tests. Some point-of-care tests can be performed at home without specialized training. This flexibility makes them more convenient to use than laboratory tests.

Point-of-care tests that are emerging for use in Canada include tests for HIV, type 2 diabetes, and mild traumatic brain injuries. Availability of these tests could ease demand on central laboratories, provide timely guidance for treatment decisions, and support public health efforts in disease control and surveillance.

MOLECULAR AND GENOMIC TESTING

Molecular and genomic testing – at #3 – refers to medical tests for detecting an individuals' unique genetic makeup. This information can used to personalize treatment to each patient, potentially leading to better clinical outcomes.

Molecular and genomic testing can also be used to diagnose disease earlier than is possible with conventional methods. Emerging examples include tests for genetic mutations that increase one's risk of developing certain cancers, whole genome sequencing to diagnose rare diseases, and whole genome sequencing of children with complex medical conditions to determine if there's a genetic cause.

MOBILE HEALTH APPS

Mobile health apps, including wearable devices, are #4 in the watch list.

These apps are intended to help diagnose, treat, or prevent health conditions or diseases.

Some mobile health apps are designed for autonomous use. These apps could make health care available to people who avoid traditional care for reasons of stigma. There are several mobile apps for managing specific mental health conditions, for example.

Other mobile health apps send health status updates to both the user and their health care provider in real time. These updates could be used to inform treatment and might improve the timeliness of medical interventions.

COMPANION DIAGNOSTIC TESTS

Companion diagnostic testing, like molecular and genomic testing, supports personalized medicine. This technology is #5 in the watch list. These tests identify an individual's unique genetic mutations, or biomarkers, to determine their likelihood that they will benefit from, or have a serious adverse reaction to, a particular treatment.

Companion diagnostic tests are increasingly being used to optimize cancer treatments. A similar test for optimizing psychiatric disorder treatment based on an individual's genetic makeup has also recently been developed.

Preparing for Potential Disruption

The technologies on the watch list are considered "disruptive" because, if implemented, health care consumers and providers, and the health care system, will need to access or provide care differently. This is why it's important to anticipate and prepare for the potential widespread adoption of these technologies.

With any new or emerging technology, there's only limited evidence so far on how effective they are or how they compare with existing treatments. But CADTH's watch list provides a heads-up to Canadian health care decision-makers about the technologies they'll need to think about soon.

On March 17, CADTH hosted a webinar during which leading experts discussed the challenges associated with new and emerging technologies and how decision-makers can prepare for them. A recording of the webinar – "10 Trends Shaping the Future of Health Care in Canada" – has been posted on our YouTube page (youtube.com/CADTHACMTS).

To see the complete list of health technology trends to watch and find out about the potential challenges of implementing them, visit techtrends.cadth.ca. H

Barbara Greenwood Dufour is a knowledge mobilization officer at CADTH.

Download
RC Coffee App

RC COFFEE

RC COFFEE ROBO CAFE

AT TORONTO GENERAL HOSPITAL - FUELING YOUR FRONTLINE WORKERS

Fresh Coffee | **24H OPEN 24/7** | **Fully Automated**

Canada's first Robotic Cafe, RC Coffee, has made its way to our first Hospital location– serving specialty coffee from Dark Horse and La Colombe and delivering freshly brewed espressos, lattes, cold brew and more with utmost precision. Now you and your staff can enjoy your well-deserved coffee break with the country's finest self-serve, automated brewed beverages.

Our Quality Roast

RC Coffee's commitment to serve high quality coffee combined with innovative technology is the foundation of everything we do. We partner with the best local roasters and only serve carefully curated blends, freshly roasted for a fantastic coffee experience. Contact us to know more about our automated and self-serve coffee solutions for your hospital environment.

Our Technology

RC Coffee is powered by KioSoft leveraging the world-renowned Eversys super automated espresso machines. KioSoft is a pioneer in unattended payment with 20 years experience in automation. Users have the option to order via an intuitive LCD touchscreen interface or through the mobile app for a contactless experience - making grabbing your daily coffee just that much easier.

SALES@KIOSOFT.COM | WWW.RCCOFFEE.COM

Hospitals are experiencing a global blood tube shortage

What you need to know

By Dan Beriault and Adina Weinerman

Canadians have become much more aware of health care supply chain issues during the COVID-19 pandemic. In spring 2020, personal protective equipment (PPE) like masks and gloves were scarce due to skyrocketing demand. While those have become steadily more plentiful, supply chain issues still plague our health care system.

After nearly two years of the pandemic, our hospitals are now struggling with a severe shortage of laboratory supplies including vital tubes, syringes, and collection needles. These shortages are so severe, some hospitals in Canada have had to advise staff to restrict blood work for urgent cases only in order to conserve supply.

A lack of essential supplies is adding mounting pressures to an already stretched health care system.

While health care providers and patients shouldn't be responsible for addressing global supply chain issues, there are changes we can make to ensure resources are used appropriately, both to get us through this global shortage, but also so that we don't waste important health resources unnecessarily.

Laboratory testing is the single highest volume medical activity in Canada and is time and staff intensive. In fact, recent data suggests the average Canadian receives 14-20 laboratory tests per year. While laboratory findings provide important diagnostic insights, not all of these tests are needed. Low-value testing occurs when a test is ordered for the wrong reason (known as a "clinical indication") or at the wrong time. These tests can lead to a result that shows something is present when it really is not there (also known as "false positives"), leading to additional unnecessary follow-ups.

Recent COVID-19 PCR testing backlogs during the height of Omicron have increased public awareness about the integral role laboratories play in a functioning health care system.

