



MAKING CARE MORE ACCESSIBLE, MORE EFFECTIVE AND MORE AFFORDABLE

THINK INNOVATION

INNOVATION REPORT

WHERE INNOVATION SOLUTIONS ARE AMPLIFIED

THE QUESTIONS WIHV ASKS

- Reports say there are over 165,000 health apps available in the App and Play Stores. They may look cool, but how can we tell which ones actually help patients improve their health?
- When patients need urgent care, fewer than half are able to see their doctor on the same or next day after calling. How can we boost same-day access when it is needed?
- When patients have difficulty accessing care, many seek attention in the emergency room where they can spend over six hours before being seen. How can we meet the needs of patients in their family doctor's office, or at home instead?
- Today, three out of five Canadians over the age of 20 live with chronic diseases or injuries – most commonly cancer, cardiovascular diseases, diabetes, hypertension and mental illness. How can we help more people to stay well closer to home?

INNOVATIVE ARE



WIHV is an emerging centre for innovation at WCH. The Institute is helping to achieve WCH's mandate to test and implement new models of care and scale the most successful among them beyond the hospital's four walls. For a new model or approach to be recommended, it must first demonstrate to WIHV that it will not only improve how patients experience care, but that it has the capacity to enhance population health while reducing costs across the entire healthcare system.

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There is a high bar for achieving change in healthcare delivery that keeps pace with the present and future needs of patients. Some of the most common chronic illnesses and diseases like cancer, cardiovascular disease, diabetes, hypertension and mental illness involve multiple access points in the system and require us to think in new ways about how we can help patients better navigate treatments.

For example, how can we better engage seniors to help them manage multiple chronic conditions and stay well at home? How do we design care that takes into account the social determinants of health like a person's income, housing, social support networks, coping skills and personal health practices, so that the right care is offered at the right time? What evidence does government need to make decisions about how care is delivered in our system? By answering these questions, we aim to build the high performing healthcare system of the future.

This is where WIHV steps in. We look at new products and models of care to determine their feasibility or usability in Ontario's healthcare system. Whether it's groundbreaking approaches to reducing wait times for specialist care, access to MRIs or the overmedication of seniors – WIHV tests new ideas to determine if they are worthy of broader uptake across the entire health system.



OUR EXPERTIS

*MESSAGE FROM THE CEO
AND VP MEDICAL AFFAIRS &
HEALTH SYSTEM SOLUTIONS*

"There are gaps in the healthcare system that can only be filled by an organization like ours. By focusing entirely on ambulatory care, we can experiment with new ways of delivering services that will keep people well and support them closer to home."

(L) Dr. Danielle Martin,
VP Medical Affairs and
Health System Solutions
Women's College Hospital

Marilyn Emery
President and CEO
Women's College Hospital



When WCH committed to Health System Solutions as a core part of our hospital's strategy, we entered uncharted territory for a Canadian hospital. For too long, the mandate of each healthcare organization in our system has stopped at the exit from its own four walls. As the only hospital of its kind – an independent, academic, solely ambulatory hospital – we realized we needed to embrace a mandate that would serve the entire system within which we work.

At WCH, we don't have an emergency room, we don't have a maternity ward, we don't even have patient beds. But we do have some of the world's leading health professionals, we deliver the most innovative healthcare programs and we perform vital, complex surgeries. And we do all this without requiring patient beds, because we know you'd rather sleep at home. This is the future of healthcare.

There are gaps in the healthcare system that can only be filled by an organization like ours. By focusing entirely on ambulatory care, we can experiment with new ways of delivering services that will keep people well and support them closer to home. We can provide backup specialty services to primary care providers so that they can better serve their patients. We can provide virtual consultations, group visits, and advocacy for equity in health. And we can do research on the effectiveness of those approaches, and educate the next generation of healthcare providers so that they will be ready for the models of care they will need to practice on to serve the needs of their communities.

So much of our effectiveness as an organization will result in improvements for patients that will be felt in other parts of the system. As the "hospital designed to keep people out of hospital," we can't do what we do without meaningful partnerships – with other hospitals, with primary care, and with the community we serve. We intend to continue to add value to those partnerships by focusing on closing the gaps in our healthcare system.

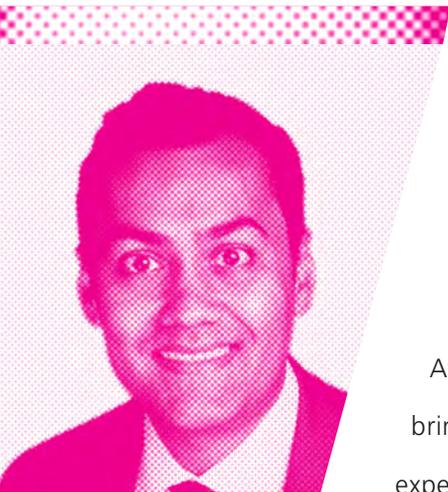
In its first two years, WIHV has accomplished a tremendous amount. We have learned from our successes and most importantly, our failures. As one of our first pilot projects in the hospital, we tested a secure messaging application that allowed patients and their families to email their questions and concerns directly to the care team at a complex care clinic. The goal here was to see if we could help patients avoid unnecessary visits or even phone calls to their doctor's office. Unfortunately, very few of them ended up using the service as they found it too cumbersome. Care team members were also not able to share messages and doctors found it frustrating to use as it did not allow medical residents to connect directly with staff or other specialists.

Solutions like these need to be stress tested and rigorously evaluated first before they make their way out into the real world. As the embodiment of our organization's commitment to health system solutions, WIHV provides both a platform to support innovation across our organization and an umbrella for our innovators to stand under. We are thrilled to bring you the first of many success stories for WIHV.

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WHO A



Dr. Sacha Bhatia,
Founding Director and Senior
Innovation Fellow, WIHV

The WCH Institute for Health System Solutions and Virtual Care (WIHV)

is a real world solutions engine dedicated to solving the current and future problems of our healthcare system. Uniquely situated in Women's College Hospital (WCH) – the hospital designed to keep people out of hospital – WIHV is identifying the groundbreaking approaches that address gaps in the system.

At WIHV, we work as a team because when we collaborate across disciplines, we bring new insights to the healthcare system. I am proud to lead a group with diverse experience within – and outside of – healthcare. Together we bring solutions to make care more convenient, more effective, and more affordable.

Since our launch in 2013, WIHV has built on the legacy of a century of innovation in women's health at WCH. Where healthcare intersects with public policy, business, engineering and computer science, our Innovation Fellows are leading change in Ontario. Whether it's a new app to help patients manage diabetes or a better way of educating physicians about when to order tests – WIHV finds solutions that strengthen healthcare for everyone.

FOR THE FIFTH YEAR IN A R ONE OF CANADA'S TOP

REWEVE?

HEALTH
CARE

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OW, WCH RANKED AS
40 RESEARCH HOSPITALS.

