TORONTO DEMENTIA RESEARCH ALLIANCE

IMPACT REPORT

DEC 2025

ABOUT TORONTO DEMENTIA RESEARCH ALLIANCE

Established in 2012, the Toronto Dementia Research Alliance (TDRA) is a collaborative partnership between the University of Toronto and its affiliated academic hospitals, working together to better understand, prevent, and treat dementia. TDRA advances this mission by:

- Strengthening the link between basic science and clinical research
- Improving outreach and communication with the community
- Embedding research into clinical care
- Increasing the efficiency of collaborative research processes across Toronto
- Engaging in advocacy to improve the lives of those with neurodegenerative diseases

TDRA partners include the University of Toronto, Baycrest, the Centre for Addiction and Mental Health (CAMH), Ontario Shores Centre for Mental Health Sciences, Sunnybrook Health Sciences Centre, and the University Health Network.

WE AIM TO ADVANCE RESEARCH AND INNOVATION IN DEMENTIA PREVENTION AND THE STANDARDIZATION OF DEMENTIA CARE.

EXECUTIVE SUMMARY

In this historical time for neurodegenerative diseases causing mild cognitive impairment and dementia, the Toronto Dementia Research Alliance (TDRA) continues to be energized and committed to driving real change for patients. In Oct. 2025, the first disease-modifying treatment for Alzheimer's Disease was approved by Health Canada, with several promising therapies in the pipeline. Blood-based biomarkers for Alzheimer's disease are now available in Ontario, expanding the diagnostic tools available to clinicians. Strategies under study for the prevention of dementia are starting to bear fruit. These achievements represent significant leaps forward for patients and their families; they also highlight the need to develop solutions to new and long-standing challenges in dementia research and care.

In 2025, TDRA welcomed Dr. Carmela Tartaglia as its new Executive Director, with a mission to focus TDRA's efforts on addressing those new and long-standing challenges. One key step forward has been the development of an impactful strategy that focuses on key clinical issues related to diagnosing and treating Alzheimer's disease, increasing access to treatments, and enabling healthy aging and dementia prevention. Some of this work is already underway via TDRA's Clinical Table, which brings together clinical and administrative leaders from across the Greater Toronto Area to focus on identifying and remediating widespread issues in dementia.The pairing of clinical and administrative leaders ensures solutions are sustainable, implementable, and grounded in high-quality care. To drive progress on specific issues three sub-groups of the clinical table were formed with a focus on the better integration of primary and specialty care pathways, streamlining referrals, and an increased awareness around diagnostics and treatment options for patients.

Baycrest camh Ontario Shores Centre for Mental Health Sciences

Sunnybrook Health Sciences Centre UHN Canada's Hospital Temerty Faculty of Medicine University of Toronto

EXECUTIVE SUMMARY

TDRA continues to serve as a convening and ideation hub for leading-edge research, engaging hundreds of scientists from seven sites in over 20 studies. This deeply connected, collaborative network of experts spans a wide range of scientific disciplines, ranging from the basic sciences to population-level health. To support their work, TDRA continues to operate key supportive infrastructure that has accelerated recruitment by sending 134 participant referrals to clinical trials in 2025 and expedited the finalization of 3 multi-site legal agreements. As well, there is now the development of a biomarker core with the accumulation of biosamples that can be made available to researchers.

Over the summer, TDRA had a significant presence at the annual Alzheimer's Association International Conference in Toronto, where it put the strength and breadth of TDRA's research on display. In total, TDRA-affiliated researchers delivered 15 oral presentations and nearly 100 posters over the course of the meeting, underscoring the depth of expertise in the community.

Looking to the year ahead TDRA plans to continue to build on these successes while growing in key areas such as advocacy, engaging new partners, and working closely with different stakeholders in the health system to solve intractable issues. It has never been a more hopeful time for patients living with Alzheimer's disease and other neurodegenerative diseases causing mild cognitive impairment and dementia, and TDRA is ready to make the changes that will transform care.

TDRA STRATEGY DEVELOPMENT (2025–2026)

TDRA STRATEGY DEVELOPMENT (2025–2026)

Throughout 2025, TDRA advanced the development of a refreshed multi-year strategy to guide the next phase of network growth, system impact, and collaborative research. This work has been led by TDRA leadership and developed in collaboration with clinicians, researchers, system partners, and TDRA's governance councils, including the Lived Experience Advisory Partners (LEAP) Council. The evolving strategy is focused on strengthening diagnosis pathways, improving access to emerging treatments, advancing healthy aging and dementia prevention, and enhancing TDRA's role in coordinated system change. This work remains in progress and will continue into 2026.

Transition of the TDRA Coordinating Centre

After five years based at CAMH, TDRA began transitioning its Coordinating Centre to the University of Toronto in 2025, where it will be permanently housed. Previously, the Centre followed the Executive Director's primary institutional appointment. Establishing the Centre at the University of Toronto—a common partner across all TDRA sites—provides long-term stability and supports sustainable growth and partner engagement. The TDRA team began transitioning on a full-time basis in early 2026.

PILLAR 1: RESEARCH
(RESEARCH/TRAINING/ FUNDING)

PILLAR 1: RESEARCH (RESEARCH/TRAINING/FUNDING)

TEMERTY–TANZ–TDRA INITIATIVE (2021–2024)

From 2021 to 2024, TDRA led the Temerty–Tanz–TDRA Initiative in partnership with the Temerty Faculty of Medicine and the Tanz Centre for Research in Neurodegenerative Diseases. This $1.05 million, three-year initiative focused on the link between depression and dementia, a key modifiable risk factor for cognitive decline. The initiative supported collaborative research through competitive fellowships, seed funding, and international workshops spanning basic, translational, and clinical science.

