



Chronic Disease
Innovation Centre



2021 & 22 Annual Report

Long-term Impact

Improved health outcomes in the prevention and management of chronic disease

Improved value and quality of healthcare

Improved access to innovative healthcare solutions

Mission

To advance research and create data-driven solutions that optimize health through commercialization, academic research, and partnerships with the public and private sectors.

Values

CDIC researchers, staff, students and volunteers all have important roles in creating an environment that exemplifies the following values:

- **SCIENTIFIC EXCELLENCE:** CDIC's first commitment is to excellence in scientific work. We ensure a high standard of ethics and integrity in conducting our research.
- **INNOVATION:** CDIC encourages new ideas, creativity and risk taking. Through innovation we generate solutions for patients and partners. We aim to minimize bureaucracy and maintain focus on the mission.
- **ENTREPRENEURIAL SPIRIT:** We follow a market orientation. We create change and embrace critical questioning, services and continuous improvement. In doing so, we identify opportunities and pursue them.
- **INTEGRITY:** Integrity infuses everything we do and is central to the way we govern the organization, develop staff and work with our partners.
- **RESPECT:** We respect the contributions that each individual makes to ensure the success of our science and organization. We respect individuality and recognize the strength that comes from diversity of perspectives and backgrounds.
- **PATIENT CENTRED:** We engage patients and families as partners in our research processes. We honour the contribution of patients and study participants to our mission and commit to the highest standards of care, integrity and confidentiality in our services to them.



Message from our Board Chair and CEO

It is a distinct honour to be able to present the third Annual Report of the Seven Oaks General Hospital Chronic Disease Innovation Centre (CDIC). Over the years, we've seen our organization develop into a true research powerhouse in Manitoba.

With an emphasis on working with academic, industry, patient, and public sector partners, the reach and impact of the CDIC has been both broad and impactful. From projects that aim to revolutionize the way chronic kidney disease is diagnosed and treated, to driving innovation in how patients self-manage their chronic conditions, to working with big data analytics, and so much more, we are tremendously proud of the work of the CDIC team in changing healthcare delivery.

The CDIC brings a patient-centred perspective to its research, residing within the Seven Oaks General Hospital, a specialty facility with a remarkable commitment to treatment, management, and prevention of chronic disease. This ideal location allows research to directly influence patient care within the hospital and demonstrates how to innovate health care on a global scale.

The COVID-19 years shone a light on how challenging it can be to provide medical care and conduct research during a pandemic. Therefore, we innovated our virtual and digital offerings, expanded our collaborations, devised creative solutions, and shifted our thinking. Operationally, we became more adaptable and efficient than ever.

Thank you for taking the time to learn more about the exciting work of the CDIC, its collaborations with a variety of industry, academic, patient, and public sector partners, and its work with The Wellness Institute, Seven Oaks General Hospital, and Seven Oaks Hospital Foundation. Our amazing team of physicians, biostatisticians, health economists, nutritionists, research coordinators, data analysts, trainees, project managers, and business development specialists are dedicated to improving health outcomes in the prevention and management of chronic disease, enhancing the value and quality of healthcare, and finding and providing access to innovative healthcare solutions.

None of this would be possible without the generous support of our valued donors.

Thank you!

Respectfully submitted on behalf of the Board of Directors,



Don MacDonald
Board Chair
Chronic Disease Innovation Centre



Carrie Solmundson
Chief Executive Officer
Chronic Disease Innovation Centre

Areas of Expertise

The Chronic Disease Innovation Centre (CDIC), based in Winnipeg, Manitoba, Canada is a unique research environment that focuses on changing healthcare delivery. It is not only dedicated to research into chronic disease prevention, it is also committed to developing innovative solutions to reduce the burden and cost that chronic diseases have on hospitals and healthcare systems.

CDIC focuses on the following areas of expertise thanks to a diverse team with various skills, training, and operational expertise whose work includes a special focus on commercialization.



Academic

Through academic excellence, the CDIC team is a key driver of innovation. Dedicated to sharing results and advancing scientific knowledge, researchers are published in peer-reviewed scientific journals of high acclaim and invited to present at conferences locally, nationally, and internationally.

This team has a distinguished track record of receiving some of the most competitive grants from local and national agencies of such renown as the Canadian Institutes of Health Research, Research Manitoba, and the Kidney Foundation of Canada. They have received awards amounting to millions of dollars and continue to build on a strong academic foundation to advance their work.



Big Data Analytics

CDIC biostatisticians and data analysts are specially trained to conduct pharmacoepidemiology, epidemiology, and risk prediction analysis. This skill set enables analysis of large and clinical datasets. The CDIC team works with clients to navigate the approval process and acquire access to a comprehensive administrative health and social general population database reflecting more than a few decades' worth of data. They are equally adept at analyzing internal datasets held by corporations.

With big data analytics expertise, the CDIC team finds patterns in data that can augment service delivery and efficiency for clients. Additionally, based on their research findings, CDIC provides evidence-based policy recommendations.



Health Economics

CDIC excels in the design and execution of studies that help determine whether interventions have a strong likelihood of offering cost savings to the healthcare system. Although proposed interventions may be more costly than the current standard of care, this cost can be offset if the intervention provides patients with improved health outcomes and better quality of life – the CDIC works with clients to determine the best path forward.

CDIC is highly proficient in translating the results of novel cost-effectiveness research into budgetary impact analyses, providing guidance on how funding will need to be re-allocated and adjusted to meet the growing healthcare concerns of patients in Canada and worldwide.

CDIC analysts are skilled at assessing the comparative effectiveness of interventions, identifying potential risks, and ultimately creating a framework from which to make informed recommendations regarding competing options.



Nutrition

With nutrition intrinsically tied to health, CDIC investigates how nutrition modifications relate to obesity, diabetes, chronic kidney disease, and cardiovascular disease. By assessing the feasibility, acceptability, and effectiveness of nutrition-based interventions, their focus is on disease prevention and management.

The team manages acute feeding trials that look into the effect of foods and nutritional components on glycemic and appetite control in healthy and at-risk populations. Longer-term trials into prevention and management of chronic disease focus on the effects of nutrition interventions, on improving outcomes, including cardiovascular health and quality of life.



Knowledge Translation

With CDIC's expertise in knowledge translation, they are able to look at the big picture that the data represents. They take relevant information and translate it into practical applications and clinical practice. Aside from developing, implementing, and evaluating materials to help this practice, they also develop patient- and provider-facing content including printed educational materials, decision aids, websites, and user-friendly and engaging apps that meet the needs of the target population.

The team uses a variety of communications tools including publications, presentations, and infographics. Their work in this area serves a critical purpose, affecting business administration, operations, and health policy.



Clinical Trials

The CDIC team includes researchers who have specialized training in innovative clinical trial methodology. They ensure that protocols and trials run in a safe and effective manner for industry, academic, and public sector partners. Their work with novel drug and device trials as well as nutritional trials often focuses on chronic disease intervention. Furthermore, through their connection to Seven Oaks General Hospital, they are able to offer patients the opportunity to participate in clinical trials of novel therapies that have the potential to improve quality of life.



System Improvement

The use of best practice guidelines in clinical care is essential. As a result, the CDIC team develops and integrates evidence-based practice recommendations to improve patient care and maximize operational efficiencies either within a single clinic or within large program settings. This can include leading the design of database registries, implementing process engineering-based strategies, or new program implementation.

When designing system improvement protocols, CDIC works to ensure that all relevant data is made available for rigorous analysis. This, in turn, gives us the ability to conduct a comprehensive evaluation of research- or clinical-based programs.



Innovative Service Delivery

Many people with chronic kidney disease experience a medical crisis immediately before starting dialysis. Ideally, patients should start dialysis in a deliberate, calm, and controlled manner. Therefore, researchers at CDIC have created an innovative service delivery product to determine if there is a better way to intervene to prevent medical

crises before they start. VIEWER (Virtual Ward Incorporating Electronic WEaRables) is a toolkit for patients with chronic kidney disease. Included in the toolkit are a wrist motion detector, a digital scale, a pulse oximeter, a blood pressure cuff, and a tablet for secure data sharing.