OUR TEAM

THE FACE OF IN ONTARIO

*Where healthcare intersects with public policy,
leverages a unique set of backgrounds to bring*



Dr. Danielle Martin is the vice-president, medical affairs and health system solutions at Women's College Hospital (WCH), co-founder and Senior Innovation Fellow at WIHV. She is also a family physician in the Family Practice Health Centre at WCH and an assistant professor in the Departments of Family and Community Medicine and Health Policy, Management and Evaluation at the University of Toronto. In 2016, she was awarded the CIHR-IHSPR Article of the Year Award for her work on the, "Estimated cost of universal public coverage of prescription drugs in Canada."

As a national health policy leader, Danielle is a strong advocate for removing barriers to care and improving equity. From a national pharmacare program dedicated to ensuring that all Canadians can access necessary medications, to a basic income to protect the health of low-income Canadians – Danielle's policy work, research and advocacy focus is on closing the health gaps that vulnerable Canadians face.



Dr. Sacha Bhatia is the founding director of WIHV, scientist at Women's College Research Institute (WCRI) and a staff cardiologist at Women's College Hospital and the University Health Network. He is also an assistant professor in the Department of Medicine at the University of Toronto and the Institute for Health Policy Management and Evaluation. Recipient of the American College of Cardiology's Young Investigator Award and the American Society of Echocardiography's Arthur E. Weyman Young Investigator Award, Sacha is a rising star in health research and innovation.

He is a Senior Innovation Fellow at WIHV and the National Evaluation Lead for Canada's Choosing Wisely Campaign – an effort to help clinicians and patients engage in conversations about unnecessary tests and treatments to reduce harm and improve care, while saving our healthcare system money.



Dr. Noah Ivers is a scientist at Women's College Research Institute (WCRI) and adjunct scientist at the Institute for Clinical Evaluative Studies. He is also a family physician at Women's College Hospital (WCH) and an assistant professor in the Department of Family and Community Medicine at the University of Toronto. Recently receiving the New Investigator Award from the Canadian Institutes of Health Research, Noah is leading change that will make a difference for patients and families across Ontario.

As a WIHV Innovation Fellow, Noah looks at developing new approaches to evaluate physician performance in order to improve the quality of care that patients receive in primary care settings.

CHANGE HEALTHCARE

*business, engineering and computer science, WIHV leadership
much-needed change to the system.*



Dr. Onil Bhattacharyya is an Innovation Fellow at WIHV and a senior scientist at Women's College Research Institute (WCRI). He practices family medicine and is an associate professor at the University of Toronto in Family and Community Medicine and the Institute of Health Policy, Management and Evaluation. Through his research he looks at the integration of care for people with complex needs and examines how health systems can build capacity for innovation in service delivery.

He also co-lead Building Bridges to Integrate Care, a citywide incubator for new models of care and Better Access to Care for Complex Needs (BeACCON) – a provincial network within the national Canadian Institute for Health Research Strategy for Patient-Oriented Research. He is interested in helping healthcare organizations become more adept at improving existing services and exploring new ways of providing care. He does this by adapting innovation methods from the design and software industries, like user-centred design and Lean Startup, to generate new models of care to see if they improve quality by measuring the impact on services.



Dr. Trevor Jamieson is a general internist and clinician in quality and innovation at St. Michael's Hospital/University of Toronto. There he is the clinical lead on a project that looks to improve communication between inpatient physicians and outpatient care teams.

As Virtual Care Lead at WIHV, Trevor directs the development of a strategy to evaluate new technologies and approaches to reducing gaps in the delivery of healthcare services. He designs evaluation frameworks for virtual care technologies to see how successful they would be at improving patient health. He also looks at how some of the most successful advances could be scaled up across the system, improved upon or applied to other diseases or conditions.



Dr. Jennifer Hensel is a general psychiatrist at Women's College Hospital and the University Health Network and an assistant professor in the Department of Psychiatry at the University of Toronto.

As an Innovation Fellow at WIHV, Jennifer researches the use of mobile and virtual applications to improve access to psychiatry services and self-management of mental health conditions. Her clinical and research efforts centre on improving access and coordination of healthcare for people living with mental illness.

OUR TEAM



Dr. Payal Agarwal is a practicing family physician in Toronto and hospitalist at the Centre for Addiction and Mental Health (CAMH). She looks at how emerging technologies both improve the delivery of healthcare and health science education. As an Innovation Fellow at WIHV, Payal creates new models of virtual care, adapting successful approaches from the tech, design and start-up world. She also offers consultant advice to several healthcare start-ups on product design and usability.



Dr. Darren Larson works as the chief medical information officer for OntarioMD. He is also the vice-chair of the Cancer Quality Council of Ontario, sits on the Board of the Canadian Medical Association's newest subsidiary (Joule) and practices family medicine at the Women's College Hospital Family Practice Health Centre.

Darren is a very recent addition to the WIHV family, bringing experience and interest in the complexities of eHealth system integration, in addition to data analytics and governance, physician change management, EMR maturity modelling, and accountability/performance measurement. As an Innovation fellow, he is interested in innovation that combines design and function, especially as it relates to the daily work of clinicians, activation of patients in self-care, and health system improvement.



Dr. Geetha Mukerji is a clinician in quality and innovation who focuses on improving care for patients with chronic complex conditions including diabetes. She is also an endocrinologist and general internist at Women's College Hospital (WCH) and an assistant professor in the Department of Medicine at the University of Toronto.

As a WIHV Innovation Fellow and Clinical Lead in Quality, Dr. Mukerji supports and provides leadership for healthcare providers to develop and evaluate new and innovative models of care, using quality improvement methodologies. She is also actively engaged in developing strategies to monitor quality in ambulatory diabetes clinics to improve care for patients and promote value in healthcare through resource stewardship efforts.



Dr. Heidi Schmidt is the site director for Medical Imaging at Women's College Hospital and the head of the Cardiothoracic Division in the Joint Department of Medical Imaging (JDMI) at University Health Network, Mount Sinai Hospital and Women's College Hospital. She is a chest radiologist and a professor of radiology at the University of Toronto.

In her research, she focuses primarily on assessing the effectiveness of low-dose CT screening for lung cancer. As the medical lead of JDMI's primary care integration strategy and an Innovation Fellow, Heidi brings to WIHV both experience and interest in redesigning an imaging department in an ambulatory hospital to improve access for primary care physicians and care for their patients.



Dr. David Urbach is surgeon-in-chief, Women's College Hospital, and a Senior Innovation Fellow at WIHV. He is a professor of surgery at the University of Toronto's Institute of Health Policy, Management and Evaluation. An accomplished scientist in the area of surgery-related health services research, he has an active CIHR-funded research program and has published scientific articles in top medical journals such as JAMA and the New England Journal of Medicine. He was recently awarded the 2015 CIHR-IHSPR Article of the Year Award for his paper on the, "Introduction of surgical safety checklists in Ontario, Canada."

As a national and international leader in surgical care and quality, David has key roles in major academic, professional and research organizations. As a Senior Innovation Fellow at WIHV, David plans to further develop his interests in the sustainability and quality of surgical care in Canada, with a particular emphasis on transforming the delivery of these services in an ambulatory hospital environment.



Dr. Geoff Anderson is a professor in the Institute of Health Policy, Management and Evaluation, Faculty of Medicine, University of Toronto, where he holds the Chair in Health Management Strategies.