Shaping TDRA's Next Area of Focus (2025–2026)

Following the completion of the Temerty–Tanz–TDRA Initiative, TDRA began identifying the next research priorities guided by emerging science. TDRA engaged its Lived Experience Advisory Partners (LEAP) Council, circulated a targeted survey, and consulted its Scientific Advisory Panel. Key priorities identified included translational research into mechanisms related to neuroinflammation, mitochondrial diseases as well as modifiable risk factors including physical activity, brain injury and sleep. An additional research priority includes establishing collaborations with artificial intelligence researchers across TAHSN hospitals and UofT, to enable advanced analyses of the TDRA database. This feedback is directly informing donor discussions and the development of TDRA's next large-scale, multi-year research initiative, planned for launch in 2026.

CIHR PROJECT GRANT SUCCESS ACROSS TDRA SITES

In the Fall 2024 CIHR Project Grant competition, multiple dementia-, aging-, stroke-, and brain health–related projects led by TDRA-affiliated investigators were awarded national funding and were actively underway throughout 2025. These grants reflect the depth and breadth of research across the TDRA network, spanning digital health, biomarkers, neuroimaging, neuromodulation, caregiver support, health equity, and prevention.

PILLAR 1: RESEARCH (RESEARCH/TRAINING/FUNDING)

TDRA-AFFILIATED STUDIES AND UPDATES

TDRA EARLY INVESTIGATOR RESEARCH WORKING GROUP

TDRA Research Working Groups (RWGs) are scientific focus-specific sub-groups of the Research Operations Committee that promote collaboration to advance work aligning with the themes of standardization of dementia care and dementia prevention. In 2025, TDRA established the Early Investigator Research Working Group to foster learning, mentorship, and collaboration for young researchers. As a member of this working group, young investigators have access to cross-disciplinary networking, opportunities to accelerate research projects, funding opportunities, access clinical tools, and research/outreach support. This group is continuing to accept new members.

TDRA DEMENTIA CLINICAL RESEARCH DATABASE

The clinical research database, funded by Brain Canada, continues to support a consistent approach to managing research and clinical care for people with neurodegenerative conditions. The platform was designed to track disease burden, support epidemiological analyses, and provide information on treatment use in routine practice. The platform also supported several research studies.

In 2025, the database has grown to over 5100 participants who have consented, and more than 5700 TorCA assessments have been completed. These additions strengthen the dataset and improve its value for ongoing and future studies.

For a list of studies published from this data, see Appendix 1.

Investigators: Sandra Black (Sunnybrook), Bradley Buchsbaum (Baycrest), Howard Chertkow Baycrest), Daniel Felsky (CAMH), Corinne Fischer (Unity Health), Morris Freedman (Baycrest), Sean Hill (CAMH), Sanjeev Kumar (CAMH), Ekaterina Rogaeva (UofT), Stephen Strother (Baycrest), David Tang-Wai (UHN), Carmela Tartaglia (UHN).

PILLAR 1: RESEARCH (RESEARCH/TRAINING/FUNDING)

TACS-FUS STUDY

The tACS study, now running as its own project, continues to move forward. All operational setup has been completed, including site initiation visits. Fourteen participants have taken part to date, and recruitment is ongoing. The study is testing whether individualized tACS can strengthen working memory in older adults.

The team published a paper in 2025 describing the use of personalized frequency and electrode placement to target theta gamma coupling in people with mild cognitive impairment. This work supports the scientific approach used in the study and helps guide future protocol refinement.

Investigators: Kullervo Hynynen (Sunnybrook), Tarek Rajji (CAMH/UTSW), Abhishek Datta (Soterix Medical), Iryna Palamarchuk (CAMH).

For the full citation, see Appendix 1.

IMPROVING PROGNOSTIC CONFIDENCE IN NEURODEGENERATIVE DISEASES CAUSING DEMENTIA USING PERIPHERAL BIOMARKERS AND INTEGRATIVE MODELING

This collaborative project funded in 2021 for $600,000, brings together a team of scientists from across CAMH Krembil Centre for Neuroinformatics (KCNI), the Tanz Centre for Research in Neurodegenerative Diseases, and the TDRA to develop non-invasive diagnostic and prognostic algorithms – based on biomarkers and supported by AI – in older individuals presenting with cognitive complaints. The aim of this project is to better diagnose neurodegenerative diseases and ultimately enable targeted treatment in people with specific underlying disease pathologies. This project has enrolled 214 participants as of December 2025 across four TDRA sites (Baycrest, CAMH, Sunnybrook, UHN).

Investigators: Daniel Felsky (CAMH/KCNI), Morris Freedman (Baycrest/TDRA), Ekaterina Rogaeva (UHN/Tanz), David Tang-Wai (UHN/ TDRA), Carmela Tartaglia (UHN/Tanz/TDRA).

PILLAR 1: RESEARCH (RESEARCH/TRAINING/FUNDING)

ALEVIATE STUDY

The ALEVIATE study, funded for $1.4 million by the Weston Brain Institute in 2021, aims to explore what could be a promising biomarker present in the prodromal stages of Alzheimer's disease (AD), and test a possible treatment. The study aims to understand early brain changes linked to AD and test whether levetiracetam can reduce excess hippocampal activation in people who are at risk of AD.

Phase 1 (ALEVIATE-1) finished this year. The team established the normal range of hippocampal activation using BOLD fMRI and set a threshold to define hyperactivation for the next phase. Preliminary findings were shared at the Organization for Human Brain Mapping (OHBM) 2025 conference and the Alzheimer's Association International Conference (AAIC), and manuscripts are under review. Phase 2 (ALEVIATE-2) has begun, with participant screening underway at Sunnybrook and UHN, with Baycrest and CAMH scheduled to start early next year.