Based on the initial success of this study, the research team received funding from the Canadian Institutes of Health Research (CIHR) and has partnered with NexJ Health – a provider of advanced virtual care solutions for chronic disease prevention and management – to test VIEWER nationally. The hope is that VIEWER will prevent hospitalizations and emergency room visits, as well as prevent acute in-patient dialysis initiations. The ability of clinicians to anticipate when adverse events will occur will reduce strain on the medical system and improve patient outcomes.



Exercise Science

Individuals living with Chronic Kidney Disease and Kidney Failure often have disproportionately higher rates of physical impairment and low physical activity levels. The CDIC has a number of ongoing national and international research collaborations and trials characterizing the effects of exercise and physical activity on functional status, quality of life, and adverse outcomes in individuals with all stages of chronic kidney disease, in the hopes of integrating exercise and physical activity into routine clinical practice in CKD.



Improving the Patient Journey

The incidence of chronic disease continues to rise along with healthcare costs, putting strain on the system. Our approach of engaging patients throughout the entire research continuum and introducing new advances in care is part of our passion for improving patient outcomes.

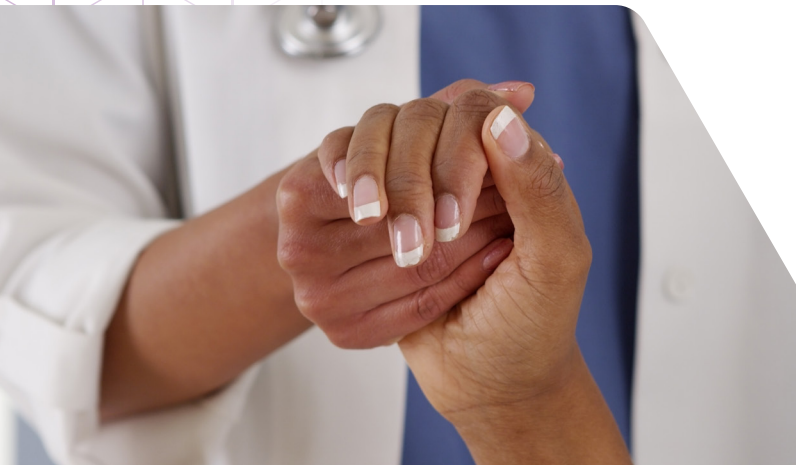
The CDIC stands firm in its commitment to improving health systems and patient outcomes, with a focus on improving the patient journey from screening, to triage, to treatment.

Our expertise in care for individuals with chronic kidney disease (CKD) helps shine a light on the actions that doctors can take across the entire continuum of care to make life a little easier for patients.

Together, the team at CDIC – with funding from Can-SOLVE CKD and its partners– is improving care and outcomes for patients like Timothy Slater – who now feels empowered by the CDIC team and their efforts to change healthcare delivery.

"I feel I am contributing to a better two-way experience for dialysis patients instead of the passive one-way interaction that most dialysis patients experience during their visit to a dialysis centre," says Slater.

This is part of what motivates the team at the CDIC. Beyond early diagnosis, they also strive to provide the best evidence-based care based on an individual's treatment stage and trajectory. They ensure that the best practice is implemented, health systems improve and patients experience improved outcomes.



1 Screening

Early and accurate detection of at-risk individuals

→ PATIENT BENEFIT

Prevent, delay, and minimize severity of disease

→ HEALTH SYSTEM BENEFIT

Ease of administration and high reliability leads to cost saving throughout the system

2 Triage

Determining optimal personalized treatment pathway

→ PATIENT BENEFIT

Prevent, delay, and minimize severity of disease

→ HEALTH SYSTEM BENEFIT

Ease of administration and high reliability leads to cost saving throughout the system

3 Treatment

Providing advanced and improved care to patients

→ PATIENT BENEFIT

Improved patient outcomes, experience, and quality of life

→ HEALTH SYSTEM BENEFIT

Dramatically reduce costs, optimize resources, and improve outcomes

1 Screening

EARLY AND ACCURATE DETECTION OF AT-RISK INDIVIDUALS

Karmen Omeasoo didn't know he had kidney disease until he was in crisis. By the time he received a diagnosis for his kidney disease, he was already in stage five kidney failure. He needed immediate dialysis and will continue to need it for the rest of his life.

With early screening, patient outcomes improve substantially. Led by Dr. Paul Komenda, the CDIC's Kidney Check program works in partnership with Indigenous communities across Canada to raise awareness about CKD.

"One in 10 people in Canada will develop kidney disease. But in Indigenous communities, that number is almost as high as one in three," says Cathy Woods, Kidney Check Patient Lead. "Once you're tested, we put them [test results] into a model called Kidney Failure Risk Equation (KFRE)...It just empowers you to be able to do something about your health."

Developed in 2011 by Dr. Nav Tangri, the KFRE addressed a gap in screening. Prior to its development, doctors had no way of assessing a patient's risk of going into kidney failure. Now, using a few key pieces of information, doctors are able to input information into an online tool, which provides a single number assessing risk. "It has been shown to be accurate across a million patients worldwide," says Tangri.

"I'm 41," explains Omeasoo. "One night I woke up. Next thing I couldn't breathe. They took these test EKGs. That's when my life changed. The doctor sat me down: 'you're at stage five. Kidney failure.'"

2 Triage

DETERMINING OPTIMAL PERSONALIZED TREATMENT PATHWAY

Blair Rutter benefited from the KFRE when his family physician diagnosed his chronic kidney disease (CKD) early on. Thanks to that doctor's early action and intervention, Blair can take medicine and make lifestyle changes that will hopefully give him years before he needs dialysis.

Through rapid access to the most appropriate care and resources, patients benefit and see improved outcomes. The CDIC works to improve system efficiencies, optimize resources, and reduce backlog so that patients like Blair can receive the care they need, when they need it.

"I first found out with my family doctor, who noticed high levels of creatinine in my blood. I'm grateful that my doctor was on the ball," says Rutter.

3 Treatment

PROVIDING ADVANCED AND IMPROVED CARE TO PATIENTS

Even with early diagnosis, some patients may reach end stage kidney disease and require dialysis. This is where Dr. Clara Bohm and the Triple I Program come into play.

Triple I works directly with the patients it aims to serve, integrating them directly into the research process to transform how care is delivered. It addresses their needs, making the care plan with them instead of simply for them. Patient satisfaction, compliance with plans, and patient outcomes all improve when researchers, medical care providers, and patients work together toward a common goal.

"We had five centres across Canada identify their top challenges of living with kidney disease and decided to focus on the top three. Based on this list, we are working with doctors across Canada to encourage improvements in Information, Interaction, and Individualization in kidney dialysis care," says Bohm.

Insight through Industry Partnerships

As a leading centre for patient research across a broad continuum of practices, the CDIC integrates a variety of strengths together, including industry partnerships. These partnerships are integral to the CDIC's vision of changing healthcare delivery. Two such partnerships include a First Nations-led screening program for chronic kidney disease (CKD) and a project that will focus on the evaluation of patients with two specific cardiovascular conditions.

Virtual Kidney Check and Follow-up initiative

In partnership with Research Manitoba, Boehringer Ingelheim (Canada) Ltd. and First Nations Health and Social Secretariat of Manitoba, CDIC is Optimizing First Nations Chronic Kidney Disease and Diabetes Care. The project will focus on the early identification and management of CKD and diabetes using a virtual follow-up model of the established Kidney Check program. This initiative marks a leading public-private collaboration in Indigenous healthcare in Canada, and aims to determine the most effective way to complete population-based screening for CKD in First Nations adults in Manitoba.