As an Innovation Fellow, he brings to WIHV a specific research interest in health systems and quality of care, for which he has received funding from granting agencies in both Canada and the United States. He has published extensively in scholarly journals and served on advisory committees to federal and provincial governments in Canada.



Dr. Kevin Levitt is a cardiologist and echocardiographer at Michael Garron Hospital (formally TEGH). He is an assistant professor of Medicine at the University of Toronto and Institute for Health Policy, Management & Evaluation and has a masters degree in Quality Improvement and Patient Safety from the University of Toronto. He is the past winner of the Young Investigator Award from the American College of Cardiology.

As an Innovation Fellow, he brings to WIHV an interest in the appropriateness of diagnostic testing, developing systems and decision tools. The overall focus of this research is to reduce waste in the healthcare system. He is also working on improving quality indicators in cardiology and heart failure.



Dr. Trevor Champagne completed his medical degree at the University of Western Ontario and his dermatology training at the University of Toronto. He is currently pursuing a master's degree with the Institute of Health Policy, Management and Evaluation at the University of Toronto, with a focus on eHealth and information technology. He is planning on moving forward in his career as a clinician in quality and innovation. As an Innovation Fellow at WIHV, he will be investigating new models of care in tele dermatology.

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Dr. Natasha Bollegala is a staff gastroenterologist at Women's College Hospital (WCH) and assistant professor in the Department of Medicine (DOM), University of Toronto. She is a clinician investigator in quality and innovation within the DOM and chair of the WCH Quality Improvement Research Committee.

As a WIHV Innovation Fellow, Dr. Bollegala is interested in research that looks at how patients with inflammatory bowel disease (IBC) transition from pediatric to adult care, identifying gaps in healthcare access and quality improvement in the field of gastroenterology.

OUR ACHIE

Over the past three years, WIHV has taken the lead on cutting edge projects that propose solutions to transform the way care is delivered in our hospitals and communities, all while upholding the principle of using the healthcare system's limited resources wisely.

GROWTH IN RESEARCH FUNDING

FUNDING (GRANTS & RESEARCH AWARDS)

| 2013 | 2014 | 2015 |
|-----------|-------------|-------------|
| \$782,757 | \$2,788,911 | \$2,762,912 |

PEER REVIEWED PUBLICATIONS

| 2013 | 2014 | 2015 |
|------|------|------|
| 8 | 46 | 53 |

INFLUENCING LEADERS: USHERING IN A NEW ERA IN HEALTHCARE

PRESENTATIONS

Research and opinion leaders at WIHV have given over 100 presentations at provincial and national healthcare conferences and events. They highlight opportunities to close health gaps in the system through virtual care, better communication channels for doctors and patients and streamlined referrals for diagnostic imaging.

VEMENTS

OUR PARTNERSHIPS



Evaluating the impact and effectiveness of a national campaign dedicated to reducing unnecessary testing and treatments.

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Holding symposia to consult with key stakeholders and providing policy advice and direction for the *Patients First: Action Plan for Health Care* – Ontario's plan for changing and improving the healthcare system.



Testing digital health applications with real patients in Ontario's healthcare system, to see if they improve access to care for patients with chronic illness, while reducing costs in the system.



Providing research and evaluation support to optimize program impact, improve quality of care and reduce inappropriate practices in healthcare.

WIHV CONNECTS WOMEN'S COLLEGE H TO FIGURE 1

With leadership from WIHV, Women's College Hospital became the first Canadian hospital to use Figure 1, a medical case-sharing platform connecting physicians from around the world.

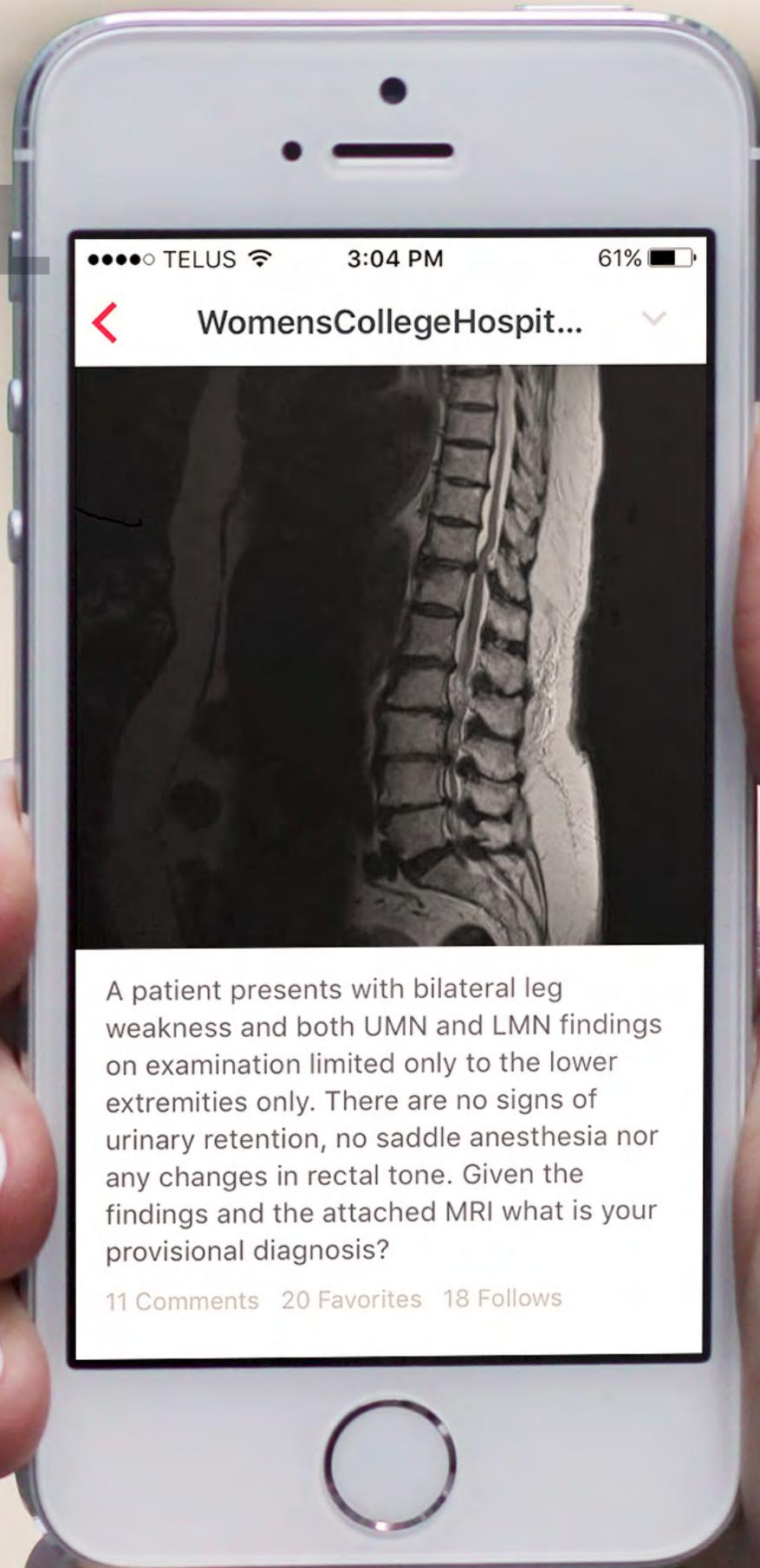
Figure 1 has created an app that can be downloaded for free on phones and tablets to allow subscribers to view anonymous images of wounds or even X-ray results taken with patient consent. Healthcare providers can easily view images and share their comments, views and experiences managing different approaches to treatment.