Investigators: Sandra Black (lead applicant, Sunnybrook), Arnold Bakker (Johns Hopkins University), Howard Chertkow (Baycrest), Morris Freedman (Baycrest), Maged Goubran (Sunnybrook), Nathan Herrmann (Sunnybrook), Alex Kiss (Sunnybrook), Sanjeev Kumar (CAMH), Ben Lam (Sunnybrook), Krista Lanctôt (Sunnybrook), Mario Masellis (Sunnybrook), Mary Pat McAndrews (UHN), Sara Mitchell (Sunnybrook), Luca Pisterzi (CAMH), Jennifer Rabin (Sunnybrook), Tarek Rajji (CAMH/UTSW), Joel Ramirez (Sunnybrook), Pedro Rosa Neto (Douglas Hospital Research Centre), Antonia Strafella (UHN), David Tang-Wai (UHN), Carmela Tartaglia (UHN), Kamil Uludag (UHN), Neil Vasdev (CAMH), Don Weaver (UHN), Richard Wennberg (UHN), Katherine Zukotynski (McMaster University).

PILLAR 1: RESEARCH (RESEARCH/TRAINING/FUNDING)

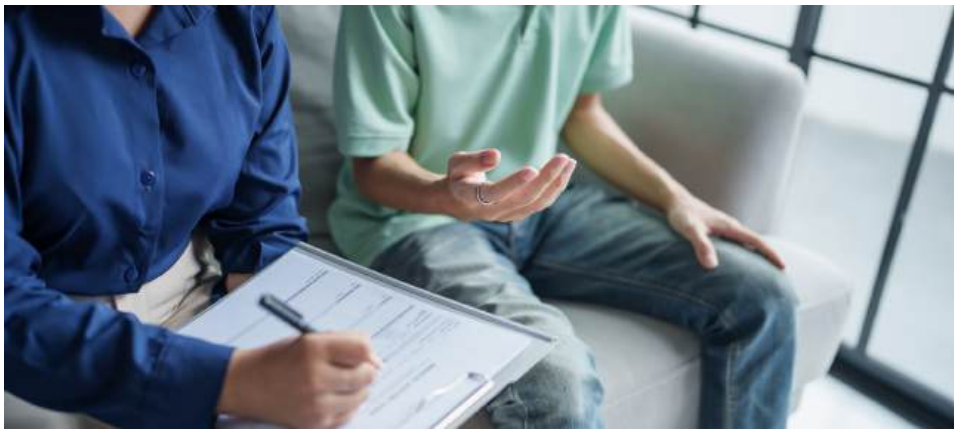
IDENTIFYING PRE-AGITATION BIOMETRIC SIGNATURE IN DEMENTIA PATIENTS: PRELIMINARY FEASIBILITY STUDY

This study examines the use of wearable multisensory devices in dementia care. The devices collect physiological signals that can be combined into a biometric profile that can predict episodes of emotional distress and support earlier, targeted interventions. This project was funded by Team 11 of the Canadian Consortium on Neurodegeneration in Aging (CCNA) for $40,000. This work, along with the ALEVIATE study, helped build a broader research network that is supporting future implementation in long term care and home settings through the Slaight Family Foundation funding initiative.

In 2025, the team published results showing that exergaming, which integrates physical and cognitive stimulation, led to improved performance across sessions among older adults with dementia or late-life depression.

Investigators: Amer Burhan (Ontario Shores), Sarah Elmi (Ontario Shores), Krista Lanctôt (Sunnybrook), Tarek Rajji (CAMH/UTSW), Arany Shanmugalingam (Ontario Shores), Robin Waxman (Ontario Shores).

For the full citation, see Appendix 1.



PILLAR 1: RESEARCH (RESEARCH/TRAINING/FUNDING)

LEVERAGING ARTIFICIAL INTELLIGENCE TO DETECT BEHAVIORAL AND PSYCHOLOGICAL SYMPTOMS OF DEMENTIA ON A CLINICAL DEMONSTRATION UNIT – A VALIDATION STUDY

This study explores the use of wearable multisensory devices and video monitoring in dementia care. Wrist worn devices collect physiological signals that can be combined into a biometric profile to help identify early signs of emotional distress. Video data are used to train AI models to recognize agitation and aggressive behaviours. The project is funded by the Ontario Shores Foundation and is intended to support future implementation across a broader network of long-term care homes, with additional support from the Slaight Family Foundation.

In 2025, the pilot study was completed with 10 participants using combined digital biomarkers collected from wristbands with video-based behavioural monitoring. Machine learning and deep learning models were tested across both data streams. Results showed that the system could detect and predict agitation and aggression events in real time, with accuracy of up to 99 percent. This approach represents a significant advancement in the proactive management of behavioral symptoms in dementia care. This work was published in the journal JMIR Aging and presented at Alzheimer's Association International Conference (AAIC).

Investigators: Amer Burhan (Ontario Shores), Khalid Elgazzar (Ontario Tech University).

For the full citation, see Appendix 1.

PILLAR 1: RESEARCH (RESEARCH/TRAINING/FUNDING)

MITO2I STUDY

The Mitochondrial Innovation Initiative (MITO2i) and TDRA have partnered to co-fund a fellowship focusing on the role of the mitochondria in dementia. Neda Rashidi-Ranjbar is leading a study that investigates the efficacy of photobiomodulation, a form of light therapy, in the treatment of mild cognitive impairment.

The pilot trial finished this year with 20 participants with MCI. Results showed that the group randomized to the therapy showed greater improvements in global cognition and episodic memory, which are further corroborated by blood-based biomarkers and neuroimaging. These data demonstrate safety, preliminary efficacy, and support future definitive clinical studies. A manuscript is now being submitted.

The full study is underway, and has enrolled 23 participants with MCI, with a target of 60.