As health care providers involved in raising awareness about low-value laboratory testing, we want Canadians to know unnecessary laboratory testing has been a problem for a long time.

In hospitals, daily laboratory blood draws are common yet are often unnecessary. This may be seen in situations where the test results come back normal for many days in a row, yet the automatic test ordering continues. Some studies have shown that repetitive blood draws for hospitalized patients may be avoidable up to 60 per cent of the time.

One blood draw per day can add up to removing the equivalent of half a unit of blood per week. This means between 20-30 blood tubes are wasted, and more importantly, multiple blood draws can be harmful to patients and lead to hospital-acquired anemia. During times of critical supply shortages, like we are experiencing now, doing unnecessary laboratory blood draws can severely impact the ability to do necessary blood draws for patients.

To help guide health care professionals during the global tube shortage, the Canadian Society of Clinical Chemists and the Canadian Association of Medical Biochemists have assembled two sets of recommendations to preserve supplies for testing where they are needed most. These recommendations are based on existing best practices for health practitioners in primary care and hospitals ordering laboratory testing.

Being mindful of resources will help us through the global shortage of supplies. But reducing low-value testing should be a priority beyond shortages. By reducing unnecessary tests, it means fewer needle pokes for our loved ones. It means less risk or potential harm to patients. And it means we protect laboratory resources to be available when needed most. H

Dr. Dan Beriault, PhD, FCACB is the Head of Biochemistry at Unity Health Toronto and Dr. Adina Weinerman, MHSc, MD is a General Internist at Sunnybrook Health Sciences Centre.

Canada should prioritize meaningful "patient partner" research

By Sharon McCarry

I have been involved in research for the last 15 years as a parent of a neuro-divergent young man. I believe in science, but my participation has always been more about what I wanted the science to achieve. My hope has been that research would help drive change in our healthcare system and in our communities for our kids with disabilities.

Over the years, I have been asked to participate in dozens of research projects for children with autism. But I became increasingly disappointed. There is a significant amount of money invested in learning about our kids' brains, but there is too often an imbalance at the heart of research.

While we share intimate knowledge about our experiences as parents and allow our children to be studied, the focus sometimes ends up being more about helping researchers earn PhDs or publish more academic articles. Millions of dollars are being invested in health research by governments and donors in Canada every year, but the findings too often do not have a meaningful impact on the communities they are studying.

The good news is that it doesn't have to be this way. There is a "patient partner" movement working hard to make academic research more meaningful to those with lived experience. But it's time for this movement to mature.

The Canadian Institutes for Health Research recommends that patient partners be included in all stages of governance, priority setting, developing research questions, "even performing certain parts of the research itself" so that the research is "relevant and valuable to the patients that it affects." Yet we have much work to do yet to get to a full understanding of what being "partners in research" really means.

Continued on page 36

Workplace culture is more important than ever

Saegis, a subsidiary of the CMPA, offers practical and accredited online professional development.

- **Just Culture in Healthcare**
  Just Culture encourages learning from errors and close calls, and offers a fair and open approach to addressing individual performance and accountability.
- **Strategies for Managing Unprofessional Behaviour**
  Get equipped with strategies, knowledge and skills to manage behavioural challenges within healthcare teams.
- **Effective Team Interactions**
  Explore the concepts behind team success and learn skills and tools to support more effective team communications.

Find out how we can help:

1-833-435-9979

info@saegis.solutions

saegis.solutions

saegis
A MEMBER OF THE CMPA FAMILY

Saegis offers professional development programs and practice management solutions to physicians, healthcare professionals, teams, clinics, and hospitals.

Scientist and research team receive nearly $1 million grant to study autism

By Carrie Stefanson

Dr. Cheung in the SFU ImageTech Lab at Surrey Memorial Hospital

We can launch humans into space and explore new galaxies but the brain remains one of the most complex frontiers in the universe. Dr. Teresa Cheung, a clinical neuroimaging scientist and Assistant Professor of Professional Practice at Simon Fraser University, is hoping to explore more of the circuit function of the brain, specifically the differences seen in autism.

Dr. Teresa Cheung and Dr. John Welsh, a neuroscientist at the Center for Integrative Brain Research at Seattle Children's Research Institute, are the recipients of a nearly $1 million Canadian Institutes of Health Research (CIHR) grant that could set the stage for new therapies to help children with autism. Their research project, "Cerebro-cerebellar Dynamics in Human Brain Health," is a collaboration between Fraser Health, Simon Fraser University, Seattle Children's and the University of Washington in Seattle.

"This is a strong commitment to study autism in a unique way that is not replicated anywhere in the world," says Dr. Cheung. "There has been little study of human brain circuit function because the methodologies and technology haven't been widely available."

"We now have tools with the sensitivity to record activity deep in the brain at the speed that the brain actually operates – more than a hundred times every second," says Dr. Welsh. "This is what has been sorely needed and opens up a new frontier."

The researchers will use advanced, high-density magnetoencephalography (MEG) in conjunction with 3T magnetic resonance imaging (MRI) at SFU's ImageTech Lab at Surrey Memorial Hospital. MEG measures magnetic fields generated by the electrical activity of the brain at the highest spatial, depth and time resolution. Measurements can be made in milliseconds.

Surrey Hospitals Foundation, Fraser Health and Simon Fraser University and is now the framework for this exciting international collaboration that will allow Dr. Cheung and Dr. Welsh to bolster such an important area of research."