WCH joined other world-class institutions on Figure 1's global medical education network this year, including New York's Mount Sinai Hospital, Massachusetts General Hospital, and the Cincinnati Children's Hospital. Using this Canadian-made app, WCH now shares cases with more than half a million global healthcare professionals.

Images that were originally stored on an in-house teaching website developed by WCH Chief Medical Resident Dr. Bourne Auguste are now the focus of conversations between physicians that advance medical knowledge across the globe.

"WIHV is proud to continue the tradition of advancing the innovation agenda. We are committed to building partnerships with organizations that develop cutting edge technologies and approaches to healthcare," says Dr. Sacha Bhatia, founding Director of WIHV and staff cardiologist at WCH.

Commenting on the partnership, Figure 1 Medical Director Dr. Sharon Vorona has said, "It's an honour that Women's College Hospital is the first Canadian hospital on Figure 1. We are based in downtown Toronto, so WCH is an institution we know and respect. We are looking forward to highlighting the world-class care they provide through special initiatives like our Grand Rounds, where hospitals present a series of images to members across the network."



A patient presents with bilateral leg weakness and both UMN and LMN findings on examination limited only to the lower extremities only. There are no signs of urinary retention, no saddle anesthesia nor any changes in rectal tone. Given the findings and the attached MRI what is your provisional diagnosis?

11 Comments 20 Favorites 18 Follows

CLINICAL EVALUATION + POLICY ADVICE

MAKING VIRTUAL EVERYDAY CARE



Dr. Trevor Jamieson,
Virtual Care Lead, WIHV

WIHV is helping telehomecare and telemonitoring leaders ensure that new advances in virtual care improve the patient experience and health outcomes, while strengthening communication between doctors.

When Canadians need urgent care we know that fewer than half are able to see their doctor on the same or next day after calling. Each time this happens, the next step can be to seek out care in the emergency room. As a country, we have some of the highest emergency room use rates in the world and gaps in care and treatment support these kinds of statistics.

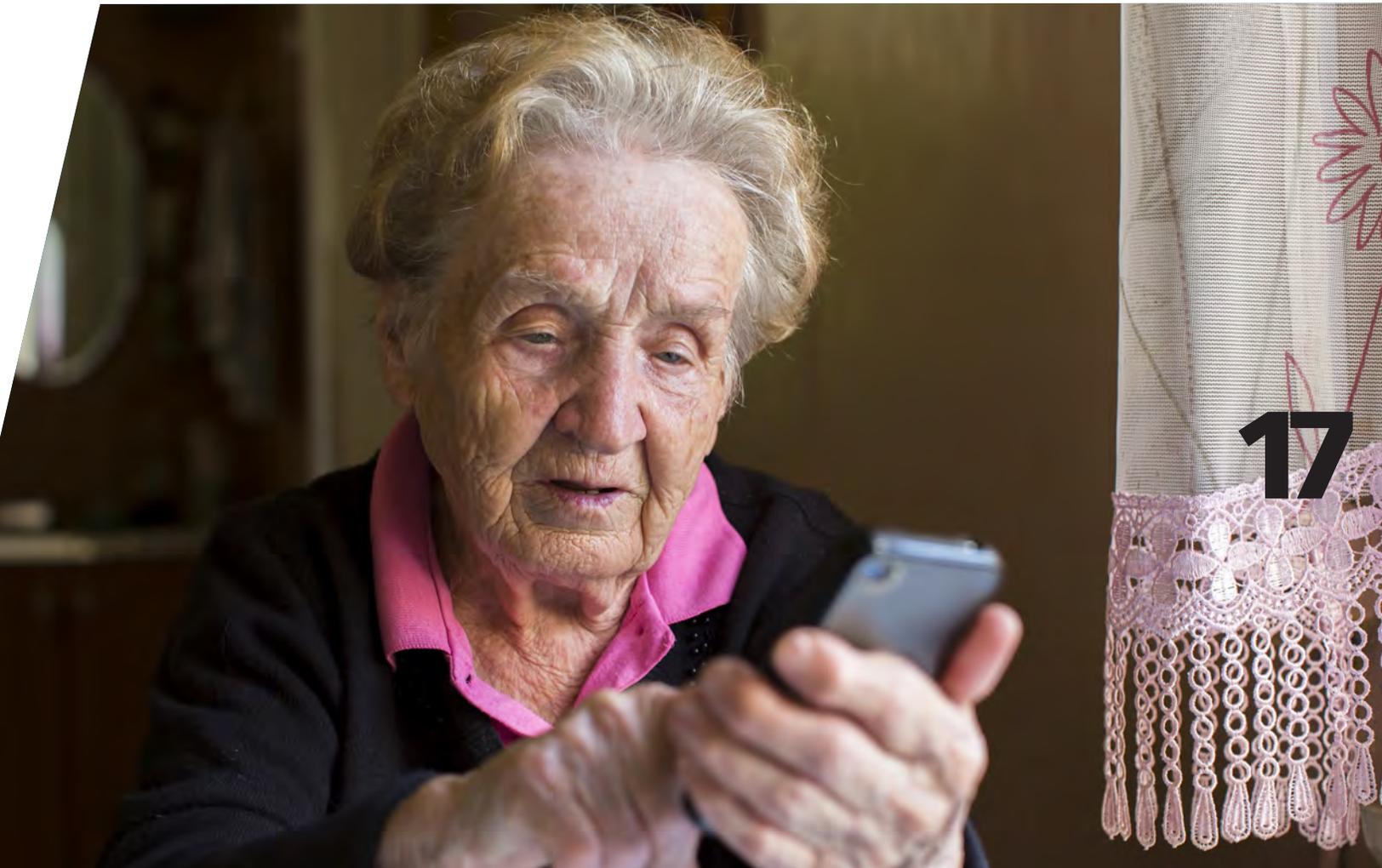
We also know that when given the choice, patients managing chronic illness often prefer to receive care and treatment in their home. We know that some of the benefits of virtual care can range from better access, less travel time and hardship, not only for patients but for families and unpaid caregivers. By properly integrating digital tools in our healthcare system, we hope to solve some of our access problems, while making medical care both more convenient and more cost-effective.

Whether it's for patients with diabetes, mental illness or chronic kidney disease, WIHV is evaluating a variety of virtual care tools with Ontario Telemedicine Network (OTN). This year, WIHV is looking at the effects of giving patients diagnosed with diabetes a smart phone with Welldoc's® BlueStar® diabetes virtual care coach app. Patients will receive daily messages about diet and lifestyle tips and can even track blood sugar levels throughout the day. In its review, WIHV will look to see if this tool helps patients to better manage their diabetes, by improving things like blood sugar control and reducing unnecessary trips to the doctor.