LEGAL RESEARCH WORKING GROUP

The Legal Research Working Group, with representatives from all TDRA sites and the University of Toronto, continue to support agreement developments across the TDRA network. The group met regularly and helped move key contracts forward. Two agreements were completed this year, with two additional agreements in the works. Members continued to review and refine processes, address licensing and copyright questions, and provide support for shared TDRA tools. The group remains an important resource for improving consistency and reducing delays in legal reviews across sites.

PILLAR 2: CARE

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CLINICAL TABLE

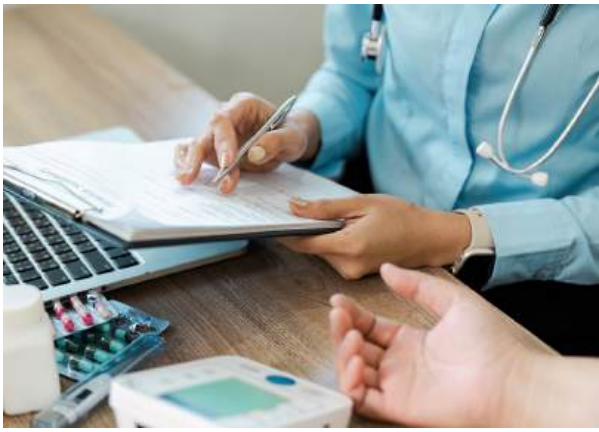
The Clinical Table was created to address gaps in dementia care in the Greater Toronto Area. The group focuses on practical steps that support better coordination, fair access, and consistent care for people at risk of developing dementia and living with dementia. Three working groups were formed in 2024 to move this work forward. Their efforts build on early planning and are shaping a coordinated approach for the region.

1. **Integration of Primary and Specialty Care Pathways**

   This working group strengthens connections between primary care and specialty services such as geriatric medicine, cognitive neurology, and geriatric psychiatry. The goal is to support clear and consistent pathways from diagnosis to ongoing management. Discussions at the table highlighted the central role of primary care and the need for approaches that work beyond academic settings. Capacity constraints and variation in practice remain challenges. Tools developed through TDRA, including TorCA and the cognition MRI protocol, offer practical support for teams working to apply evidence in day-to-day care. The group is now outlining next steps to refine and test pathway elements across different clinical environments.

2. **Regional Access to Specialized Dementia Care**

   This working group is addressing referral processes that often lead to duplicate requests, long waits, and uneven access to care. The group is designing a centralized access point for specialized dementia services. The plan includes a standardized referral form and an integrated IT process that can support triage. This structure will help reduce delays, help patients and caregivers navigate the system and find the right care, access the right care, and reduce redundancy of clinical assessments. The intended result is a smoother path to specialized assessment and treatment, with clearer system oversight and better use of available expertise.



PILLAR 2: CARE

3. Investigations and Treatments

This working group is focused on education and access to emerging investigations and treatments. Imaging services such as PET and MRI play a key role in diagnosis and treatment planning, yet timely access remains difficult in many settings. Table discussions highlighted the need for a coordinated and fair approach for patients and clinicians. The group is reviewing how TDRA tools, research, and protocols can support the use of diagnostics and access to disease modifying therapies for Alzheimer's disease.

Coordinated Planning

All three working groups are aligning their workplans through a shared planning framework. The aim is to identify common needs, combine efforts where possible, and use available resources in an efficient way. Each group is preparing proposals for future funding to support implementation and evaluation.

The Clinical Table continues to focus on steady, practical improvements that can help build a more coherent and responsive dementia care system across the region.

Co-design and implementation partner sites:

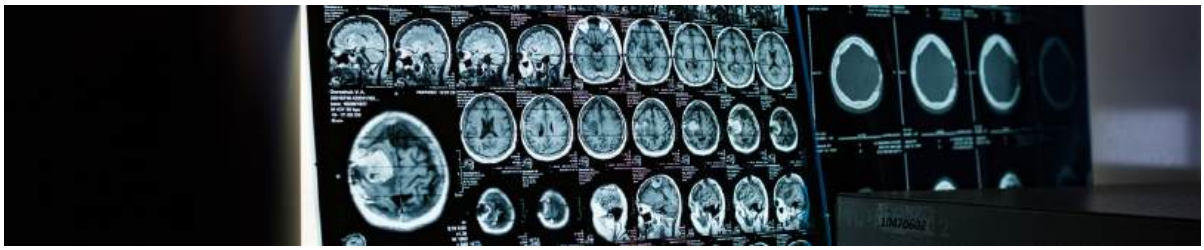
Alzheimer Society Toronto
Baycrest
Santé Bruyère Health
camh
Danforth Neurology
Kawartha Centre
Hamilton Health Sciences
Health Sciences North / Horizon Santé-Nord
MINT Memory Clinic
New Horizons
North York Family Medicine Doctors / North York Family Health Team
North Toronto Ontario Health Team
The Ottawa Hospital / L'Hôpital d'Ottawa
Ontario Health atHome
Ontario Shores Centre for Mental Health Sciences
RGP Regional Geriatric Program of Toronto
SET FHT South East Toronto Family Health Team
SPRINT Senior Care
Provincial Geriatrics Leadership Ontario
Sinai Health
Sunnybrook Health Sciences Centre
Toronto Seniors Housing Corporation
TDRA Lived Experience Advisory Partners (LEAP) Council
UHN
Unity Health Toronto

PILLAR 2: CARE

MRI PROTOCOL

The Standardized Clinical Cognition MRI Protocol for dementia, implemented in 2021, continues to be used across Ontario. It is now in place at 15 academic and community sites, covering 37 MRI units. This represents about 19% of MRI sites and 26% of MRI units in the province. Since implementation, more than 10,000 clinical scans have used this protocol.