Autism affects the development of the brain and changes how a person communicates socially, their sensory experience and how they learn and behave. Autism can be evident as early as two years old. It is a spectrum condition which means there is a wide variation in how it expresses itself in children. We do not know the origins of autism, although genetics are thought to play a part. Therapies can help provide children with the supports necessary to maximally benefit from learning opportunities. H

"WE NOW HAVE TOOLS WITH THE SENSITIVITY TO RECORD ACTIVITY DEEP IN THE BRAIN AT THE SPEED THAT THE BRAIN ACTUALLY OPERATES – MORE THAN A HUNDRED TIMES EVERY SECOND."

"The sky, or in this case – the brain, is the limit when we do things together," says Kate Keetch, director, Department of Evaluation and Research Services, Fraser Health. "The lab was born out of partnership between the

Carrie Stefanson is a Senior Public Affairs Consultant at Fraser Health.

Continued from page 34

Patient partner research

For the research to be truly collaborative, it must start first with mutual respect. That means valuing the time and effort of patient partners – be they individuals with lived experience or family members sharing their experiences.

Patient partners should be offered payment for the time and knowledge they bring to a research project – and it should be reflective of their expertise, not just a token $25 gift card, just as everyone else involved in the research project is adequately compensated for their time.

Many research projects lag during the recruitment phase because it is often difficult to recruit people with lower income jobs because they can't afford time off work to donate to a project. But, if they were compensated fairly, this could change that reality.

In Canada, every research group conducting patient-oriented research has compensation guidelines, but they haven't been reviewed with an equity lens since they were created. It's time they reflect the standards of fair practice, as international models recommend, embedded in Canadian labour laws.

We want a diversity of voices with lived experience represented in research, to make it relevant and meaningful to all those involved. This begins with equity and mutual respect. H

Sharon McCarry is the Director of Citizen Engagement for the CHILD-BRIGHT Network.

IT'S STILL AN ISSUE!

Imagine what we can build in Ontario's healthcare if we eliminate Tax Fraud in construction.

In Brampton, DONE
In Windsor DONE
In Scarborough STILL NEEDED
and more!

CARPENTERS SUPPORT
HEALTHCARE
www.notaxfraud.com

We've done the Education, now we need the Legislation.

For More Info:
lovescarborough.ca

UNITED BROTHERHOOD OF CARPENTERS AND JOINERS OF AMERICA
LABOR OMNIA VINCIT

Carpenters' District Council of Ontario
www.thecarpentersunion.ca | 905.652.4140

Redeploying pharmacists

the right prescription for UHN

Dr. Kevin Smith, President & CEO of UHN, wrote in an update to staff on Jan. 24 that Pfizer's anti-viral COVID-19 treatment Paxlovid could be a "game-changer in reducing hospitalizations." Days earlier, Health Canada approved the drug for adults over 18 who are at higher risk of severe COVID-19. If taken within five days of the onset of symptoms, it significantly reduces risk of hospitalization and death.

Widely available vaccine and Paxlovid together meant availability of treatment was no longer the main issue facing care teams. People to provide treatment was.

Omicron's highly infectious nature led to mass absences at UHN, including pharmacists who would be essential in the safe and effective use of Paxlovid in patient care.

Redeployment worked before, and the time came to do it again.

Enter Aileen Li and Brian Poon, full-time pharmacists at UHN's Altum Health clinic in Toronto. They stepped up to answer the call, despite uncertainty if their expertise was in need.

After Paxlovid's approval, it became clear. As pharmacists, they could assess patient medication history, recommend suitable dose adjustments and advise as to how Paxlovid coexists with other medications.

The duo were not the only pharmacists redeployed at UHN as infectious activity peaked.

"Within our department, we had an increased need for support and had pharmacists redeployed from other areas to come in and support patient care," Amita Woods, Pharmacy Clinical Manager at UHN, says of the situation in the early weeks of 2022. "The redeployed staff helped to support increased patient volumes, staff absences, and the need for complex medications."

Amita's reflections on January remain relevant in March, which is Pharmacy Appreciation Month in Canada. The occasion is a chance to show gratitude for the 250 pharmacists, pharmacy technicians and support staff at UHN.

During the Omicron Wave, the pharmacy team's ability to pivot care from one pathway to another offers testimony to their collective versatility. Switching care routines to different patient populations was a task that also required an extra level of dedication.

Aileen and Brian were ready to meet the challenge.

Brian Poon and Aileen Li of UHN's Altum Health clinic in Toronto were among a group of UHN pharmacists who redeployed during the Omicron Wave.

NOT PART OF THE ROUTINE

The Altum pair redeployed to UHN's Connected COVID Care Clinic, a pathway dedicated to caring for patients with COVID-19 infection. The clinic had one major difference from the type of patients they were used to seeing in their normal roles.

"Altum clients tend to have less chronic health concerns," says Brian. "Patients at the COVID clinic are higher risk with more complications.

"The area of expertise has shifted dramatically which required a higher gear of learning and preparedness."

Pharmacists determine appropriateness and flag interactions of medications based on patient health function. Adapting the practice to a more fragile patient population was a big shift. In other areas, however, familiarity reigned.

"We interacted with so many people, spread out across programs," says Aileen, describing the experience like being on tour. "One common thing across UHN is that passion for patient care is top of mind for everyone.

"No matter where you go you'll meet great people putting the needs of the patient first."

REWARDING EXPERIENCE

Staffing shortage is never ideal. Aileen and Brian, however, choose to see the upside of their shared experience.

"Working in healthcare, you encounter a lot of challenges," says Brian. "It's not an easy career, but being able to step up and be aligned with the common goal of providing the best patient care possible to those at most risk is rewarding."

Aileen echoes that sentiment.

"It's the main goal of healthcare," she says. "I know it may not be for everyone, but being able to work alongside experts who are all aligned as a team is special.