WIHV Virtual Care Lead, Dr. Trevor Jamieson says, "It's sometimes easy to invent great products that help patients become more self-sufficient at accessing higher quality care. But getting those products into the healthcare system is challenging, if not often impossible. At WIHV, we look at all sides of this problem by trying to alleviate policy barriers, align stakeholders and complete pragmatic and time-sensitive evaluations of new tools." As a result, Jamieson says, "We aim to provide incentives for innovators to build tools for healthcare and ensure that consumers and clinicians can trust what they are using."

"It will take a coalition of partners like OTN and WIHV and many others to integrate virtual healthcare into a more sustainable system that delivers the right care in the right place at the right time," says Dr. Ed Brown, OTN's CEO. "WIHV's capacity to evaluate outcomes will significantly advance the work we're doing to test remote monitoring in these new patient groups."

CARE PART OF



THE FACTS

The economic burden of chronic disease in Ontario is estimated to be 55% of total direct and indirect health costs. How can we improve access to care when it is needed, helping patients better manage their own health?

- Fewer than half of patients hospitalized for two common chronic conditions in Ontario reported seeing a doctor for follow-up within one week after having left the hospital. How do we improve communication and relationships between doctors and patients so that patients feel empowered to take charge of their health?
- Only one in four Canadian seniors with chronic conditions said they had received help with making a treatment plan. How can we help patients feel better prepared for their appointments so that they can get more out of a visit with their doctor?

WIHV'S POLIC

The WIHV symposia model is designed to get the providers and decision makers to ignite change.

PATIENT PARTNERSHIP SYMPOSIUM

Putting the patient experience at the centre of how we organize care is essential to understanding whether we are successfully delivering treatments where and when they are needed most.

In 2014, the Ministry of Health and Long-Term Care (MOHLTC) asked WIHV to host the Patient Partnership Symposium, inviting leaders from government, top Ontario hospitals, Health Quality Ontario, the Change Foundation, the Ontario Hospital Association, Local Health Integration Networks and the University of Toronto.

Together, participants explored how to better capture the patient experience in hospital quality improvement plans and asked how they could strengthen communication between patients and care providers. Finally, the group turned their attention to whether the province could simplify its patient relations process.

At the end of this session, WIHV produced a white paper entitled, *Nothing About Me Without Me: A Policy Prospectus on a Provincial Patient Engagement Strategy for the Ontario Minister of Health and Long-Term Care*. The paper outlined practical solutions that would help the ministry decide on next steps for delivering on their "Putting Patients at the Centre – the Right Care, Right Place, Right Time" strategy.

HEALTH LINKS SYMPOSIUM

In 2015, the Ministry of Health and Long-Term Care (MOHLTC) asked WIHV to host a symposium to engage leaders on how they could expand their Health Links program across the province. In close partnership with Local Health Integration Networks (LIHNs), Health Links provide important support for people managing complex conditions.

At the time the consultation took place, Health Links already had 47 full operational programs running across the province but they were looking to expand to 69 sites by 2015. To help with this transition, the ministry was looking for a new model to support a successful expansion.

Wrapping care around patients who are high users of health services is a critical part of the ministry's *Patients First: Action Plan for Health Care* agenda. WIHV asked leaders for their views on five pressing issues to inform the evolution of the Health Links program in Ontario. WIHV's white paper entitled, *Advancing the Health Links Model in Ontario: A Policy Prospectus*, captures all of the latest thinking.

Y SYMPOSIUM

conversation going between patients, innovators, healthcare

CAPACITY PLANNING SYMPOSIUM

In 2015, the Ministry of Health and Long-Term Care asked WIHV to host a symposium on how to respond to some of the biggest pressures now facing the healthcare system. To ensure the policy planning process reflects the need for both hospitals and care centres to support an increasing number of patients managing multiple chronic conditions, WIHV organized a stakeholder engagement session with all of the Local Health Integration Networks (LHINs) and key health provider organizations.

Working together, participants produced a discussion paper that captured critical feedback along with supporting evidence for 11 long-term planning recommendations. The white paper entitled, *Health System Capacity Planning: Strengthening Healthcare for Ontario's Future* outlined goals for leadership and advised the Ministry of Health and Long-Term Care on how to set performance targets that aligned closely with the Institute for Healthcare Improvement's Triple Aim framework.

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VIRTUAL CARE SYMPOSIUM

Technology we use in our everyday lives, like mobile or wearable devices, can help us become more aware of our health habits or even connect us to online support groups and healthcare professionals. With many new health apps and E-therapies hitting the market, consumers have a wide range of products to choose from. According to the Institute for Healthcare Improvement, recent estimates show that there are over 165,000 mobile health apps available.

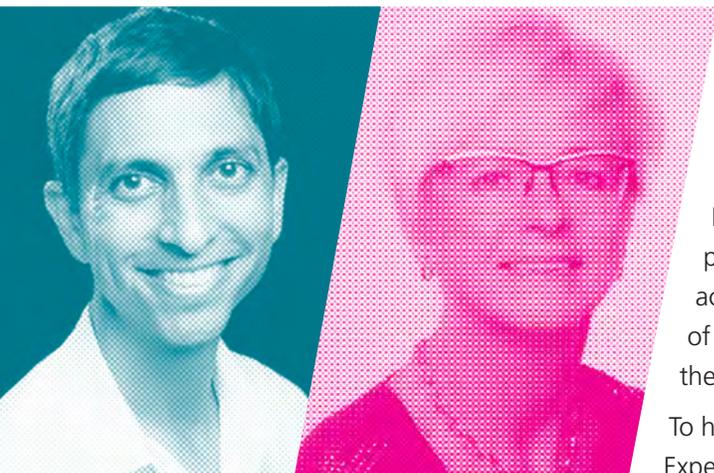
There is so much potential for virtual care to put patients at the centre of care and eliminate gaps or redundancies in our healthcare system. Whether it's enabling patients with diabetes to track their blood sugar levels and create a monthly report to share at their next doctor's visit, or seek out online cognitive behaviour therapy with mental health professionals, the opportunities seem limitless.

The big question is, how can virtual care become one with our existing models of care? To help answer this question, WIHV partnered with Ontario Telemedicine Network (OTN) to host a one-day symposium, giving patients, healthcare providers, the provincial government and innovators from across Ontario a seat at the table.

Together, this diverse group of stakeholders kick-started a conversation to identify practical solutions for integrating virtual care technology into existing models of care. A white paper entitled, *Virtual Care: A Framework for a Patient-Centric System*, summed up top findings from the day. From patient privacy and regulatory concerns, to the need to adapt virtual care in different parts of the system where unique pressures and workflows are at play, WIHV identified opportunities to accelerate the pace of virtual care here in Ontario.

- Who owns these problems?
- What does the ideal healthcare system of the future look like?
- How do we define and measure our success?
- What are the barriers to achieving better outcomes for patients?

GIVING DOCTORS RA PATIENTS WITH COM



Dr. Onil Bhattacharyya,
Innovation Fellow, WIHV

Dr. Heidi Schmidt,
Innovation Fellow, WIHV

For family physicians caring for patients with multiple chronic conditions, navigating the healthcare system can be complicated and time consuming. With quick and easy access to specialists and urgent imaging consultations, doctors can quickly decide what to do with patients while they are in their offices.

