



ONE
TRANSPLANT
FOR LIFE



TRANSPLANT
POUR LA
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Transplantation saves lives
Be a part of something big

www.cntrp.ca



Transplantation Saves Lives

In 2016

2,835 organ transplant procedures were performed in Canada from **758** deceased donors and **544** living donors

We are not meeting the need

Canadians die waiting

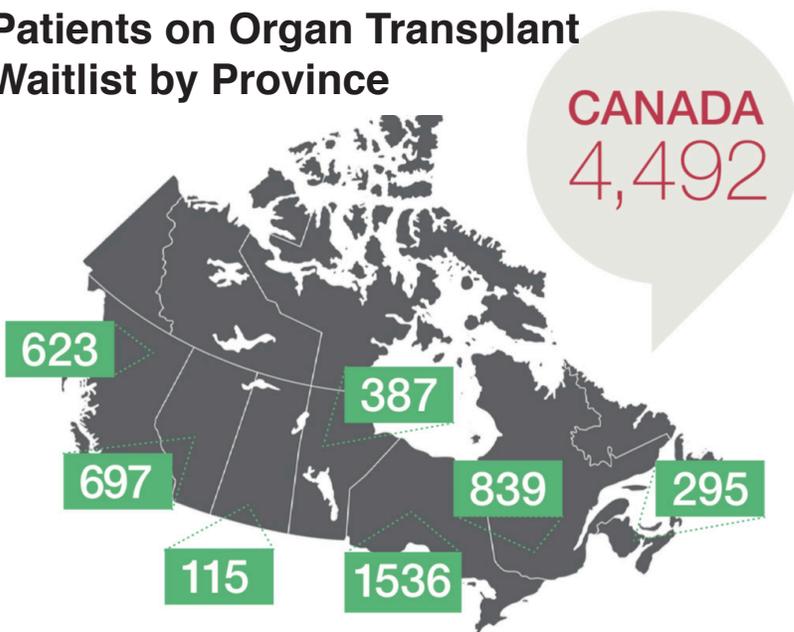
260

Canadians died on the waitlist in 2016

4,492

Canadians on the waitlist, with tens of thousands more who could be saved if we addressed the shortage of organs

Patients on Organ Transplant Waitlist by Province



Stem Cell Transplant numbers in Canada

Today, over **10,000** Canadians are alive thanks to a stem cell transplant. Of that number, over half have dealt with or are dealing with the complications of **graft-versus-host disease**.

Canada performs about **900** allogeneic bone marrow transplants every year.



The Opportunity

\$30 million

is available to create a national funding agency for donation/transplantation research if we bring to the table another

\$50 million

This opportunity only comes around every 4 years



OUR STARTING POINT: The Canadian National Transplant Research Program (CNTRP)

- Created in 2013 by the Canadian federal government
- From a \$14 million investment to a **\$37 million** research program in under 5 years
- The only national program in the world that unites the **donation, solid organ transplant** and **hematopoietic cell transplant** research communities
- A multilayer collaboration of provinces, industry/academic/patient partners, governments, funders
- **75** inter-related projects in multiple areas of study
- Over **300** investigators, trainees, collaborators, patients, families and stakeholders





CNTRP: We have the structure and resources in place to respond to bigger challenges

National Structure for Multicentre Studies

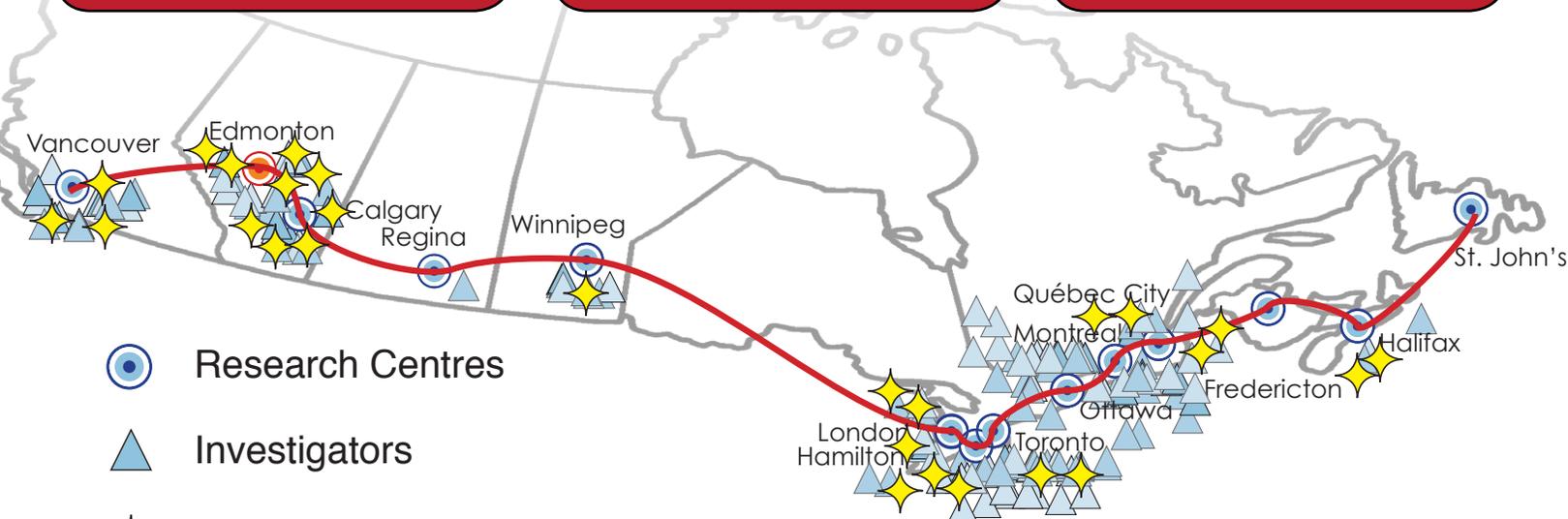
National Education and Training Platform in Donation and Transplantation