Information about the protocol remains available on the TDRA website.



MEMORY CLINIC STANDARDIZATION

The memory clinic working group continues to advance its efforts to standardize assessments for people living with neurodegenerative diseases causing mild cognitive impairment and dementia. In 2025, the group is working on a new version of the intake form, which can be used on an iPad and can generate a summary letter based on the information entered. This feature will support accuracy and reduce administrative workload. The new version will be implemented across all TDRA sites in 2026.

TorCA downloads continue to grow in 2025, with a total of 23 downloads. The working group also developed a one-page TorCA overview to support clearer communication about its purpose and use.

NEUROPSYCHOLOGY WORKING GROUP

The neuropsychology working group focused on strengthening the processes that support the translation, adaptation, and validation of cognitive assessment tools. Two standard operating procedures were completed this year. One outlines the steps for translation and cultural adaptation. The second covers norming and validation requirements for the TorCA. Both documents were created based on principles formulated by neuropsychologists and experts and align with recommended published guidelines.

The group supported the development of three new translations/adaptations. The Indian English, Gulf Arabic, and Quebec French versions were completed and are ready for norming and validation.

PILLAR 2: CARE

LONG-TERM CARE STANDARDIZATION

The long-term care working group created a framework to guide research in long-term care and retirement homes. Two projects were developed through this working group: The Technology Enabled Integrated Care Pathway for Behavioural Symptoms of Dementia in Long Term Care (Tech-ICP) project and the Improving Care for Dementia in Long Term Care and Retirement Homes (Care-LTC) project.

The Care-LTC study examines demographic and clinical characteristics of residents with neuropsychiatric symptoms and follows related clinical outcomes, including care partner burden. Screening and enrolment are underway, with several participants consented. Research agreements continue to move forward. Work is also underway to bring additional long-term care homes into the study.

The Tech-ICP project uses a secure platform that integrates assessment tools, monitoring functions, and treatment pathways that support person centered care. Legal agreements for this project are in progress.

All TDRA hospitals are involved in these implementation studies. The group has been building relationships with long-term care homes. About 40 to 50 homes are in active conversations, and 10 to 20 are prepared to begin once agreements are finalized. The goal is to launch early in 2026.

These efforts support better care for residents with neuropsychiatric symptoms and help build a consistent research structure across long term care settings.

Investigators: Amer Burhan (Ontario Shores), Peter Derkach (West Park Healthcare), Anuroop Duggal (LEAP), Corinne Fischer (UHT), Morris Freedman (Baycrest), Sean Hill (CAMH), Andrea Iaboni (UHN), Sanjeev Kumar (CAMH), Krista Lanctôt (Sunnybrook), Clement Ma (CAMH), Gillian Strudwick (CAMH).

PILLAR 2: CARE

VR-SIM CARER

The VR SIM Carers project is now in its final funded year, with an extended end date of June 2026. The team has completed the first version of the training platform with three interactive scenarios. Two more scenarios have been scripted and are ready for development. All scenarios have been translated into French. A user manual and tutorial videos were created and translated to support future use.

The clinical efficacy and safety study launched in February 2025. Early findings show that caregivers gain skills, feel more confident, and report lower stress after using the program. Many participants felt understood as the scenarios reflected their real experiences. The team also launched an implementation study to test a system that will allow clinicians and trainers to create their own scenarios. Four participants have completed training, with more scheduled for late 2025.

The project team and collaborators have continued to share results through seven publications, with four in progress, and 6 presentations in 2025.

Next steps include developing a virtual assistant to guide users and support reflection, and piloting the program with community partners such as the Alzheimer Society of Durham Region and the City of Whitby. The platform is also being adapted for use in long term care staff training through a funded partner project. A CIHR Catalyst grant has been submitted to expand research engagement with caregivers.

Investigators: Amer Burhan (Ontario Shores), Ron Beleno (AGE-WELL), Mary Chiu (Ontario Shores), Kristina Kokorelias (UHN), Irene Rubenstein (Knowledge User), Joel Sadavoy (Mount Sinai), Adriana Schnall (Baycrest), Michael Smith (NRC), Jeanie Zabukovec (Ontario Shores), Lynn Zhu (Ontario Shores).

For full list of citations, see Appendix 1.

PILLAR 3: EDUCATION

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TDRA MRI PROTOCOL RADUCATE COURSES

In 2025, TDRA continued to expand access to its University of Toronto–accredited MRI education courses for dementia care through a national partnership with the Alzheimer Society of Canada (ASC). Through this partnership, ASC-supported funding enables complimentary registration for a limited number of learners, supporting broader uptake of TDRA's Standardized Clinical Cognition MRI Protocol across Canada.

Originally delivered as live accredited sessions in 2023, both courses are now available for self-paced learning on the Raducate platform.

Update on the Diagnosis and Treatment of Dementia
Originally delivered: May 12, 2023

As of December 17, 2025, completion data for this course are reported at the module level, as shown below.

Module	Users Who Completed
Update on the Diagnosis and Treatment of Dementia (course overview module)	15
It's All About the Approach: A Guide to Diagnose Any Dementia	5
Radiological Assessment of Dementia: A Standardized Approach	6
Update on Dementia Treatments: Current Options and Progress	4

PILLAR 3: EDUCATION

Dementia MRI Report Simulator
Originally delivered: June 23, 2023

As of December 17, 2025, completion data for this course are also reported at the module level, as shown below.

Module	Users Who Completed
Overview of Neurodegenerative Diseases	56
MR Protocol and Standardized Report in Patients with Cognitive Complaints	17
Dementia MRI Report Simulator	20
Case Discussion	12
MRI Reporting Template for Dementia	13

Completion metrics for both courses are reported at the module level. Because learners may complete more than one module, these figures should not be summed to represent total unique course completions. Together, these courses continue to strengthen clinician and radiologist training in standardized dementia imaging, diagnosis, and reporting across community and academic settings.