Evaluating important outcomes in Manitobans with ASCVD

Through an exciting and innovative collaboration with Novartis Canada and Research Manitoba, the CDIC is demonstrating how pharmaceutical and health tech industry partnerships can enhance patient outcomes. This initiative will focus on the evaluation of cholesterol treatment, cardiovascular events, and healthcare costs among Manitobans living with two specific conditions: atherosclerotic cardiovascular disease (ASCVD) and familial hypercholesterolemia (FH). The initiative marks an innovative public-private collaboration that will fulfil the need for real-world evidence for the treatment of ASCVD and FH.

The goal of the CDIC through these projects is to partner with industry, pharmaceutical companies, people with lived experiences, and health tech companies to improve patient health outcomes and reduce healthcare costs for Canadians. The CDIC recognizes the potential of these public-private partnerships in helping to transform how health care is understood and delivered.

Some of our industry partners



Highlights



5 Principal Investigators

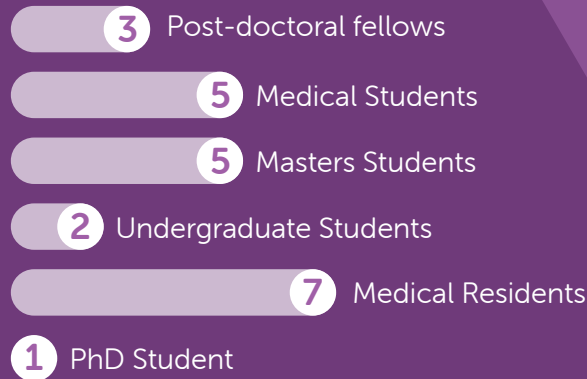
25

Supporting Team Members



23

Trainees



224

Individuals newly enrolled in a prospective trial during 2021 & 2022

8

Clinical trials

20

Conference Presentations

29



Big Data Analytics Projects

55



Research Articles

7



Can-SOLVE Projects

The stories that shaped 2021 & 22

Can-SOLVE CKD 2.0

As a follow up to the creation of the Kidney Failure Risk Equation (KFRE), an easy-to-use tool that enables early insight into kidney disease progression, the research team, led by Dr. Navdeep Tangri is now involved in a trial that will assess the effectiveness of a population-level kidney disease screening program in Manitoba that is similar to current cancer screening programs. This will ensure that individuals with high-risk chronic kidney disease will receive the intensity of care they require.

With Phase 1 of Can-SOLVE Network' Triple I program well underway toward addressing the top three challenges faced by those undergoing dialysis, the Mind the Gap research project addresses the need for improved mental health care and support for people receiving dialysis. Under the leadership of Dr. Clara Bohm, the research project focuses on providing individual, accessible, culturally-sensitive solutions to the mental health challenges they face. In particular, through a collaboration with Indigenous patient partners, Mind the Gap aims to align with Indigenous ways of knowing, being, and healing.

Kidney Check 2.0 aims to continue to provide early chronic kidney disease (CKD) risk assessment in rural and remote Indigenous communities. Research shows that early detection and intervention can delay the onset of kidney failure. Kidney Check, which launched in Manitoba has now been rolled out to Indigenous communities across Canada in a way that is unique to each community and its people. As the program continues to broaden its reach, the Kidney Check team, led in Manitoba by Dr. Paul Komenda, strives to align the program with existing health care systems for more efficient care delivery. The new iteration of this project will now include pediatric screening. Collectively, the efforts of Kidney Check aim to offer earlier, better, and more appropriate care, along with improved health outcomes, to Indigenous people living with kidney disease.

Medical Fitness Facility

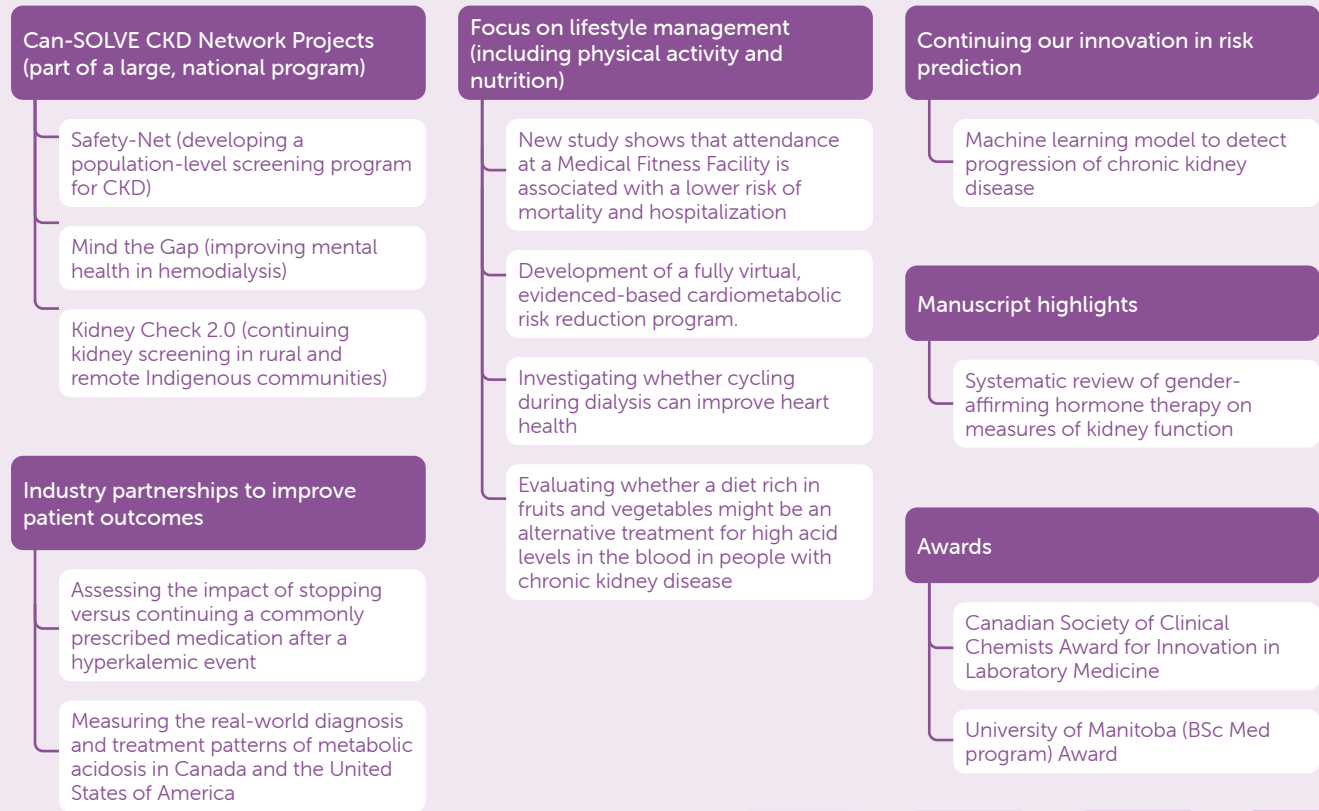
Researchers have now linked attendance at a Medical Fitness Facility with a lower risk of mortality and hospitalizations. The study, conducted by researchers from the CDIC, in collaboration with the Manitoba Centre for Health Policy (MCHP) at the University of Manitoba, matched new members of the Reh-Fit Center and The Wellness Institute against non-member participants in the study group based on age, sex, income, and health conditions. The team found that membership was associated with a 60% lower mortality and a 13% lower risk of hospitalizations compared to the general Winnipeg population who were not members over a 10-year period. Furthermore, among the study group, higher weekly attendance was associated with a lower risk of hospitalizations. For those who attended three or more times per week, the risk of all-cause hospitalizations dropped by 39%. This is the first study of its kind to measure the long-term benefits of membership at a Medical Fitness Facility.

Virtual lifestyle programming to limit collateral health damage from COVID-19 pandemic

CDIC researchers were already aware that geographic restrictions meant that certain people could not participate in evidence-based programs in Medical Fitness Facilities like the Wellness Institute. When COVID-19 restrictions further limited access to these health programs, the team at the CDIC contracted NexJ Health to develop a fully virtual, evidence-based cardiometabolic risk reduction program. The cardiometabolic risk reduction program closely followed the clinically-validated lifestyle medicine programs of the Wellness Institute. The program, offered digitally, aimed to help clients achieve healthy weight reduction, improving cardiometabolic risk. Each plan is personalized with a holistic approach that includes an exercise component, a nutrition program, and behaviour modification, all of which is supported by a health coach. The platform integrated a user's own health tracking apps and devices to track biometric data and monitor progress. While results are still under peer review, for the 95 individuals who enrolled, this 16-week program demonstrated good adherence to the program and improved health outcomes.