Clinical Trial Management, Monitoring, and Patient Samples/Data

Ethics, Legal, Economics, and Social Research

Patient, Family, Researcher Partnership Platform

Biomarker Discovery and Machine Learning Platform



- Research Centres
- Investigators
- Trainees

Led from the **University of Alberta** and Co-led from the **Université de Montréal**

CNTRP: We have a wealth of partnerships



ORGAN DONATION ORGANIZATIONS

PROFESSIONAL ASSOCIATIONS

INDUSTRY

FUNDING PARTNERS

RESEARCH COLLABORATORS

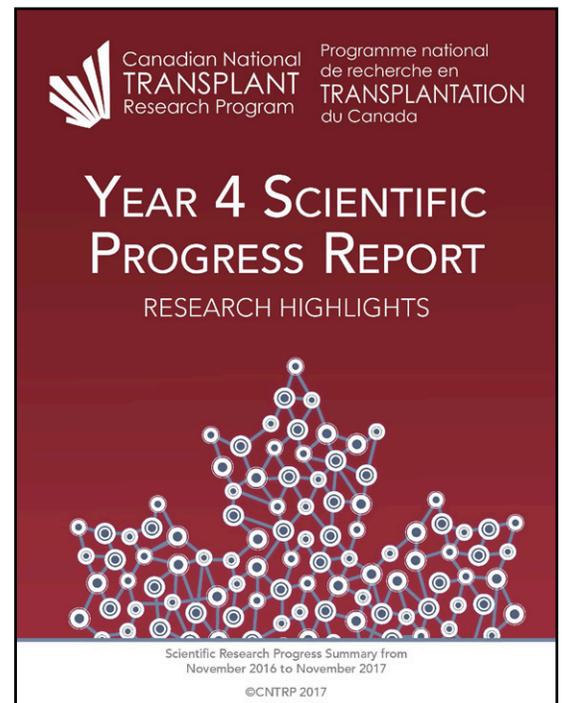
NATIONAL & PROVINCIAL STAKEHOLDERS

UNIVERSITIES & TRANSPLANT CENTRES



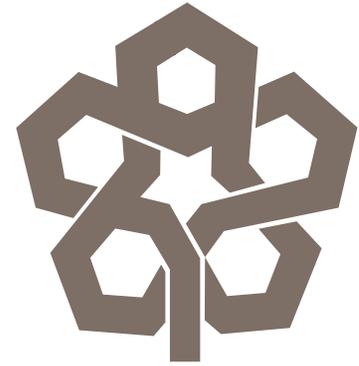
CNTRP: We have a solid track record of success

- Developed, built and tested novel perfusion machines for organ preservation and repair, allowing the safe use of organs that traditionally would never be considered for transplant
- Finalizing the largest international clinical study (DePPaRT) on determining circulatory death;
- Uncovered the legal, social, institutional, and professional challenges that contribute to family veto of previously-registered intent to donate
- Created and tested a new diagnostic to facilitate safe ABO-incompatible transplantation with partners in chemistry; partnered with industry to move it toward commercialization and clinical use
- Launched an international multi-centre clinical trial with Qiagen to guide treatment of viral CMV infection in transplant recipients
- Integrated artificial intelligence and big data scientists to improve allocation of organs and allow precision management to improve long-term outcomes
- Implanted the first donor kidney rejuvenated through an *ex vivo* (outside the body) perfusion system in a patient who had been on hours of daily dialysis for years
- Converted a homegrown cellular therapy approach into a multi-site pan-Canadian clinical trial to treat chronic graft-vs-host disease in hematopoietic cell transplant patients with the goal of manipulating immune tolerance to improve outcomes in transplantation