"It makes all the difference." H

Research determines predictors of severe outcomes following opioid intoxication in children and youth

An international research collaboration led by scientists at The Hospital for Sick Children (SickKids) has identified predictors of severe outcomes following opioid intoxication in children and youth amid the ongoing opioid epidemic. Worldwide, more than 350,000 lives are lost every year with rising cases of paediatric opioid intoxications which can occur through accidental ingestion, as well as intentional use of these substances. To improve understanding regarding the impact of opioid intoxication on children and youth, the American College of Medical Toxicology approached experts at SickKids to lead a study on the effects of the opioid epidemic on children and youth, and to establish a dedicated registry.

Published on March 25, 2022 in *Clinical Toxicology*, the five-year study collected data on 165 children and youth who presented with opioid intoxication at 50 medical centres in the U.S., Canada and Thailand. The researchers found that children and youth with an opioid intoxication who have been exposed to fentanyl and those over the age of 10 had 3.6 and 2.6 higher odds of intensive care unit (ICU) admission or in-hospital death, respectively.

FIRST-OF-ITS-KIND INTERNATIONAL STUDY

Led by Dr. Yaron Finkelstein, Staff Physician, Paediatric Emergency Medicine and Clinical Pharmacology and Toxicology at SickKids, and Dr. Neta Cohen, research fellow at SickKids, the research team designed the study to have a medical toxicologist dispatched to each paediatric patient enrolled at a participating centre. For each enrolled patient, the toxicologist would gather high-quality data from the bedside, including specific types and amounts of substances ingested, as well as directly manage their care.

Continued on page 41

Hospital News™

17th ANNUAL NATIONAL NURSING HERO AWARDS

2022 National Nursing Week (May Editon)

NOMINATE A NURSING HERO!

Celebrating Canada's Nurses!

Have you been inspired, encouraged or empowered by an employee or a colleague?
Have you or your loved one been touched by the care and compassion of an outstanding nurse?
Do you know a nurse who has gone above and beyond the call of duty?

Hospital News will once again salute nursing heroes through our annual National Nursing Week (May 9th to 15th) awards.
Nominations can be submitted by patients, patient family members, colleagues or managers.

Please submit your Nursing Hero Story by April 1, 2022 and make sure your entry contains the following information:
• Full name of the nurse • Facility where he/she worked at a time • Your contact information • Your nursing hero story
• At least 500 words highlighting how they have gone above and beyond the call of duty

Along with having their story published, the winner also will take home:
CASH PRIZES: 1st PRIZE $1,500 2nd PRIZE $1000 3rd PRIZE $500
Please email submissions to editor@hospitalnews.com

Hospital News™

If you do not receive confirmation within 24 hours of emailing your nomination, please follow up at editor@hospitalnews.com or by telephone 905.532.2600 x2234.

Redeployment a valuable learning experience

Photos by Tyler Tamayose & Sharman Hnatiuk.

By Sharman Hnatiuk

Karolina Sekulic was one of many staff and physicians who answered the redeployment call to inpatient units in January as hospitalizations of COVID-19 patients grew and the Omicron variant challenged staffing levels at healthcare facilities across the province.

"I thought I understood the impact of the pandemic, but until I saw firsthand how sick patients were, and how busy the care team was, I didn't appreciate how challenging COVID-19 has been on our healthcare system," says Sekulic.

Although she had worked as a dietitian in a hospital setting in the past, the provincial practice lead with nutrition, food, linen and environmental services had never worked in an acute care setting. Having spent 11 months redeployed to contact tracing earlier in the pandemic, Sekulic was familiar with the ask to step up when needed, and graciously traded in her desk job three days a week for a pair of scrubs and an alternate care worker placement on the COVID-19 medicine unit at the Royal Alexandra Hospital (RAH).

After her four-hour orientation, Sekulic found herself supporting mainly healthcare aides and nursing staff with tasks from changing the garbage and collecting supplies to feeding patients.

While each day brought new tasks and activities, one constant throughout her three-week placement was how Sekulic always felt comfortable and supported as she carried out her responsibilities on the unit.

When the call for help came in January, Karolina Sekulic was one of many across AHS who answered. Sekulic was redeployed from a cubical environment to a COVID-19 medicine unit at the Royal Alexandra Hospital for three weeks.

"I can appreciate how hard it must be for redeployed staff, especially those who have never worked in patient care, to be uprooted and asked to provide a completely new skill set," says Tyler Tamayose, manager of the RAH Pandemic Planning and Staffing Task Force.

"Our team worked hard to provide a strong foundation of support from orientation through to the unit placements. By ensuring our alternate care workers felt supported in a new frontline position, we could help improve the patient and provider experience on the unit, as well as help a new col-

Hospital News

UPCOMING EDITIONS

MAY

MAY FOCUS: **Surgical Procedures/Pain Management/ Palliative Care/Oncology:**
Non-invasive surgery, plastic surgery, orthopedic surgery and new surgical techniques including organ donation and transplantation procedures. New approaches to pain management and palliative care delivery. Approaches to cancer diagnosis and treatment.

PLUS! National Nursing Week and 17th Annual Nursing Hero Awards
The May 2022 issue of Hospital News will be honouring **National Nursing Week** in Canada (May 9 - 15) with a special feature about nursing heroes across Canada.
Thank a Nurse, Advertising Specials!

Advertising Booking Deadline Apr.22nd
Material Deadline Apr.26th
For more info email advertising@hospitalnews.com

JUNE

JUNE FOCUS: **Precision Medicine/Volunteers and Fundraising/Pharmacy and Medication Management:**
Developments in the field of personalized medicine. Innovative approaches to fundraising and the role of volunteers in healthcare. An examination of safe and effective use of medications in hospitals including medication management.