Our Stories at a Glance



Systematic review of gender-affirming hormone therapy on measures of kidney function

A team of CDIC researchers, led by Dr. David Collister, conducted a systematic review to assess the effect of gender-affirming hormone therapy on measures of kidney function. The team found that gender-affirming hormone therapy increases serum creatinine in transgender men and does not affect serum creatinine in transgender women. The effect on gender-affirming hormone therapy on other kidney function biomarkers is unknown. The article discussing this review was chosen as one of only five Editors' Choice Articles of the Clinical Journal of the American Society of Nephrology for 2022, selected for this prestigious recognition because of its potential to directly impact clinical practice.

Trial of Intradialytic Cycling as Kidney Exercise Rehabilitation for Cardiac Stunning in Hemodialysis – (TICKERS_HD)

A CDIC team is undertaking a randomized controlled trial to determine the true effect of aerobic exercise on cardiac stunning (contraction of segments of the heart) during hemodialysis. For patients with kidney failure, hemodialysis sustains life by removing toxins and maintaining fluid balance, however, it is associated with poor quality of life and adverse outcomes. Cardiac failure and cardiovascular death are extremely prevalent in patients on dialysis. In previous studies, exercise during hemodialysis decreased the amount of heart stunning that occurred with treatment and has been identified as a potential intervention to reduce the risk of cardiovascular death. This study is seeking to discover whether cycling during hemodialysis reduces dialysis-related cardiac stunning, post-dialysis fatigue, and symptom burden on people in hemodialysis compared to usual care. While

the study does not finish until 2024, the team hopes it will help provide better health outcomes for people receiving dialysis. Improvements in such health outcomes are important for individual health and could also reduce burden and costs to the health care system. Funding to purchase the echocardiograms to measure heart stunning was provided by the SOGH Foundation.

Reducing dietary acid with fruit and vegetables versus oral alkali in people with chronic kidney disease (ReDACKD):

A CDIC team took the problem of metabolic acidosis, which is a common development in those who live with chronic kidney disease, and looked at it through a new lens. Metabolic acidosis occurs when there is too much acid in the blood and is associated with faster progression of kidney disease and an increased need for dialysis. Where conventional treatment of acidosis uses a medication that is poorly tolerated by many patients, the CDIC team is investigating whether fruits and vegetables might be an alternative treatment to reduce acid levels in the blood. This initial study will determine the feasibility for a broader trial.

Continuing our innovation in risk prediction

In 2011, Dr. Navdeep Tangri developed and validated the Kidney Failure Risk Equation (KFRE) – a simple equation using four pieces of patient information to predict future risk of kidney failure, which has become a global standard for informing patients of their risk of kidney failure.

In 2021-22, the CDIC research team developed a new machine-learning model to detect progression of chronic kidney disease. The model was developed in a population-based cohort from Manitoba and validated in a population-based cohort from Alberta. The model aims to predict the probability of a 40% decline in kidney function using more than 80 different laboratory tests that are routinely ordered by physicians. The model was rigorously tested and was shown to be highly accurate.

This model has both research and clinical applications. A 40% decline in kidney function is often a primary outcome in clinical trials, so this model can help plan timelines and enrolment. In clinical practice, it has the potential to identify patients at higher risk for loss of kidney function much

earlier in the course of their disease where pharmacological and lifestyle interventions can be more beneficial.

Like the KFRE, this model shows patients their risk in a 2- or 5-year period. Unlike the KFRE, this model is valid for patients with normal kidney function, so it can be used much sooner in the trajectory of kidney disease. The KFRE is widely used for patient education and resource planning in nephrology clinics and dialysis centers worldwide. It is our hope that this new risk prediction model can be just as successful as the KFRE with regard to its impact on patient care.

Awards

The Canadian Society of Clinical Chemists Award for Innovation in Laboratory Medicine: The CSCC recognized the CDIC's Kidney Check Program with the 2021 Award for Innovation in Laboratory Medicine, sponsored by Roche Diagnostics. Kidney Check is a comprehensive program of screening, triage, and treatment to bring preventative kidney care to rural and remote Indigenous communities across several Canadian provinces. The CSCC Award for Innovation is offered to Kidney Check because the collaboration between CDIC, University of Manitoba, Shared Health Diagnostic Services, and First Nations Health and Social Secretariat of Manitoba has resulted in a truly innovative and effective program to improve healthcare in Canada.

Top BSc (Med) Reports submitted for 2021:

Each year, select students from the University of Manitoba BSc (Med) program conduct research under the supervision of CDIC Principal Investigators. In 2021 one of these students received a prestigious award recognizing the importance of their research:

RECIPIENT Kulwant Kingra

PROJECT A randomized double-blind cross-over trial to study the effects of resistant starch prebiotic in chronic kidney disease (ReSPECKD)

Working with industry to improve patient outcomes

Our relationship with industry partners has continued to produce work that has had a global impact and culminated in several publications in high-impact kidney health journals, including:

Hyperkalemia-related discontinuation of renin-angiotensin-aldosterone system inhibitors and clinical outcomes in CKD: a population-based cohort study.

Leon SJ, Whitlock R, Rigatto C, Komenda P, Bohm C, Sucha E, Bota SE, Tuna M, Collister D, Sood M, Tangri N.

American Journal of Kidney Diseases, 2022 Aug 1;80(2):164-73.

This study was the cover story for the August 2022 issue of the American Journal of Kidney Diseases. It addresses an important clinical decision that nephrologists often face with patients, but, prior to this study did not have good data available to inform their decision.

A standard of care for patients with chronic kidney disease is treatment with renin-angiotensin-aldosterone system (RAAS) inhibitors, which lower blood pressure, help preserve kidney function, prevent cardiovascular events, and extend life. However, one of the side effects of these drugs can be hyperkalemia, which is dangerously high potassium in the blood that can lead to cardiovascular-related hospitalizations, and sometimes death. If a patient shows signs of high potassium, it is common practice to stop RAAS inhibitor treatment until potassium returns to normal levels. But then clinicians are faced with an important dilemma: Do they restart patients on RAAS inhibitors so the patient can benefit from their positive effects, or do they discontinue RAAS inhibitors permanently in order to not risk another hyperkalemia event?

To answer this question, we developed an investigator-initiated big data study using historical population-level data in two Canadian provinces, funded by AstraZeneca.

We found that RAAS inhibitor discontinuation was associated with a higher risk of death and cardiovascular events. We also found that the higher the dose of RAAS inhibitors, the better the benefit to mortality and cardiovascular risk reduction. The conclusion, therefore, was that strategies to maintain RAAS inhibitor continuity after hyperkalemia may improve clinical outcomes.

Metabolic acidosis is undertreated and underdiagnosed: a retrospective cohort study

Whitlock R, Ferguson T, Komenda P, Rigatto C, Collister D, Bohm C, Reaven N, Funk S, Tangri, N.

Nephrology Dialysis Transplantation, 2022 Nov 2 (Online, ahead of print).

One of the main functions of the kidney is to control acid levels in the blood. For people whose kidneys are not working well, the acid can begin building up in the body, leading to a condition called metabolic acidosis, which can cause muscle loss, bone weakness, higher risk of cardiovascular events and a more rapid progression to kidney failure. While guidelines recommend treating metabolic acidosis with sodium bicarbonate (baking soda tablets), most patients with metabolic acidosis receive no treatment. Previous studies show that this is because physicians may be hesitant to diagnose patients with metabolic acidosis due to a lack of recognition of the disease or understanding of its associated risks. However, these studies were based on smaller samples, and we wanted to know whether this was true across a broad sample of North American chronic kidney disease patients.