PILLAR 3: EDUCATION

TDRA AT AAIC 2025: SHOWCASING CANADIAN LEADERSHIP ON THE GLOBAL STAGE

In July 2025, the Alzheimer's Association International Conference (AAIC) returned to Toronto for the first time in nearly a decade, bringing together more than 8,500 in-person participants and thousands of virtual attendees from around the world. As one of the largest global gatherings in dementia research and care, AAIC 2025 provided a powerful platform for knowledge exchange—and TDRA made a major impact across scientific, clinical, policy, and community audiences.

Strong Scientific Presence Across the Dementia Research Spectrum

TDRA-affiliated researchers delivered oral presentations, symposia, and posters spanning prevention, biomarkers, sex and gender differences, clinical interventions, imaging, and technology-enabled care. This included advances in lifestyle-based risk reduction, neuropsychiatric treatment trials, blood- and imaging-based biomarkers, electroencephalography, artificial intelligence, and digitally enabled care models.

A full list of TDRA-affiliated presentations at AAIC 2025 is included in Appendix 3.

PILLAR 3: EDUCATION

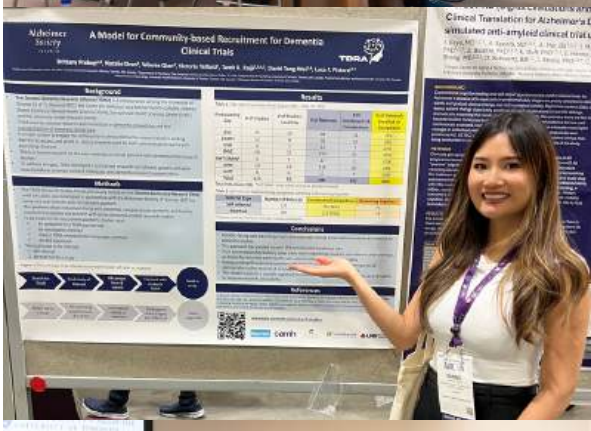
National Visibility Through the Canadian Pavilion

TDRA hosted a booth within the Canadian Pavilion, alongside 21 other dementia-focused organizations from across the country. Over four days, TDRA showcased its education programs, funding initiatives, research platforms, and knowledge translation tools to an international audience. TDRA also participated in the CIHR Canadian Networking Event, strengthening national collaboration among researchers and health system leaders.

TDRA–JAMA Forum: Advancing Research to Publication

TDRA partnered with the Journal of the American Medical Association (JAMA) to host a special TDRA–JAMA Forum as part of the JAMA Roadshow at AAIC 2025. Through a competitive process, 11 TDRA-affiliated researchers presented projects nearing publication to JAMA editors and senior academic leaders, strengthening pathways for high-impact dissemination of Canadian dementia research.

For full list of presentations and speakers, see Appendix 2.



TDRA Poster: Advancing Community-Based Trial Recruitment

TDRA presented a featured poster on its Research Studies Portal, a community-based recruitment model developed with the Alzheimer Society of Toronto. The Portal connects people living with dementia, caregivers, and healthy volunteers with research opportunities across TDRA sites. Results showed over 35 percent enrolment and completion rates, higher success with supported matching than self-referral, and the don't understand.

The TDRA AAIC 2025 poster is included in Appendix 4.

PILLAR 3: EDUCATION

Inspiring the Next Generation: International Brain Bee Visit

TDRA hosted six international high school finalists from the International Brain Bee at University Health Network. Students heard from Dr. Carmela Tartaglia on brain imaging and Dr. Gabor Kovacs on neuropathology and toured the laboratory of Dr. Donald Weaver at the Krembil Research Institute. A networking lunch with TDRA researchers and trainees offered students a firsthand look at careers in dementia research.

AAIC For All: Translating Research for the Community

TDRA played a central role in planning and presenting at AAIC For All, a free community program for people living with dementia, caregivers, and the public. A TDRA LEAP Council member was instrumental in shaping the program and reviewing abstracts to ensure accessibility and relevance.

TDRA speakers during the "In the Neighbourhood" session included:

- Dr. Carmela Tartaglia – Biofluid biomarkers in frontotemporal dementia
- Dr. Mary Chiu – Virtual reality and artificial intelligence for caregiver support
- Dr. Ho Yu – Overview of Alzheimer's disease

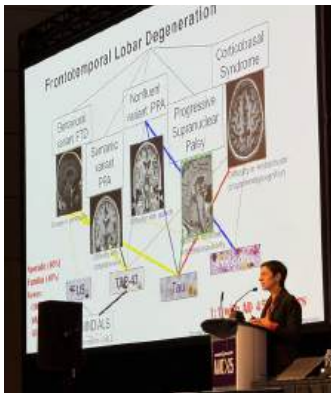
TDRA also hosted a community-facing booth with plain-language tools and resources.

Community Connection Through "Connect & Reflect"

Following AAIC For All, TDRA and the Alzheimer Society of Toronto co-hosted a "Connect & Reflect" community social. Nearly 70 attendees—including people living with dementia, caregivers, TDRA LEAP members, researchers, clinicians, and community organizations—gathered for informal connection and shared learning.

PILLAR 3: EDUCATION

TDRA at AAIC 2026: Moments from the Event



PILLAR 3: EDUCATION

SLAIGHT FAMILY FOUNDATION DEMENTIA CARE INITIATIVES – COLLABORATION RETREAT

In April 2025, TDRA hosted a full-day Collaboration Retreat for the Slaight Family Foundation Dementia Care Initiatives, bringing together 33 participants from seven funded organizations—Baycrest, Belmont House, CAMH, Egale Canada, the Alzheimer Society of Canada, the National Institute on Ageing, and Sunnybrook Health Sciences Centre—at Toronto Metropolitan University. The retreat focused on strengthening cross-organizational collaboration, aligning shared priorities, and accelerating collective impact across dementia research, prevention, and care. Through structured collaboration sessions and a joint evaluation workshop, partners established concrete collaboration commitments, refined shared impact themes and evaluation measures, and confirmed plans for ongoing annual alignment meetings.