Managing complex conditions is a difficult task for both patients and care providers. Primary care doctors may need specialized advice and rapid access to tests so that they can decide with the patient on the best course of action. From a patient's perspective, reducing these health gaps can help them stay well closer to home.

To help make these goals a reality, the Seamless Care Optimizing the Patient Experience (SCOPE) intervention was developed in partnership between WCH, University Health Network, and the Toronto Central Community Care Access Centre. The goal here was to find a way to support family doctors caring for complex patients by improving links between the hospital and community care. The service connects participating healthcare providers to a single phone number they can call to access a:

- **General internist on-call** – for immediate telephone consultations and access to urgent assessment, investigation and management for patients at the WCH Acute Ambulatory Care Unit (AACU).
- **Nurse navigator** – for advice and assistance navigating available specialists and hospital resources.
- **CCAC care coordinator** – for access to at-home and community-based supports.
- **Diagnostic imaging** – for same-day consultation with a radiologist who can advise on appropriateness of imaging and interpretation of results, and expedite imaging requests when they are urgent.

As a one-stop-shop for a variety of medical services, SCOPE has simplified the referrals process for hundreds of patients and created a feedback reporting system to help family physicians keep track of when and where patients have been admitted or received treatments. The program also helps them to navigate hospital and community resources, as WIHV discovered in its evaluation.

“Laura Pus and Ian Stanaitis from the WIHV Evaluation Team have implemented an extremely agile registration process. The rapid recruitment of physicians and their immediate engagement with SCOPE services improves their ability to provide timely and comprehensive care for their complex patients,” says Dr. Pauline Pariser, the Primary Care Lead for SCOPE.

Plans are in place to expand SCOPE to support more family physicians and offer additional specialty services, such as gynecology and psychiatric advice. In the near future, the SCOPE intervention will be adopted by St. Joseph's Health Centre and other participating institutions, bringing a local model to a much larger scale.

PID RESULTS FOR PLEX NEEDS



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THE RESULTS

When the SCOPE program was evaluated, the team found that from the time the project debuted in 2012 it had:

- Welcomed over 5,400 requests for its services.
- Supported over 125 family physicians, all of whom had accessed the service.
- Inspired feedback from family physicians who said:
 - SCOPE improved the quality of care offered to their patients and expanded their knowledge of available services.
 - SCOPE improved their ability to practice 'shared care' for complex patients in an interdisciplinary environment.
 - On-call general internists estimated that approximately 60 per cent of calls they had answered avoided unnecessary trips to the emergency room.

CLINICAL EVALUATION

EVALUATING NEW FOR URGENT MEDI



Dr. Heidi Schmidt,
Innovation Fellow, WIHV

Solutions that improve timely access to care so that patients can avoid a trip to the emergency room also save the system money.

When family doctors need to quickly rule out a condition for their patients, sometimes the emergency room is their only option for urgent imaging. With 1-800-IMAGING, now they can speak directly over the phone with a member of the medical imaging team to discuss patient needs, arrange for rapid and appropriate testing and discuss exam results in very short order. For patients, this can mean one less trip to the emergency room where sometimes, they can wait hours to be seen.

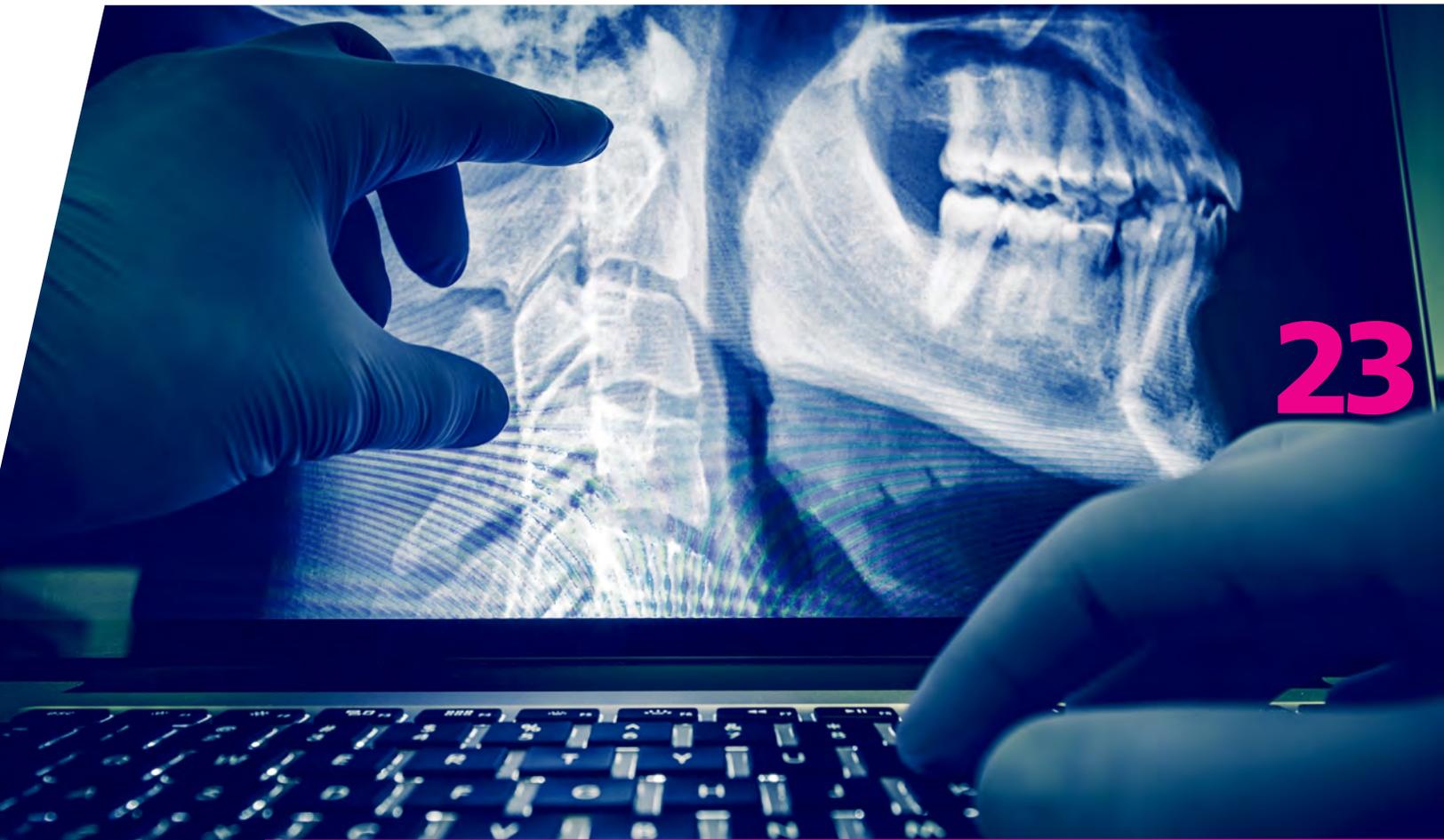
As part of a broader primary care strategy, the service has been offered through the Joint Department of Medical Imaging (JDMI) at Women's College Hospital since 2014. Recognizing that in a lot of cases, emergency rooms have become the primary point of access for many types of urgent imaging, health system leaders saw an opportunity to spark real change.