To answer this question, we took the lead in designing a big data study using historical population-level data in Manitoba and electronic medical records and claims data from a large nationwide sample in the United States, funded by Tricida Inc.

We found only 8-18% of patients with chronic kidney disease and laboratory-confirmed metabolic acidosis were ever treated with sodium bicarbonate and only 20%–45% had a diagnosis in administrative records. These results highlighted a potential unmet need for treatment of metabolic acidosis and that efforts to educate physicians about the importance of metabolic acidosis are an important next step to help these patients.



Publications and presentations

Publications 2021

Safety of add-on sulfonylurea therapy in patients with type 2 diabetes using metformin: a population-based real-world study.

Hougen I, Whitlock RH, Komenda P, Rigatto C, Clemens KK, Tangri N.

BMJ Open Diabetes Research and Care. 2021 Dec 1;9(2):e002352.
<http://dx.doi.org/10.1136/bmjdr-2021-002352>

Can chronic kidney disease lead to chronic heart failure, and does worsening chronic heart failure lead to chronic kidney disease progression.

Leon SJ, Tangri N.

Current Opinion in Nephrology and Hypertension. 2022 Mar 1;31(2):205-11.
<https://doi.org/10.1097/MNH.0000000000000778>

Chronic kidney disease, physical activity and cognitive function in older adults—results from the National Health and Nutrition Examination Survey (2011–2014).

Chu NM, Hong J, Harasemiw O, Chen X, Fowler KJ, Dasgupta I, Bohm C, Segev DL, McAdams-DeMarco MA, Global Renal Exercise Network.

Nephrology Dialysis Transplantation. 2022 Nov;37(11):2180-9.
<https://doi.org/10.1093/ndt/gfab338>

Physical activity and exercise in peritoneal dialysis: International Society for Peritoneal Dialysis and the Global Renal Exercise Network practice recommendations.

Bennett PN, Bohm C, Harasemiw O, Brown L, Gabrys I, Jegatheesan D, Johnson DW, Lambert K, Lightfoot CJ, MacRae J, Meade A, Parker K, Scholes-Robertson N, Stewart K, Tarca B, Verdin N, Wang AYM, Warren M, West M, Zimmerman D, Li PKT, Thompson S.

Peritoneal Dialysis International. 2022 Jan;42(1):8-24.
<https://doi.org/10.1177/08968608211055290>

Change in physical activity and function in patients with baseline advanced Nondialysis CKD.

Rampersad C, Darcel J, Harasemiw O, Brar RS, Komenda P, Rigatto C, Prasad B, Bohm C, Tangri N.

Clinical Journal of the American Society of Nephrology. 2021 Dec 1;16(12):1805-12.
<https://doi.org/10.2215/CJN.07050521>

Opioids and the risk of motor vehicle collision: a systematic review.

Leon SJ, Trachtenberg A, Briscoe D, Ahmed M, Hougen I, Askin N, Whitlock R, Ferguson T, Tangri N, Rigatto C, Komenda P.

Journal of pharmacy technology. 2022 Feb;38(1):54-62.
<https://doi.org/10.1177/87551225211059926>

Percutaneous versus surgical insertion of peritoneal dialysis catheters: a systematic review and meta-analysis.

Agarwal A, Whitlock RH, Bamforth RJ, Ferguson TW, Sabourin JM, Hu Q, Armstrong S, Rigatto C, Tangri N, Dunsmore S, Komenda P.

Canadian Journal of Kidney Health and Disease. 2021 Nov;8:20543581211052731.
<https://doi.org/10.1177/20543581211052731>

Patient, caregiver, and provider perspectives on improving information delivery in hemodialysis: a qualitative study.

Ferreira da Silva P, Talson MD, Finlay J, Rossum K, Soroka KV, McCormick M, Desjarlais A, Vorster H, Fontaine G, Sass R, James M, Sood MMS, Tong A, Pannu N, Tennankore K, Thompson S, Tonelli M, Bohm C.

Canadian Journal of Kidney Health and Disease. 2021 Oct;8:20543581211046078.
<https://doi.org/10.1177/20543581211046078>

Addressing feasibility challenges to delivering intradialytic exercise interventions: a theory-informed qualitative study.

Castillo G, Pousseau J, Wilson M, Cook C, Field B, Garg AX, McIntyre C, Molnar AO, Hogeterp B, Thornley M, Thompson S, MacRae J, Bohm C.

Nephrology Dialysis Transplantation. 2022 Mar;37(3):558-74.
<https://doi.org/10.1093/ndt/gfab228>

Voicing individual concerns for engagement in hemodialysis (VOICE-HD): a mixed method, randomized pilot trial of digital health in dialysis care delivery.

Thompson S, Schick-Makaroff K, Bello A, Tonelli M, Wiebe N, Buzinski R, Courtney M, Szigety S, Shah N, Bohm C.

Canadian Journal of Kidney Health and Disease. 2021 Jul;8:20543581211032857.
<https://doi.org/10.1177/20543581211032857>

Metabolic acidosis and cardiovascular disease in CKD.

Collister D, Ferguson TW, Funk SE, Reaven NL, Mathur V, Tangri N.

Kidney medicine. 2021 Sep 1;3(5):753-61.
<https://doi.org/10.1016/j.xkme.2021.04.011>

The association between income status and treatment selection for prostate cancer in a universal health care system: a population-based analysis.

Oake JD, Harasemiw O, Tangri N, Ferguson TW, Saranchuk JW, Bansal RK, Drachenberg DE, Nayak JG.

The Journal of urology. 2021 Nov;206(5):1204-11.
<https://doi.org/10.1097/JU.0000000000001942>

Impact of a screen, triage and treat program for identifying chronic disease risk in Indigenous children.

Frejuk KL, Harasemiw O, Komenda P, Lavallee B, McLeod L, Chartrand C, Di Nella M, Ferguson TW, Martin H, Wicklow B, Dart AB.

CMAJ. 2021 Sep 13;193(36):E1415-22.
<https://doi.org/10.1503/cmaj.210507>

Association of Membership at a Medical Fitness Facility With Adverse Health Outcomes.

Brar R, Katz A, Ferguson T, Whitlock RH, Di Nella M, Bohm C, Rigatto C, Tangri N, Boreskie S, Nishi C, Solmundson C, Marshall J, Kosowan L, Lamont D, Komenda P.

American Journal of Preventive Medicine. 2021 Nov 1;61(5):e215-24.
<https://doi.org/10.1016/j.amepre.2021.05.011>

Costs of assisted home dialysis: a single-payer Canadian model from Manitoba.

Bamforth RJ, Beaudry A, Ferguson TW, Rigatto C, Tangri N, Bohm C, Komenda P.

Kidney Medicine. 2021 Nov 1;3(6):942-50.
<https://doi.org/10.1016/j.xkme.2021.04.019>

Initial and recurrent hyperkalemia events in patients with CKD in older adults: a population-based cohort study.

Sriperumbuduri S, McArthur E, Hundemer GL, Canney M, Tangri N, Leon SJ, Bota S, Bugeja A, Akbari A, Knoll G, Sood MM.

Canadian Journal of Kidney Health and Disease. 2021 May;8:20543581211017408.
<https://doi.org/10.1177/20543581211017408>

Accounting for the competing risk of death to predict kidney failure in adults with stage 4 chronic kidney disease.

Al-Wahsh H, Tangri N, Quinn R, Liu P, Ferguson T, Fiocco M, Lam NN, Tonelli M, Ravani P.

JAMA network open. 2021 May 3;4(5):e219225-
<https://doi.org/10.1001/jamanetworkopen.2021.9225>

Metabolic acidosis is associated with increased risk of adverse kidney outcomes and mortality in patients with non-dialysis dependent chronic kidney disease: an observational cohort study.

Tangri N, Reaven NL, Funk SE, Ferguson TW, Collister D, Mathur V.