UNIVERSITY OF TORONTO MEDICAL STUDENT RESEARCH OPPORTUNITIES

TDRA supports medical trainees through competitive University of Toronto research programs that provide hands-on experience in dementia-related research.

CREMS Summer Research Program offers a full-time, 10-week summer research placement for medical students between Years 1–2 or 2–3 under faculty supervision.

PILLAR 3: EDUCATION

Graduate Diploma in Health Research (GDipHR) is a 20-month longitudinal research and coursework program for select first-year MD students, leading to a University of Toronto diploma alongside the MD degree.

TDRA co-funds the research supervisor's portion of the student stipend for both programs, in partnership with the University of Toronto and participating research sites.

GDipHR

Ariana Petrazzini is the 2025 to 2026 GDipHR awardee. Under the supervision of Dr. Sanjeev Kumar, Ariana has spent the past year building the foundation for her project on behavioural and psychological symptoms of dementia. Ariana is examining which clinical and demographic factors predict the severity of these symptoms, and which factors shape response to non-pharmacological and pharmacological treatments. She shared an early summary of her work through a poster presentation at the Black Physicians' Association of Ontario Conference.

Adriana Petrazzini,
2025-2026 GDipHR awardee

She also contributed to a peer-led systematic review on anticholinergic burden and neuropsychiatric symptoms, supporting screening, data extraction, and appraisal.

Jessica Hira was the 2024 to 2025 GDipHR awardee. Under the supervision of Dr. Sanjeev Kumar's lab at CAMH, she led a multimodal neuroimaging project focused on identifying new brain markers of Alzheimer's disease. Her work combined EEG, MRI, and diffusion tensor imaging to examine links between cortical excitability, cortical thickness, and white matter integrity. She completed data cleaning and ran the primary analyses.

Jessica Hira,
2024-2025 GDipHR awardee

In 2025, Jessica shared this work through several academic presentations. She gave an oral presentation at the University of Toronto Department of Psychiatry Research Day and presented posters at the Alzheimer's Association International Conference and the Azrieli Brain Medicine Conference. The research supported completion of her Graduate Diploma in Health Research. She is now preparing the work for submission to a peer reviewed journal.

PILLAR 3: EDUCATION

Sandra E. Black Award

The Sandra E. Black Award in Clinical Dementia Research is awarded annually to a trainee in the University of Toronto Temerty Faculty of Medicine conducting clinical dementia research at a TDRA site. The award is to recognize the trainee's contributions to an innovative research project. The 2024 recipient was Maurice Pasternak, a PhD candidate in the Institute of Medical Science working under the supervision of Dr. Mario Masellis at Sunnybrook Health Sciences Centre.

Sandra E. Black,
Sunnybrook Research Institute

Maurice's work focuses on genetic frontotemporal dementia and the factors that influence disease progression. His project examines TMEM106B, a gene that may have a protective effect in frontotemporal dementia. Using advanced neuroimaging methods, he is studying changes in brain structure and connectivity in people at early stages of the disease and comparing these findings with those of healthy family members.

In 2025, he examined a specific TMEM106B variant, rs1990622. His findings show that this variant slows brain atrophy, slows cognitive decline, and reduces the rise of a blood marker linked to brain cell damage. This work supports the potential of TMEM106B as a therapeutic target. An abstract on this project was presented at the 2025 Alzheimer's Association International Conference. A manuscript is in preparation.

Maurice Pasternak, 2024 recipient of the Sandra E. Black Award

He also completed a project that looked at changes in brain connectivity over time in the three major genetic forms of frontotemporal dementia. He found early declines in key brain networks in people who carry these mutations before symptoms start. He also identified patterns that differ by gene. He presented this work at the 2025 Canadian Conference on Dementia. A manuscript is ready for submission. These findings help improve understanding of early disease changes and may support future treatment approaches.

PILLAR 3: EDUCATION

Tarek K. Rajji Award

The Tarek K. Rajji Award in Brain Stimulation Research is presented annually to a University of Toronto trainee conducting innovative brain stimulation research related to dementia or a cognitive disorder at a TDRA site. The award recognizes outstanding contributions to a forward-thinking research project.

Tarek K. Rajji,
UT Southwestern Medical Centre

The inaugural recipient is Ilya Demchenko, a PhD candidate in Medical Sciences with a Collaborative Specialization in Neuromodulation.

Ilya is studying temporal interference stimulation as a way to reach deep brain regions involved in mood and cognition. In 2025, he advanced two main projects. The first is a randomized controlled trial in major depressive disorder. Eleven participants have enrolled since recruitment began in May 2025, and seven have completed the study. All regulatory approvals are in place, imaging and EEG protocols have been optimized, and data collection is ongoing.

The second project is a study in healthy adults that tests how different stimulation frequencies affect working memory. Health Canada has granted full authorization. Research ethics review is underway. Stimulation protocols and safety procedures are complete.

Ilya Demchenko, 2025 recipient
of the Tarek K. Rajji Award

Ilya also produced several research outputs. He published a systematic review in Brain Stimulation and a protocol paper in Frontiers in Neuroscience. He presented his work at multiple scientific meetings. More conference submissions and manuscripts are planned for 2026.

His progress this year strengthens the evidence base for temporal interference stimulation and supports future clinical and translational work.