To determine whether 1-800-IMAGING has filled a gap in access to appropriate, fast and reliable imaging, WIHV and JDMI evaluated the program. They took a closer look to see if it delivered on goals like improving the patient experience, while leaving more beds free for patients who really needed them in the emergency room.

Dr. Heidi Schmidt, Radiologist and Medical Lead of the primary care integration strategy for JDMI says that, "By facilitating direct communication between a primary care physician and a radiologist, we avoid the old rigid referral pathways, and get patients in for imaging a lot faster." Dr. Catherine Wang, Executive Director, Joint Department of Medical Imaging says that as a result, "1-800-IMAGING reduced the number of ED visits for urgent imaging."

Overall, says Wang, "This new method of communication has given JDMI a unique insight into the problems that exist for primary care providers as they try to navigate the system on behalf of their patients inside the hospital." As a result, the program "has inspired a broader service redesign of medical imaging to serve the unique needs of community primary care physicians and their patients."

MODELS OF CARE CAL IMAGING



THE RESULTS

The pilot and evaluation took place over the course of one year and when WIHV & JDMI evaluated the program, they found the following:

- In less than one year, 1-800-IMAGING fielded 227 calls, offering specialist radiology consultations to primary care physicians who would otherwise not have had access to medical imaging expertise.
- The project diverted over 40 potential visits to the emergency department.

CLINICAL EVALUATION + POLICY ADVICE

EDUCATING DOCTORS ON

APPROPRIATE TESTING FOR

CARDIAC CARE



By educating physicians on better ordering practices, we may see the first successful intervention that reduces unnecessary cardiac tests in clinical practice.

Transthoracic Echocardiograms (TTE) are really important for diagnosing and managing cardiovascular disease. They are also frequently ordered by doctors to detect abnormal heart rhythms or valves, murmurs or damage to the heart muscle after a heart attack.

Despite their usefulness, there are concerns that a growing number of tests being ordered by attending level cardiologists and primary care physicians aren't always appropriate and may lead to longer wait times, costing Ontario's healthcare system even more. In 2009 for example, outpatient echocardiograms cost the Ontario government a total of \$130 million dollars and since then annual costs have continued to rise.

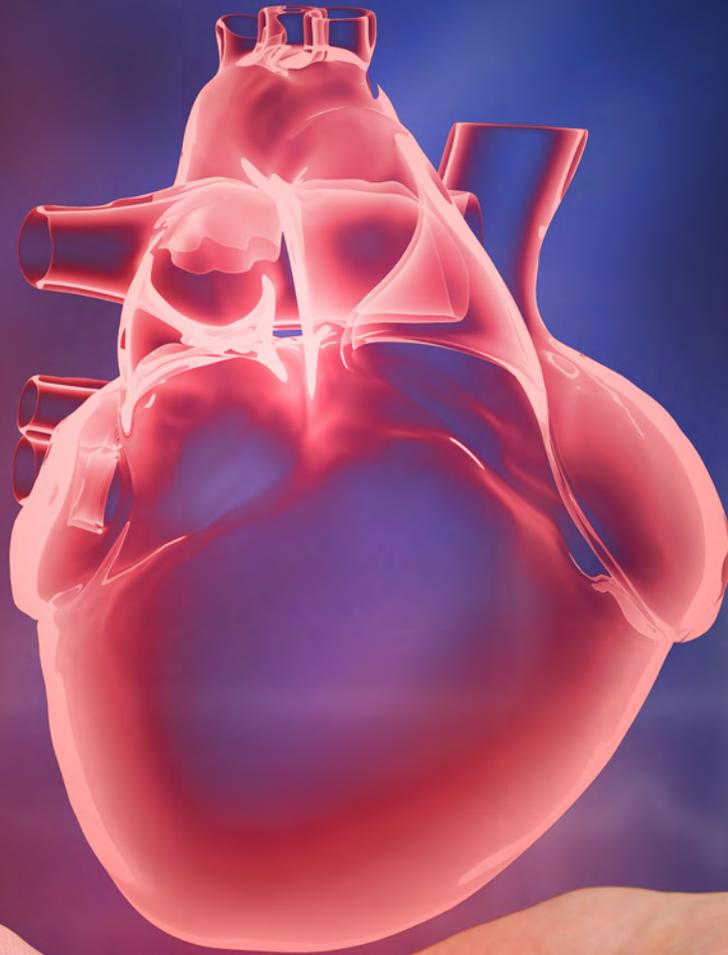
As demand for the test also escalates, there is concern that for some patients, it may not actually benefit their care while for others, it can lead to treatment plan delays. Echo WISELY is an international study led by WIHV that is underway at multiple healthcare sites. The project looks at whether educating physicians on the appropriate ordering of echocardiograms will help reduce costs and improve care for patients.

Dr. Sacha Bhatia,
Founding Director and Senior
Innovation Fellow, WIHV

Participating doctors in the control group are given a lecture on appropriate use criteria and the latest evidence around when tests are truly necessary. They are also given access to the American Society of Echocardiography mobile phone app and monthly feedback summarizing their ordering behaviour to flag unnecessary tests.

Dr. Sacha Bhatia, founding director of WIHV and scientist at Women's College Research Institute is the project's principal investigator. He says that, "As clinicians we need to act as the stewards of our system's precious health resources. Echo WISELY gives doctors much needed information about their practice, empowering them to make good choices about the clinical care and tests they order for patients." If the physician education model is found to be successful, Echo WISELY will start a culture shift to reduce waits and ensure patients receive the right care at the right time.

RS ON NG FOR



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IMPROVING COMMUNITY PATIENTS TO SUPPORT



Dr. Noah Ivers,
Innovation Fellow, WIHV

More frequent communication with patients who have a history of heart attack may help reduce gaps in treatment. A research trial underway at WIHV could inform the development of a new province-wide strategy aimed at changing care for high-risk patients.

For patients who have had a heart attack, clinical guidelines strongly recommend proper cardiac rehabilitation and medications to help reduce the risk of a recurrence. However, data from Ontario shows that 12 months after patients experience a heart attack, their adherence to medications drops by 50 per cent and only 30-40 per cent actively choose to participate in cardiac rehabilitation.

In the long run, these treatments improve health outcomes for patients and reduce rates of readmission and mortality. It's clear that the system needs to do more to support patients so that they can fully benefit from existing and state-of-the-art treatments. Under the leadership of Dr. Noah Ivers, Innovation Fellow at WIHV and scientist at Women's College Research Institute, researchers are looking into whether improved communication with patients will help to advance their understanding of recommended treatments and lead to better health outcomes.