BMC nephrology. 2021 May 19;22(1):185.
<https://doi.org/10.1186/s12882-021-02385-z>

Strategies to prevent hospital readmission and death in patients with chronic heart failure, chronic obstructive pulmonary disease, and chronic kidney disease: A systematic review and meta-analysis.

Bamforth RJ, Chhibba R, Ferguson TW, Sabourin J, Pieroni D, Askin N, Tangri N, Komenda P, Rigatto C.

Plos one. 2021 Apr 22;16(4):e0249542.
<https://doi.org/10.1371/journal.pone.0249542>

Kidney check point-of-care testing—furthering patient engagement and patient-centered care in Canada's Rural and Remote Indigenous Communities: program report.

Curtis S, Martin H, DiNella M, Lavallee B, Chartrand C, McLeod L, Woods C, Dart A, Tangri N, Rigatto C, Komenda P.

Canadian Journal of Kidney Health and Disease. 2021 Mar;8:20543581211003744.
<https://doi.org/10.1177/20543581211003744>

Effects of a knowledge-translation intervention on early dialysis initiation: A cluster randomized trial.

Tangri N, Garg AX, Ferguson TW, Dixon S, Rigatto C, Allu S, Chau E, Komenda P, Naimark D, Nesrallah GE, Soroka SD., Beaulieu M, Alam A, Kim J, Sood MMS, Manns B.

Journal of the American Society of Nephrology. 2021 Jul 1;32(7):1791-800.
<https://doi.org/10.1681/ASN.2020091254>

Impact of point-of-care screening for hypertension, diabetes and progression of chronic kidney disease in rural Manitoba Indigenous communities.

Harasemiw O, Ferguson T, Lavallee B, McLeod L, Chartrand C, Rigatto C, Tangri N, Dart A, Komenda P.

CMAJ. 2021 Jul 19;193(28):E1076-84.
<https://doi.org/10.1503/cmaj.201731>

Hyperkalemia and its association with mortality, cardiovascular events, hospitalizations, and intensive care unit admissions in a population-based retrospective cohort.

Hougen I, Leon SJ, Whitlock R, Rigatto C, Komenda P, Bohm C, Tangri N.

Kidney international reports. 2021 May 1;6(5):1309-16.
<https://doi.org/10.1016/j.ekir.2021.02.038>

Can chronic kidney disease lead to chronic heart failure, and does worsening chronic heart failure lead to chronic kidney disease progression.

Leon SJ, Tangri N.

Current Opinion in Nephrology and Hypertension. 2022 Mar 1;31(2):205-11

<https://doi.org/10.1097/MNH.0000000000000778>

The Kidney Check program—championing patient-centered, culturally safe, preventive kidney care in Canada’s rural and remote Indigenous communities.

Curtis S, Collister D, Martin H, Sokoro AR, McLeod L, Chartrand C, Lavallee B, Woods C, Levin A, Komenda P.

Ejifcc. 2021 Feb;32(1):61.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7941067/>

Effect of aerobic exercise on dialysis-related symptoms in individuals undergoing maintenance hemodialysis: A systematic review and meta-analysis of clinical trials.

Hargrove N, El Tobgy N, Zhou O, Pinder M, Plant B, Askin N, Bieber L, Collister D, Whitlock R, Tangri N, Bohm C.

Clinical Journal of the American Society of Nephrology. 2021 Apr 7;16(4):560-74.

<https://doi.org/10.2215/CJN.15080920>

Provider perception of frailty is associated with dialysis decision making in patients with advanced CKD.

Brar RS, Whitlock RH, Komenda PV, Rigatto C, Prasad B, Bohm C, Tangri N.

Clinical Journal of the American Society of Nephrology. 2021 Apr 7;16(4):552-9

<https://doi.org/10.2215/CJN.12480720>

Ambulatory treatments for RAAS inhibitor-related hyperkalemia and the 1-year risk of recurrence.

Hundemer GL, Talarico R, Tangri N, Leon SJ, Bota SE, Rhodes E, Knoll GA, Sood MM.

Clinical Journal of the American Society of Nephrology. 2021 Mar 8;16(3):365-73.

<https://doi.org/10.2215/CJN.12990820>

CDIC conference abstracts and presentations 2021

- | | |
|--|---|
| 3 American Society of Nephrology Kidney Week | 1 International Society of Nephrology World Congress of Nephrology |
| 1 Canadian Urologic Association Annual General Meeting | 1 Canadian Nutrition Society Conference |
| 1 Canadian Cardiovascular Congress | 1 British Columbia Kidney Week |
| 1 Canadian Society of Nephrology Annual General Meeting | |

Publications 2022

Kidney function and the comparative effectiveness and safety of direct oral anticoagulants vs. warfarin in adults with atrial fibrillation: a multicenter observational study.

Jun M, Scaria A, Andrade J, Badve SV, Birks P, Bota SE, Campaign A, Djurdjev O, Garg AX, Ha J, Harel Z, Hemmelgarn B, Hockham C, James M, Jardine M, Levin A, McArthur E, Ravani P, Shao S, Sood MMS, Tan Z, Tangri N, Whitlock R, Gallagher M.

European Heart Journal-Quality of Care and Clinical Outcomes. 2022 Oct 27. <https://doi.org/10.1093/ehjqcco/qcac069>

Risk Prediction in Chronic Kidney Disease.

Samuels J, Connelly K, Tangri N.

Evidence-Based Nephrology. 2022 Dec 2;1:60-71. <https://doi.org/10.1002/9781119105954.ch5>

Transportation Burden Associated With Hemodialysis in Canada: A Qualitative Study of Stakeholders.

Lewis RA, Bohm C, Fraser F, Fraser R, Woytkiw L, Jurgutis S, Rubin M, Smith G, Buenafe J, Verdin N, Hutton J, Tonelli, M.

Kidney Medicine. 2023 Feb 1;5(2):100571. <https://doi.org/10.1016/j.xkme.2022.100571>

A machine learning model to predict diuretic resistance.

Mercier JA, Ferguson TW, Tangri N.

Kidney360. 2023 Jan 1;4(1):15-22.

<https://doi.org/10.34067/KID.0005562022>

Dietary Patterns and Perceptions in Older Adults With Chronic Kidney Disease in the Canadian Frailty Observation and Interventions Trial (CanFIT): A Mixed-Methods Study.

Sin D, Harasemiw O, Curtis S, Iman Y, Buenafe J, DaCosta J, Mollard RC, Tangri N, Protudjer JL, MacKay D.

Canadian Journal of Kidney Health and Disease. 2022 Nov;9:20543581221140633.

<https://doi.org/10.1177/20543581221140633>

Metabolic acidosis is undertreated and underdiagnosed: a retrospective cohort study.

Whitlock RH, Ferguson TW, Komenda P, Rigatto C, Collister D, Bohm C, Reaven NL, Funk SE, Tangri N.

Nephrology Dialysis Transplantation. 2022 Nov 2.

<https://doi.org/10.1093/ndt/gfac299>

Patient Navigators for CKD and Kidney Failure: A Systematic Review.

Taha A, Iman Y, Hingwala J, Askin N, Mysore P, Rigatto C, Bohm C, Komenda P, Tangri N, Collister D.

Kidney Medicine. 2022 Aug 24:100540.

<https://doi.org/10.1016/j.xkme.2022.100540>

The effect of gender-affirming hormone therapy on measures of kidney function: A systematic review and meta-analysis.

Krupka E, Curtis S, Ferguson T, Whitlock R, Askin N, Millar AC, Dahl M, Fung R, Ahmed SB, Tangri N, Walsh M.

Clinical Journal of the American Society of Nephrology. 2022 Sep 1;17(9):1305-15.

<https://doi.org/10.2215/CJN.01890222>

Patient views regarding cannabis use in chronic kidney disease and kidney failure: a survey study.

Collister D, Herrington G, Delgado L, Whitlock R, Tennankore K, Tangri N, Goupil R, Nadeau-Fredette AC, Davison SN, Wald R, Walsh M.

Nephrology Dialysis Transplantation. 2022 Jul 26:gfac226.