PLUS! Annual Hospital Pharmacists' Association Supplement
Covering innovations and best practices in hospital pharmacies.
Canadian Society of Hospital Pharmacists / Société canadienne des pharmaciens d'hôpitaux

Advertising Booking Deadline May 27th
Material Deadline May 31st
For more info email advertising@hospitalnews.com

JULY

JULY FOCUS: **Cardiovascular Care/Respirology/ Diabetes/Complementary Health:**
Developments in the prevention and treatment of vascular disease, including cardiac surgery, diagnostic and interventional procedures. Advances in treatment for various respiratory disorders, including asthma and allergies. Prevention, treatment and long-term management of diabetes and other endocrine disorders. Examination of complementary treatment approaches to various illnesses.

Advertising Booking Deadline June 24th
Material Deadline June 28th
For more info email advertising@hospitalnews.com

league find value and pride in their redeployment."

For Sekulic, the most impactful moments of her redeployment happened when she drew upon her background as a dietitian to assist patients at mealtime.

"In my provincial role, I help increase awareness around malnutrition and have developed resources to help staff ensure patients in acute care and community healthcare settings can achieve their best nutritional health," she says.

"Helping to feed patients and ensuring their nutrition needs were achieved gave me the opportunity to put my clinical advice into practice in an acute-care setting. As an alternate care worker, the simple task of helping someone eat was incredibly gratifying." H

Sharman Hnatiuk works in communications at Alberta Health Services.

Continued from page 38

Opioid intoxication

"This is a key public health concern, however, the downstream effect of the opioids crisis on children has not received enough attention. The support for this study was amazing with many renowned toxicology researchers and centres participating," notes Finkelstein, Senior Scientist, Child Health Evaluative Sciences at SickKids. "By collecting real-time data, we were able to get the most accurate information about types and amounts of opioid ingested to inform the determination of specific risk factors for this population."

Between 2000 and 2015, the proportion of deaths attributable to prescribed or illicit opioids in Canada nearly tripled, with the greatest increase documented in individuals aged 15 to 24 years. Children and youth represent a unique population of concern within the opioid epidemic, with toddlers and adolescents at higher risk for opioid-related morbidity. Toddlers are prone to accidental ingestion of opioids and often experience severe acute toxicity because they have not been previously exposed to such substances. Adolescents, however, are more likely to have had previous exposure to opioids or exposure to multiple, frequently unknown substances at the same time, both of which often make opioid toxicity challenging to manage.

FINDINGS TO HELP REDUCE THE RISK OF SEVERE OUTCOMES

The researchers hope that this information helps opioid management programs to employ these predictors and reduce the risk of severe outcomes for children and youth. For example, if adults with children in their home are prescribed an opioid, their health-care provider should consider also co-prescribing and educating on naloxone, an opioid antidote, in the event of an accidental ingestion by the child.

"Such efforts to mitigate poor outcomes should also include improving education about these risks, updating health-care provider prescribing practices and policies – such as dispensing smaller pill amounts, discussion of safe storage and leftover discard, co-prescribing of an antidote, particularly when there are children in the household, and informing regulations for improved packaging of opioids," says Finkelstein.

The SickKids team has already been approached by other regions across the world to set up similar toxicology research projects, and to employ this international research network to study other important areas in paediatric toxicology. Finkelstein adds, "I'm particularly proud of the strong collaboration and the leadership role that our team at SickKids played in designing and orchestrating this international research initiative. These findings will greatly support our collective efforts in addressing and mitigating the ongoing impacts of the opioid epidemic on children globally." H

MAGNETIC RESONANCE IMAGING (MRI) AT MICHENER

Are you currently working in medical radiation science and looking to expand your scope of practice?

Michener's part-time, online Magnetic Resonance Imaging (MRI) program is ideal for anyone in the imaging field who wants to expand their professional practice while still working.

Future-proof your career by applying at ***michener.ca*** by May 31, 2022.

The Michener Institute of Education at UHN

UHN

Addressing health human resources challenges

by supporting diverse communities

By Isabel Terrell

As the health system grapples with the health human resources crisis, a first-of- its-kind report offers a critical look inside the workforce and experiences of one of the most diverse and underfunded health sectors in Ontario, home care.

The COVID-19 global pandemic has had lasting health, social and economic impacts. It has also served as a reminder of the broader, persistent shadow pandemic of systemic racism that has been evident in disproportionate COVID-19 health outcomes for Indigenous, Black, Asian, Brown and other racialized communities, exposing existing cracks within the province's health and social safety network. The challenges that health care workers have faced throughout the pandemic, which has contributed to the desperate shortage of health care workers, has also disproportionately affected racialized communities.

According to the Ontario Community Support Association (OCSA), staff vacancies in the top three front line home care positions increased from 6.8 percent to 17.4 percent from 2020 to 2021. OCSA represents more than 220 home and community care agencies across Ontario that together support more than one million Ontarians.

"We need to find innovative solutions to attract and retain our health care workers," notes Kelley Myers, Vice President of Human Resources and Organizational Development at VHA Home HealthCare (VHA). "As a sector, home care has a largely immigrant, female dominated workforce. Celebrating that diversity and ensuring we are providing a safe and supportive work environment for our team members is one of the ways we can demonstrate how much we value them."

One of the ways in which VHA has begun working to understand and support its diverse team is through the development of a Diversity, Equity and Inclusion (DEI) Report for 2021, one of the first reports of its kind for a home care organization in Ontario. The report shares information gathered through a comprehensive DEI survey, which asked staff and service providers as well as volunteers and Board members to respond to statements in several key areas, providing feedback and demographic data.