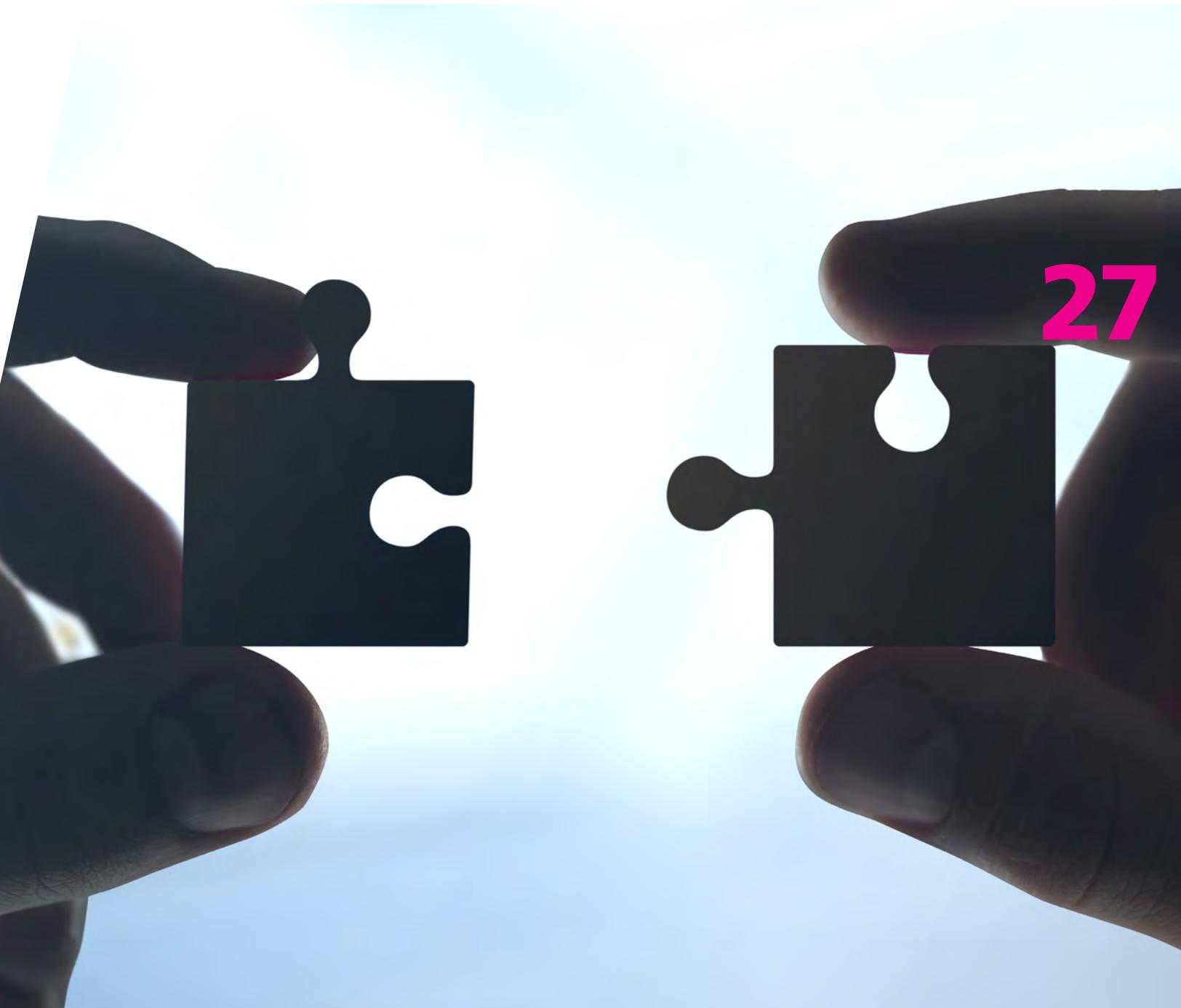
The study is called, Interventions to Support Long-term Adherence and Decrease cardiovascular events (ISLAND) and a total of 2,742 patients have been recruited to participate from nine sites across Ontario, using a patient registry developed by the Cardiac Care Network of Ontario (CCN).

Researchers have been connecting with patients to see if sending a series of educational reminders via direct mail or over the phone will improve their ability to take daily medications or attend cardiac rehabilitation services. Patients also receive carefully crafted educational materials (designed by researchers and patients), that encourage them to keep up with their treatments and stay healthier in the long run.

"We're looking to understand more about how we can make sure patients benefit from proven treatments in a more reliable way," says Ivers. "This project is exciting because we've already heard stories of how patients have benefited. Heart attack patients who have slipped through the cracks are now participating in cardiac rehab services."

Based on findings, the project team plans to recommend a new approach for customizing communication with high-risk patients. Over the course of the study, Ivers says, "In working with partners and patients from around the province, we believe we've developed a scalable solution that could help vulnerable patients to stay healthier in the community." When initial results are available in 2017, they may end up shaping a new standard operating procedure for cardiac care across the province.

COMMUNICATION WITH BETTER TREATMENT



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MESSAGE FROM THE FOUNDATION CEO AND BOARD CHAIR



Kathy Hay
President & CEO
Women's College Hospital Foundation



V. Ann Davis
Chair, Board of Directors
Women's College Hospital Foundation

The drive to create change by innovating has always been at the heart of Women's College Hospital. It's what motivated WCH's founders to open a hospital run by and for women – the first in Canada. And it's what has continued to underpin this hospital's commitment to identifying and closing the gaps in health for women for over 130 years.

In the 21st century, innovation remains at the heart of everything we do. But today, it extends beyond our walls to the impact we are having across the health system as a whole. At WIHV, changing lives through transformation at the system level is the ultimate goal.

As an institution that has always championed innovation as the key to change, WCH is leading global efforts to achieve a better, brighter future for people and healthcare everywhere. But this work cannot happen in isolation: we are reliant on the vision, determination and generosity of our donor community to drive it forward – to help those ideas take root and take flight.

Since the launch of WIHV in 2013, we have seen tremendous and growing support from WCH Foundation's 22,000-strong donor community to foster transformational innovation. Last year, The Geoffrey H. Wood Foundation became the first donor to step forward at the leadership level with a gift of \$1 million specific to WIHV. We also saw WCH board member Benita Warmbold and her husband Gerald Wood generously establish The Benita M. Warmbold Fellowship in Health Systems Innovation, a cornerstone endowment within WIHV. With a bold challenge to the community to match their founding pledge of \$200,000, this new fellowship fund is supporting the next generation of innovators who will train alongside WIHV's internationally renowned researchers. And, most recently, the cyclists participating in Tour de Bleu – a private fundraising event hosted by philanthropist and WCH friend Peter Gilgan – made a major collective donation in support of the Institute.

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The generosity of these individuals, who are being joined by a growing number of donors who share their commitment to WIHV, is testament to the impact that can be achieved when people and communities join together in pursuit of a shared vision.

WIHV is regarded across the province as a critical hub of innovation that is key to significantly improving the healthcare system across Ontario and beyond. Our donors understand the vital role that WIHV plays in the well-being of people everywhere, today and into the future, and they share our belief in this crucial work. We extend our heartfelt gratitude to those whose investments are igniting WIHV's potential to create change, and we invite those who are inspired by that potential to consider the impact that can be achieved by taking action together.

On behalf of the entire Women's College Hospital Foundation team, thank you for being part of our community – for changing lives through the power of innovation.

For more information about Women's College Hospital Foundation or how you can support WIHV, please visit www.wchf.ca or contact Linda Palmer at linda.palmer@wchospital.ca or 416-323-6323 ext. 4711.

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INNOVATION REPORT

**WCH Institute for Health System
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