<https://doi.org/10.1093/ndt/gfac226>

Risk of CKD progression and quality-of-care indicators in the primary care setting.

Yuen J, Harasemiw O, Singer A, Bello A, Ronksley PE, Bohm C, Drummond N, Tangri N.

American Journal of Kidney Diseases. 2023 Feb 1;81(2):247-9.

<https://doi.org/10.1053/j.ajkd.2022.07009>

Metabolic acidosis is associated with acute kidney injury in patients with CKD.

Zhu A, Whitlock RH, Ferguson TW, Nour-Mohammadi M, Komenda P, Rigatto C, Collister D, Bohm C, Reaven NL, Funk SE, Tangri N.

Kidney International Reports. 2022 Oct 1;7(10):2219-29.

<https://doi.org/10.1016/j.ekir.2022.07005>

The Effects of Resistant Starch Consumption in Adult Patients With Chronic Kidney Disease: A Systematic Review.

Kingra K, Curtis S, Mollard RC, Shamloo M, Askin N, Tangri N, MacKay D.

Canadian Journal of Kidney Health and Disease. 2022 Jul;9:20543581221100023.

<https://doi.org/10.1177/20543581221100023>

Physical Function in Adults With Metabolic Acidosis and Advanced CKD: Patient Reported Versus Assessed Physical Function.

Tangri N, Walker M, Ferguson TW, Mathur V.

Kidney Medicine. 2022 Sep 1;4(9).

<https://doi.org/10.1016/j.xkme.2022.100518>

Prevalence, outcomes, and cost of chronic kidney disease in a contemporary population of 2- 4 million patients from 11 countries: the CaReMe CKD study.

Sundström J, Bodegard J, Bollmann A, Vervloet MG, Mark PB, Karasik A, Taveira-Gomes T, Botana M, Birkeland KI, Thureson M, Jäger L, Sood MM, VanPottelbergh G, Tangri N, the CaReMe CKD Investigators.

The Lancet Regional Health–Europe. 2022 Sep 1;20.

<https://doi.org/10.1016/j.lanepe.2022.100438>

Balancing hyperkalemia risks with clinical benefits of RAASi/MR blockade: It's apples and oranges.

Leon SJ, Tangri N.

Kidney360. 2022 Jan 1.

<https://doi.org/10.34067/KID.0000952022>

Development and External Validation of a Machine Learning Model for Progression of CKD.

Ferguson T, Ravani P, Sood MM, Clarke A, Komenda P, Rigatto C, Tangri N.

Kidney International Reports. 2022 Aug 1;7(8):1772-81.

<https://doi.org/10.1016/j.ekir.2022.05.004>

Addressing Inequities in Kidney Care for Indigenous People in Canada.

Harasemiw O, Komenda P, Tangri N.

Journal of the American Society of Nephrology. 2022 Aug 1;33(8):1474-6.

<https://doi.org/10.1681/ASN.2022020215>

Calculated versus measured albumin-creatinine ratio to predict kidney failure and death in people with chronic kidney disease.

Al-Wahsh H, Lam NN, Quinn RR, Ronksley PE, Sood MM, Hemmelgarn B, Tangri N, Ferguson T, Tonelli M, Ravani P, Liu P.

Kidney International. 2022 Jun 1;101(6):1260-70.
<https://doi.org/10.1016/j.kint.2022.02.034>

Cost of healthcare utilization associated with incident cardiovascular and renal disease in individuals with type 2 diabetes: A multinational, observational study across 12 countries.

Norhammar A, Bodegard J, Eriksson JW, Haller H, Linssen GC, Banerjee A, Karasik A, Mamouris P, Tangri N, Taveira-Gomes T, Maggioni AP, Botana M, Thuresson M, Okami S, Yajima T, Kadowaki T, Birkeland KI, CaReMe Cardiorenal Investigators.

Diabetes, obesity and metabolism. 2022 Jul;24(7):1277-87.
<https://doi.org/10.1111/dom.14698>

Multifaceted intervention to increase the use of home dialysis: A cluster randomized controlled trial.

Manns BJ, Garg AX, Sood MM, Ferguson T, Kim SJ, Naimark D, Nesrallah GE, Soroka SD, Beaulieu M, Dixon SN, Alam A, Allu S, Tangri N.

Clinical Journal of the American Society of Nephrology. 2022 Apr 1;17(4):535-45.
<https://doi.org/10.2215/CJN.13191021>

Prescription patterns of sodium and calcium polystyrene sulfonate in patients with hyperkalemia and chronic kidney disease receiving RAAS inhibitors.

Ren H, Leon SJ, Whitlock R, Rigatto C, Komenda P, Bohm C, Collister D, Tangri N.

Clinical Kidney Journal. 2022 Sep;15(9):1713-9.
<https://doi.org/10.1093/ckj/sfac077>

Association of metabolic acidosis with fractures, falls, protein-calorie malnutrition and failure to thrive in patients with chronic kidney disease.

Mathur V, Reaven NL, Funk SE, Whitlock R, Ferguson TW, Collister D, Tangri N.

Clinical Kidney Journal. 2022 Jul;15(7):1379-86.
<https://doi.org/10.1093/ckj/sfac065>

Role of artificial intelligence in the diagnosis and management of kidney disease: applications to chronic kidney disease and acute kidney injury.

Tangri N, Ferguson TW.

Current Opinion in Nephrology and Hypertension. 2022 May 1;31(3):283-7. <https://doi.org/10.1097/MNH.0000000000000787>

Patient Perspectives on Integrating Risk Prediction Into Kidney Care: Opinion Piece.

Sparkes D, Lee L, Rutter B, Harasemiw O, Thorsteinsdottir B, Tangri N.

Canadian Journal of Kidney Health and Disease. 2022 Mar;9:20543581221084522.
<https://doi.org/10.1177/20543581221084522>

Artificial intelligence in the identification, management, and follow-up of CKD.

Tangri N, Ferguson TW.

Kidney360. 2022 Mar 3;3(3):554.
<https://doi.org/10.34067/KID.0007572021>

A randomized double-blind cross-over trial to study the effects of resistant starch prebiotic in chronic kidney disease (ReSPECKD).

Shamloo M, Mollard R, Wang H, Kingra K, Tangri N, MacKay D.

Trials. 2022 Dec;23(1):1-2.
<https://doi.org/10.1186/s13063-022-06009-1>

Hyperkalemia-related discontinuation of renin-angiotensin-aldosterone system inhibitors and clinical outcomes in CKD: a population-based cohort study.

Leon SJ, Whitlock R, Rigatto C, Komenda P, Bohm C, Sucha E, Bota SE, Tuna M, Collister D, Sood M, Tangri N.

American Journal of Kidney Diseases. 2022 Aug 1;80(2):164-73.
<https://doi.org/10.1053/j.ajkd.2022.01.002>

CDIC conference abstracts and presentations 2022

- 1 International Society of Nephrology World Congress of Nephrology
- 1 Annual Dialysis Conference
- 5 Canadian Society of Nephrology Annual General Meeting
- 2 National Kidney Foundation Spring Clinical Meeting

- 1 The Renal Research Institute International Conference on Dialysis
- 5 American Society of Nephrology Kidney Week
- 1 American Urological Association Annual Conference
- 1 Canadian Nutrition Society Conference
- 1 American College of Cardiology Conference

Media interviews

Healio

September 7, 2022

Patient navigators improve CKD outcomes, more research needed

<https://www.healio.com/news/nephrology/20220829/patient-navigators-improve-ckd-outcomes-more-research-needed>

October 10, 2022

'Major care gaps' found in treatment for patients with CKD in primary care clinics

<https://www.healio.com/news/nephrology/20221007/major-care-gaps-found-in-treatment-for-patients-with-ckd-in-primary-care-clinics>

October 19, 2022

Clinicians push for a conservative path forward on initiating dialysis

<https://www.healio.com/news/nephrology/20221004/clinicians-push-for-a-conservative-path-forward-on-initiating-dialysis>

November 17, 2022

Potassium monitoring device saves money, increases quality of life in patients on dialysis