Of over 1500 survey respondents, 82 percent identified as women, with 78 percent indicating they were born outside of Canada. Moreover, the report identified over 100 languages spoken within VHA's workforce. 73 percent of participants identified as being part of a racialized group, including East/Southeast Asian, African, Caribbean and South Asian.

A number of actions have already been initiated to support these communities including education sessions, a thorough policy review and the development of a "Call It Out" statement to demonstrate the organization's commitment to zero tolerance for discrimination. The report also outlines a 2022 Action Plan to build on these efforts which includes further education and training with a focus on inclusive recruitment and promotionknowledge building in the area of Indigenous cultural safety, and ongoing data collection and analysis to better understand diversity at VHA and any incidents of harassment or discrimination, and special events to celebrate cultural days of recognition throughout the year.

"Home care workers do so much to help vulnerable residents stay safe in their homes. They are needed now more than ever," added Myers. "These learnings are helping us to provide a healthy and culturally sensitive workplace. These learnings are also enhancing our understanding of the environments in which staff and service providers are providing care. With demographic data and staff and service provider feedback, we can measure and monitor the impact of systemic discrimination on our workforce and develop initiatives to address these issues – while continuing to monitor metrics for success."

At VHA, we are committed to doing the important work of addressing issues of diversity, equity, inclusion, racism and anti-Black racism. Key data indicators and staff feedback are both important tools in driving DEI and anti-Racism initiatives, and in understanding ways VHA and Ontario can support our growing healthcare sectors and workforce. H

Isabel Terrell is a Communications Specialist at VHA Home Health Care.

Time's running out for program supporting London's most vulnerable

For the past 10 years, across the London area, VHA Home HealthCare's Extreme Cleaning and Hoarding Support programs have been changing the lives of individuals living in dangerously cluttered, unsanitary or squalid conditions. At risk of eviction, homelessness and fire, these services have offered a last chance and a fresh start for some of our most marginalized community members.

However, after recent funding changes – and unless other support can be found – these services will be lost by the end of March 2022. As the only free and immediate programs for residents in London, St. Thomas, Middlesex and Elgin County that address the health and safety risks of squalor and clutter, the implications of these cuts are devastating.

"This past year alone we've supported an elderly man living with piling garbage after multiple falls made him too fearful to take it outside, a severely disabled woman who was left alone and couldn't access home care services due to a cockroach infestation, and a man who was unable to return home from the hospital when emergency services discovered the clutter that had been collecting for 16 years. These are just a few snapshots that show the vulnerability of these individuals who truly have no other options," said Melissa Davis, Supervisor of Community Support Programs at VHA Home HealthCare in London.

"WITHOUT A SECURE AND STABLE SOURCE OF FUNDING, THESE VITAL SERVICES WILL END BY APRIL AND WE'LL BE FORCED TO ABANDON VULNERABLE COMMUNITY MEMBERS."

The empathetic and skilled members of the Extreme Cleaning and Hoarding Support teams rapidly respond to eviction notices, warnings from property managers and referrals from emergency responders and social services agencies. They provide a range of services for clients with complex mental health issues or physical challenges that prevent them from having a safe living environment. This support may include a thorough cleaning to ensure the home meets public health standards, preparation for pest treatments, sensitive cleaning and decluttering for problematic hoarding and follow-up to help clients learn the necessary life skills to remain safe, housed and out of further poverty.

"Our services not only prevent eviction, homelessness and fire, but they also keep our clients out of the hospital, remove barriers and reunite isolated people," said Melissa.

"Without a secure and stable source of funding, these vital services will end by April and we'll be forced to abandon vulnerable community members," she said. "It's heartbreaking, especially when we know that the pandemic has already impacted this group disproportionately and people are calling on us like never before."

VHA's Extreme Cleaning and Hoarding Support programs require funding to continue to provide these much-needed services. If you can help, please contact Melissa Davis at (519) 645-2410 ext. 5010 or at mdavis@vha.ca.

DID YOU KNOW

Nursing and Rehab Home Care services can be provided virtually?

VHA Home HealthCare can offer a variety of virtual care options.

Contact your service provider or call 1-888-314-6622 or visit www.vha.ca/virtual-care to learn if virtual care is right for you.

VHA VIRTUAL CARE

ACCREDITED WITH EXEMPLARY STANDING ACCREDITATION AGREEMENT CANADA

BPSO RNAO BEST PRACTICE SPOTLIGHT ORGANIZATION CANADA

Apply lessons from long-term care

and innovate our health system through partnership

By Jennifer Zelmer and Tanya MacDonald

The past two years have tested Canada's health systems and the people working in them to the limit. We learned how to innovate fast. High profile innovations like virtual care and vaccines emerged when other options simply weren't available. And sharing ingenious emerging solutions has also been essential to address new challenges, including in long-term care.

The pandemic has had a profound impact on those who live and work in long-term care, and their families. Care home residents accounted for more than two-thirds of Canada's COVID-19 deaths between March 1, 2020 and February 15, 2021. Harm in long-term care rapidly became the single biggest patient safety issue in the country.

Long-term care homes faced many challenges at the same time: pandemic prevention and response, COVID-19 and non-COVID-19 care, staffing shortages and worker safety, and the safe presence of family and essential care partners. Organizations had to respond rapidly, seeking practical solutions to support people and save lives.

WORKING IN PARTNERSHIP TO RISE TO THESE CHALLENGES

At Healthcare Excellence Canada (HEC), we saw this first-hand. More than 1,500 homes caring for over 180,000 residents came together in response to the pandemic, under the name LTC+. Together we shared experiences and best practices, and HEC provided coaching, virtual learning opportunities and seed funding to implement action plans and help long-term care organizations strengthen their response as they moved through the pandemic.