Networks of Centres of Excellence is one of Canada's flagship research programs



NCE RCE

Goal: *“To mobilize Canada’s research, development and entrepreneurial talent in the academic, private and public sectors, and apply it to the task of developing the economy and improving the quality of life of Canadians.”*

The NCE invests in national networks that:

- Stimulate internationally competitive, leading edge, multidisciplinary research in strategic areas
- Develop and retain highly qualified personnel
- Create nation-wide and international partnerships to generate and implement multifaceted solutions to complex Canadian challenges
- Accelerate the exchange and application of knowledge within and outside the network
- Increase Canada’s visibility and reputation

[Click here to learn more about the NCE program](#)



We have a clear and strong chance in this NCE competition

The CNTRP has reached the final round of competition

- One of 11 applicants out of 70 to proceed to full application stage
- Competition is **INTENSE**. Only 3-4 applications will get funded
- Full application due on July 19
- Decision in October 2018
- Funds roll out by March 2019

NCE applications must meet or exceed specific criteria to win. Networks are assessed on:

- Challenge-focused, solution-driven research
- Partner/stakeholder engagement throughout development and implementation
- Benefits to Canada
- Multidisciplinary, multisectoral
- Added value



We are making a major leap forward



ONE TRANSPLANT FOR LIFE

Vision

Fulfill every living and deceased donation opportunity
Turn transplantation into a cure



What would this bold new vision mean for Canadians?

Transplantation is no longer restricted to organ failure. Instead, it is poised to become the preferred treatment for diseases such as type 1 diabetes, kidney disease, cystic fibrosis, heart failure and complex congenital heart disease, lymphoma, myeloma, and leukemia.

Transplantation is the only or the most cost-effective therapy available for end-stage liver, heart, lung and kidney disease, and deadly blood cancers. For example, the cost of hospital dialysis is up to \$107,000/year, while the one-time cost of a kidney transplant is ~\$100,000, then <\$20,000/year in care thereafter.

Cryopreservation and *ex vivo* perfusion technologies will allow organs to survive outside the body for 3-5 days before transplantation. Organs could then be shipped around the world to the best-matched recipient, eliminating barriers of access that currently leave Indigenous, rural and remote populations in Canada as well as developing nations with a lower level of access to health services.

With integration of machine learning and artificial intelligence expertise, we can better predict long term graft outcomes based on donor profiles to help patients and their medical team make the best decision at the time of transplant.



All projects must address a theme and a research priority

Themes

- Create a culture of donation
- Inform universal practices for donation
- Allocate and engineer a better graft
- Tailor an optimal immune system for each patient
- Restore long-term health

Cross-cutting research priorities

- Patient/family researcher partnership
- Sex and gender
- Pediatric, adolescent and elderly
- Policy, commercialization and knowledge transfer
- Indigenous, rural and remote populations



Elements in place to ensure success

Patient and family partnerships keep research relevant

Patients and families:

- collaborate and co-lead funded research projects
- support knowledge dissemination and the partnering of research teams with patients
- are involved in governance at the highest levels

Training increases research and industry capacity

Academic Program:

- Patient Research Partner Program
- Trainee Association
- mentorship and industry internships
- attractive to international personnel

Our leadership team is established and experienced

M. Levings
Theme 4 Lead

L. West
Director

T. Caulfield
Policy and KT Chair

S. Dhanani
Associate Director

D. Hartell
Exec Director & Research Services Lead

M. Weiss
Theme 1 Lead

M.J. Hébert
Co-director

MC. Fortin
Patient Partnerships Platform Lead

T. Blydi-Hansen
Theme 5 Lead

L. Tibbles
Education Platform Lead

K. Paulson
New Initiatives Chair

M. Meade
Theme 2 lead

S. Mital
Evaluations Chair

M. Dieudé
Principal Scientific Officer & Data Platform Lead

JS. Delisle
Associate Director & Theme 3 Lead

S. Bédard
Patient Partnerships Platform Lead

Led from the **University of Alberta** and Co-Led from the **Université de Montréal**



Be part of our success story!

Partner with us at all levels, including:

Direct support with cash or in-kind resources

- unrestricted educational grants
- annual targeted research grant competitions
- resources for specific projects

Advancing knowledge

- individual projects as a knowledge user
- knowledge transfer and commercialization activities
- meetings (annual meeting, workshops, etc.)

Training and education

- training activities, fellowships, awards
- internships within your organization

Governance

- become a board member
- become a committee member



Contact us

Connect with us if you have questions

Science

- Lori West, Scientific Director - ljwest@ualberta.ca
- Marie-Josée Hébert, Scientific Co-Director - marie-josée.hebert@umontreal.ca
- Mélanie Dieudé - CNTRP Principal Scientific Officer - mdieude@cntrp.ca

Partnership and Engagement

- David Hartell, Executive Director - davidhartell@cntrp.ca

Training and Education

- Karen Hunter, Training Program Manager - karen.hunter@ualberta.ca

Learn more about One Transplant For Life at www.cntrp.ca