<https://www.healio.com/news/nephrology/20221117/potassium-monitoring-device-saves-money-increases-quality-of-life-in-patients-on-dialysis>

November 07, 2022

Early diagnosis of CKD can slow eGFR decline

<https://www.healio.com/news/nephrology/20221107/early-diagnosis-of-ckd-can-slow-egfr-decline>

Winnipeg Free Press

April 14, 2021

Docs develop kidney disease detector

<https://changinghealthcaredelivery.ca/manitoba-doctors-develop-cutting-edge-mobile-kidney-disease-detector/>

December 13, 2021

Feeling your oats? Local study targets blood pressure impacts of beta-glucan fibre

<https://changinghealthcaredelivery.ca/feeling-your-oats-local-study-targets-blood-pressure-impacts-of-beta-glucan-fibre/>

CTV

April 20, 2021

U of M collaboration aims to maximize kidney disease screening through micro device

<https://winnipeg.ctvnews.ca/u-of-m-collaboration-aims-to-maximize-kidney-disease-screening-through-micro-device-1.5395291?cache=%2F7464757>

October 12, 2021

The benefits of medical fitness memberships

<https://winnipeg.ctvnews.ca/video?clipId=2299693>

Grants awarded

Canadian Institutes of Health Research Project Scheme

Trial of intradialytic cycling as kidney exercise rehabilitation for cardiac stunning in hemodialysis (TICKERS_KD)

Dr. Clara Bohm

\$439,874

Canadian Institutes of Health Research COVID-19 Research Gaps and Priorities

A pragmatic randomized controlled trial of a CKD specific tele-monitoring platform to minimize adverse outcomes in high risk CKD

Dr. Claudio Rigatto

\$562,275

Canadian Institutes of Health Research Project Grant – Priority Announcement: Patient-Oriented Research

Dialysis Symptom Control-Pruritus Outcome Trial (DISCO-POT)

Dr. David Collister

\$100,000

Team Grant: Diabetes Mechanisms and Translational Solutions – LOI

Reducing dietary acid with fruit and vegetables in individuals with Diabetes and Chronic Kidney Disease (RaVe-DKD) trial

Dr. Navdeep Tangri; Dr Rebecca Mollard; Dr. Dylan MacKay

\$10,000

National Kidney Foundation

National Kidney Foundation Patient Network and Registry:
Canadian expansion

Dr. Navdeep Tangri
\$30,000

Canadian Institutes of Health Research (CIHR) Spring Project Scheme

Responsiveness of urEmic sympToms to DIALYSIS (RESET-DIALYSIS)

Dr. David Collister
\$321,300

Kidney Foundation of Canada: Kidney Health Research Grant

Dietary potassium liberalization in pre-dialysis patients.

Dr. Navdeep Tangri; Dr. Dylan MacKay; Dr. Rebecca Mollard
\$150,000

Canadian Institutes of Health Research (CIHR) Spring Project Scheme

Reducing dietary acid with fruit and vegetables versus oral alkali in people with Chronic Kidney Disease (ReDACKD) feasibility trial

Dr. Dylan MacKay; Dr. Navdeep Tangri; Dr. Rebecca Mollard.
\$100,000

Canadian Institutes of Health Research (CIHR) Fall Project Scheme

Reducing dietary acid with fruit and vegetables versus oral alkali in people with Chronic Kidney Disease (ReDACKD).

\$320,000

Dr. Navdeep Tangri; Dr. Rebecca Mollard; Dr. Dylan MacKay

Canadian Institutes of Health Research (CIHR) SPOR – Can-SOLVE CKD 2.0

Mind the Gap: Addressing Mental Health Care Gaps for Canadians Receiving Facility-Based Hemodialysis

\$400,000

Dr. Clara Bohm

Canadian Institutes of Health Research (CIHR) SPOR – Can-SOLVE CKD 2.0

SAFE-CKD – Designing and implementing a safety net surveillance program for high risk CKD

\$400,000

Dr. Navdeep Tangri

Canadian Institutes of Health Research (CIHR) SPOR – Can-SOLVE CKD 2.0

Kidney Check Program 2.0 Integrated Community Based Care for CKD and risk factors in Remote Indigenous Communities

\$400,000

Co-PI: Dr. Paul Komenda

Gardener's Grove 2023 - Cultivating Large Pragmatic Trials to Improve Hemodialysis Care

Finding the right blood pressure target for patients on dialysis: A cluster randomized trial.

\$50,000

Dr. Navdeep Tangri

Manitoba Egg Farmers

High protein egg white pudding food product for people with kidney failure (HiPE-KF)

\$109,144

Dr. Navdeep Tangri, Dr. Rebecca Mollard, Dr. Dylan MacKay

Otsuka Grants, Donations and Sponsorship Committee

Canadian Expert Consensus: CKD Associated Pruritis

\$150,707

Dr. Claudio Rigatto

Medical Fitness Foundation

Healthy Aging Cohort in Manitoba

\$10,000 (USD)

Wellness Institute – Carrie Solmundson

The Canadian Nephrology Trials Network (CNTN) Financial Assistance

Cognition in kidney disease: Identifying research priorities relevant to people living with chronic kidney disease

\$10,000

Dr. Clara Bohm

Who we are

With a vision to change healthcare delivery, the CDIC launched in 2015. Backed with support and equipped with the resources and space needed to expand high-impact research, the CDIC’s team of researchers had the foundation they needed to take on innovative and state-of-the-art novel research projects – research that works at the speed of business.

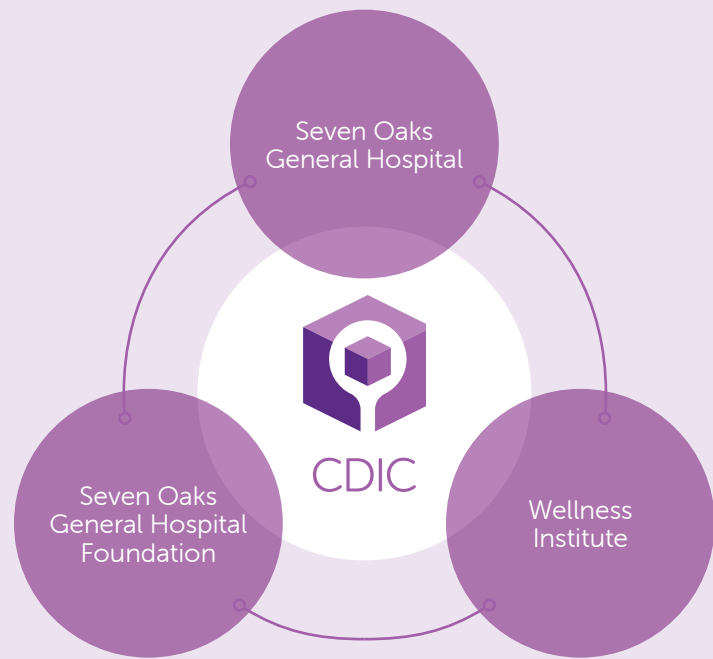
The CDIC’s multidisciplinary skills are a unique advantage, with staff members trained in areas such as psychology, business, nutrition, statistics, and project management, along with clinical and medical expertise. And if a strong team isn’t enough, CDIC has also developed flourishing collaborative networks with local, national, and international partners.

As an independent non-profit corporation, CDIC provides a hub for clinicians and researchers to work together with business, industry, and patient partners, positively impacting everything from patient care to improving business operations.



Our Team Members

- CEO
- Principal Investigators
- Research Manager
- Project Manager
- Business Manager
- Administrative Support
- Research Coordinators
- Biostatisticians
- Research Clerks
- Health Economists
- Business Development Specialist



Health Authorities
Technology Partners
Trainees
Physicians

Research Community
Patients
International Community

Government
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Communities
Universities

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Research
Manitoba



kidney
FOUNDATION



Keewatinohk Inniniw
Minoayawin Inc.
Northern Peoples' Wellness



Can-SOLVE
CKD Network

Strategy for Patient-Oriented Research
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