In partnership, we were able to face challenges head-on, thinking innovatively while sharing solutions to help others across Canada.

Organizations shared improvements on bolstering capacity for staff training and education, ensuring access to appropriate personal protective

Inpatient deprescribing reports decrease dependency on multiple medications

A randomized multi-centre trial first published online in January in JAMA Internal Medicine, shows how personalized deprescribing reports generated automatically during an inpatient stay can reduce an individual's dependency on multiple medications.

Led by researchers at McGill University, and supported by UHN specialists from both General Internal Medicine (GIM) and Pharmacy, the study involved 5,698 hospitalized participants at 11 Canadian acute care hospitals between August 2017 and January 2020.

The study's main objective was to determine whether deprescribing – the planned and supervised process of dose reduction or stopping medication that might be causing harm, or might no longer be of benefit – had an effect on adverse-drug events (ADEs) among older patients within 30 days of discharge.

While this decision support had little effect on ADEs, it did have a significant impact on polypharmacy, which is defined as the regular use of five or more medications, a common practice among older adults.

"Excess medication and polypharmacy is an important issue, particularly for our aging population," says Dr. Peter Wu, staff internist, GIM, UHN and a co-author of the study. "However, 'deprescribing,' or stopping drugs is very difficult for patients to do on their own, whether because of inertia, fear of rebound side effects, or that they do not want to stop."

The study, which was also co-authored by UHN GIM physicians Dr. Rodrigo Cavalcanti and Dr. Thomas MacMillan, and pharmacist Dr. Kiran Battu, found that a hospital admission provided an opportunity to approach patients about polypharmacy and support them in desprescribing, where appropriate.

Study participants were given personalized reports containing deprescribing opportunities generated using the software MedSafer. These reports addressed usual home medications, incorporated measures of prognosis and frailty, and were then provided to the treating team who would compare them to the in-hospital care for medication reconciliation.

"What we have found was that patients are quite keen to stop taking multiple medications and are grateful that GIM physicians are looking at this during their admission," says Dr. Cavalcanti. "Furthermore, this is a simple intervention that can be rather seamlessly introduced into the regular workflow with the benefit that it helps to stop unnecessary drugs in older adults and reduces pill burden.

"It's a great example of GIM leading research in areas that matter for patients implemented at both Toronto General Hospital and Toronto Western Hospital, and across Canada," he adds.

The research is still helpful to reduce ADEs as it helps to inform future work either to look farther than 30 days to detect benefit, or to expand this intervention to include safely stopping high-risk drugs. H

This article was submitted by UHN News.

equipment and hiring staff to support implementation of policy directives like screeners at entry points. Other participants made changes to infection prevention and control policies and procedures, pandemic and outbreak plans, and visitation policies and practices for essential care partners, who provide important physical, psychological and emotional support.

More than half of the teams involved in this partnership noted improvements in care experiences and outcomes. Staff felt supported and better prepared to handle challenges, with nearly half of LTC+ teams noting work life improvements.

SHARING KNOWLEDGE HELPED IDENTIFY GAPS, BENCHMARK APPROACHES AND IMPROVE PRACTICES

Sharing knowledge across broad teams is progress, but there is much more to do in long-term care as the pandemic evolves – and beyond. Teams tell us that workforce support, retention and mental health programming are needed to address worrying trends in staff burnout. There is also a need to refocus on person-centred care.

The need for safe, high-quality care for older adults with health and social needs will continue to grow in the years ahead. More people in Canada are living to 85 and beyond than ever before – and there will be slightly less than 2.7 million people, or 5.7 per cent of the Canada's population, aged 85 and older by 2051, according to Statistics Canada. While nearly one in three people aged 85 and older currently lives in a collective dwelling such as a long-term care or retirement home, most older adults have indicated a strong preference to age in place.

Health systems across the country are echoing the need to shift towards supporting aging in place. For instance, reports from Newfoundland and Labrador to the Yukon call for a commitment to aging in place, rooted in family and community supports and supported by both home and long-term care.

As we continue moving through the pandemic, the long-term care sector teaches us that many challenges can be eased by working together. And such partnering in innovation should not be limited to long-term care.

We must now apply this same approach across our healthcare system – to fix what ails it.

Jennifer Zelmer is President and CEO, and Tanya MacDonald is Director, Innovations and Strategic Development, at Healthcare Excellence Canada.

From respiratory research to long-covid pathways

By Dr. Mark Faghy

During the closing stages of my PhD, I was introduced to a consultant at the Royal Derby and Burton Hospital via a colleague at the University who saw similarities in my research in occupational physiology and the possible benefits to respiratory patients. What started as an initial introduction over coffee (of course), turned into regular meetings and dialogue about how strengthening the breathing muscles might be advantageous during recovery from community-acquired pneumonia.

Before I knew it, I was pitching the idea to a fully established research team across the Midlands with some highly regarded names in the area and imposter syndrome doesn't come close to how I felt in the lead up to that presentation. I didn't need to worry though as it was well-received, and they saw the logic in what I said. PHEW.

It didn't translate into developed and implemented projects straight away but what it did highlight was the need to better understand recovery and to look at multidisciplinary opportunities to increase the benefit for patients. Over a few years we established a series of projects that sought to better understand the profile of recovery and characterise the prolonged symptom profile that occurs in the weeks and months following a pneumonia.

Fast forward to January 2020, and we have completed several projects and were discussing the next steps when the clinical staff began preparing for the impending arrival of Covid-19. As a researcher who has formed some great collaborative relationships and friendships within the healthcare sector, it was hard to watch from home, seeing and hearing of the challenges that colleagues were facing. I was in regular contact with them via e-mail and phone, offering any support I could to help. Then on a Wednesday night in the middle of April, I distinctly remember a telephone conversation with Tom, an acute respiratory infections consultant at Royal Derby and Burton Hospital Trust who highlighted some similarities in the prolonged symptom profile of pneumonia pa-

tients and patients with COVID-19.

He highlighted that patients were coming back to the hospital after treatment for Covid-19 needing support and that there was a lot of uncertainty around the cause and impact of the issues. We discussed at length how we could reposition the research that we had previously conducted to obtain a better understanding. In the days and weeks that followed I was busy developing applications that could be submitted to the National Institute of Health Research Covid Rapid Response funding call.

We submitted this in May 2020, proposing longitudinal investigations to better understand the trajectory of Covid-19 recovery to inform the support and treatments that would improve recovery for patients. We were unsuccessful in this application but shortly after noticed a funding call from Gilead Sciences and we quickly completed the application and were successful in securing £185k from them in January 2021.

As we were establishing the contracts, logistics and relevant approvals for the research, the narrative around long-Covid was gaining momentum nationally and internationally and we knew that our research would be an important part of informing the global response. I discussed with Dr Ruth Ashton, Lecturer in Exercise Physiology at the University of Derby, about the importance of the lived experience and we made a joint decision to include a patient diary. This would allow patients the opportunity to record their experience of living with Covid-19 and this might turn out to be a really important inclusion given the broad challenges that patients are experiencing and how widely this has been covered in the media.

Ruth and I are very much on the same page about most things and this provided a great basis to develop a strong research team, which has increased massively in the months since we launched this and other projects.

While the procedural part of our research was still ongoing, a Masters (now PhD) student of mine and Ruth's launched a survey investigating the pre-Covid-19 physical activity status and the impact this had on patients' outcomes, which introduced us to Lindsay Skipper, a musculoskeletal and obstetric and physiotherapist and a long-Covid patient from Sussex, who had previously lived and worked in Derby.

In our discussions with Lindsay, it became very apparent that the lived experience and patient voice were going to be central to unravelling this complex picture but the opportunity to raise her concerns was muted at several junctions. As a result, we worked closely with Lindsay and her impressive network to develop a survey that captured the lived experience of Covid-19 and also long-Covid.

The survey was launched in autumn 2021 and received almost 200 responses, but more importantly, provided us with hundreds of pages of data that articulated the complex and often unique challenges that patients are facing.

What is most evident is that long-Covid patients feel ignored and disregarded in healthcare settings and that they need a bespoke screening process and support pathway that will address their issues – because, despite some suggestions, no single approach will resolve long-Covid.

As we continue to develop our understanding and consolidate the data we are collecting as part of our active research projects, we have worked hard to establish an international network of clinicians, patients, healthcare workers and scientists that share a consensus of needing to understand the issues entirely to develop the most effective support mechanisms. This will likely take some time, but Covid-19 and long-Covid continue to present us with an unprecedented, multi-system complex picture that will need bespoke support pathways. These will need to consist of clinical and non-clinical collaborations, bespoke screening tools and address each patient as an individual (I call this the buffet approach, where you get what you need when you need it).

As we surpass the second anniversary of the first UK lockdown, we continue to work tirelessly to increase the understanding via active projects, but also in the formulation of a stakeholder group who will be actively involved in the development and implementation of long-Covid support service in months ahead (I wish it was now). H

Dr Mark Faghy, Associate Professor in Respiratory Physiology at the University of Derby, is currently leading a pioneering international study to improve the lives of people suffering with the prolonged and life impairing impacts of long-Covid.

YOU don't have to wait!

Get your digital copy of Hospital News emailed to you, the minute it comes out.

Sign me up!

Just send email to subscriptions@hospitalnews.com

(please include full name to personalize)

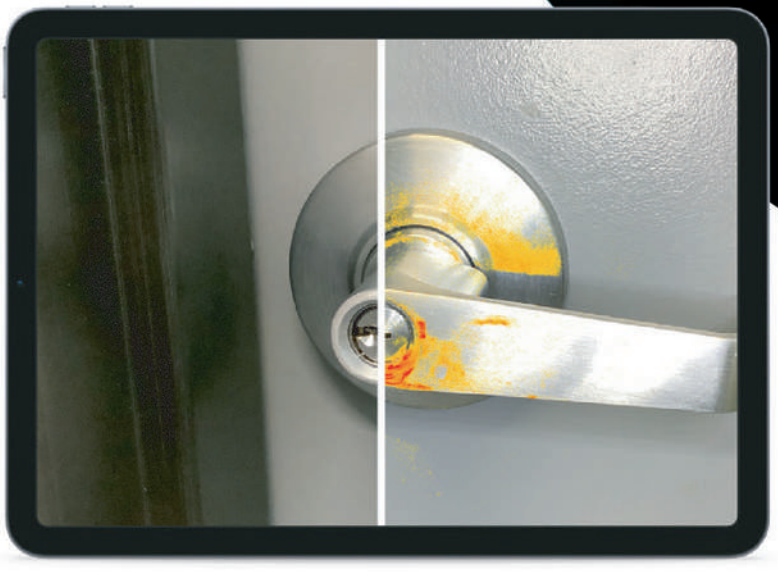
or scan QR code.

Hospital News does not share subscription email addresses

Swish

See surfaces in a new light.

Optisolve gives facility managers the data and evidence to keep businesses safe and open.



Picture clean at **swish.ca/optisolve**

Optisolve