PILLAR 3: EDUCATION

KNOWLEDGE TRANSLATION AND COMMUNICATIONS

Newsletter

TDRA launched its monthly e-newsletter for the community in February 2022 as a plain-language knowledge translation tool designed to be accessible to both public and scientific audiences. The newsletter features a researcher spotlight, announcements, information about upcoming events and training opportunities, and a plain-language summary of a recently published study featuring TDRA authors.

As of December 2025, TDRA published its 46th issue. The newsletter has over 1550 subscribers, representing a 13% increase over the past year. Subscribers are based across Canada, the United States, the United Kingdom, India, and Europe (e.g., Sweden, France).

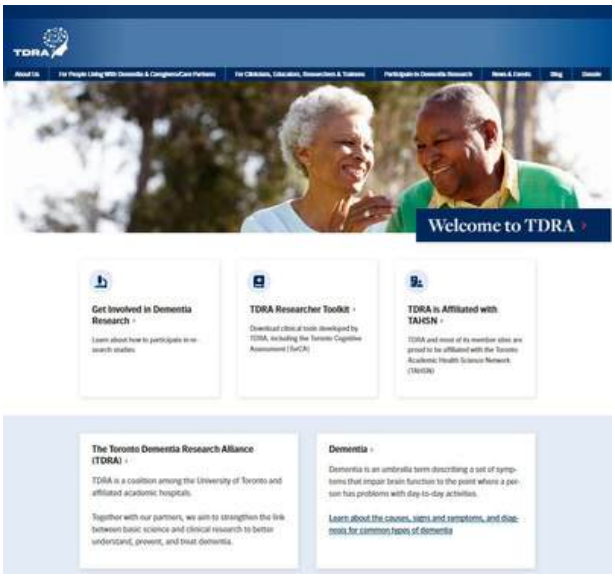
The newsletter has played a key role in driving awareness, engagement, and registrations for TDRA events, courses, and initiatives across the network. See Appendix 5 for newsletter analytics.

Webinar Series: Advances in Dementia Research

The Advances in Dementia Research webinar series is a bi-monthly, plain-language initiative hosted in partnership with the Alzheimer Society of Toronto (AST). Each session features a TDRA-affiliated researcher presenting on a dementia research topic and highlighting a related study listed on the TDRA Research Studies Portal, with the goal of increasing awareness of, and participation in, research. To date, 24 webinars have been delivered, with 1079 attendees, and 21 referrals to actively recruiting studies, and recordings are available on both AST and TDRA's YouTube channels (see Appendix 6).

As part of the series, a special Alzheimer's Awareness Month panel was held in January 2025, featuring a brain stimulation researcher, a dementia policy and health systems leader, and a lived experience speaker, focused on brain stimulation in Alzheimer's disease, recent research advances, and a participant perspective.

PILLAR 3: EDUCATION



Scientist Explains Series ›

TDRA scientists explain dementia-related concepts in plain language

TDRA Spotlight Series ›

Get to know TDRA scientists & learn about their work

Living with Dementia ›

Sharing the experiences of people living with dementia & care partners

TDRA Websites and Blogs

TDRA's website serves as its primary knowledge translation platform, hosting information on research and tools, plain-language dementia resources, news, events, and past newsletters. In 2025, the main website underwent an external accessibility audit focused on wayfinding, content, colours, contrast, and overall usability for both older adults with and without memory challenges. All recommended changes were implemented.

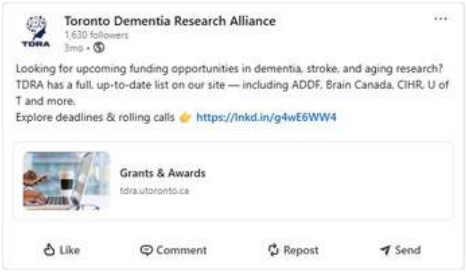
TDRA also hosts three blog series: the Scientist Explains Series, the TDRA Spotlight Series, and the Living with Dementia Series, featuring researchers and people with lived experience through written and video content. As of December 2025, 58 blogs/vlogs have been published, with 4,922 total lifetime views on YouTube (vlogs) and 31,479 lifetime page views on our main website (written blogs). In fall 2025, TDRA launched an Early Investigator Mini-Series as part of the TDRA Spotlight Blog, featuring emerging researchers across the network. To date, four posts have been published.

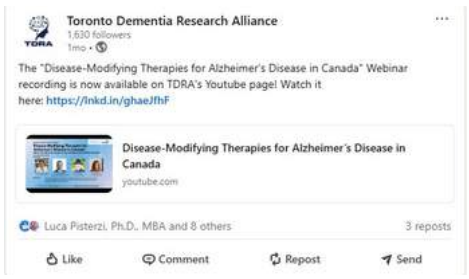
TDRA also maintains a password-protected Portal website that houses standardized, evidence-based tools, resources, and educational videos for researchers and clinicians. As of December 10, there were 970 registered users, reflecting a year-over-year growth of approximately 13.5% since December 2024, with 115 new users added in 2025. In 2025 (as of December 12, 2025), the main site had 30.2K active users who initiated 39.6K sessions and generated 60.8K page views. The top three pages were the Clock Drawing Test blog post, the homepage, and the clinical tools page. (see Appendix 7).

PILLAR 3: EDUCATION

Social Media

TDRA maintains active social media accounts on X and LinkedIn to extend the reach of its knowledge products, promote upcoming opportunities and events, and drive traffic to TDRA's websites. TDRA ended the year with 959 followers on X. Between January 1 and December 12, 2025, the account recorded 29.7K impressions, 1.7K engagements, 299 likes, and 119 reposts, with an overall engagement rate of 5.8%. On LinkedIn, TDRA ended the year with 1,541 followers. Between January 1 and December 12, 2025, the account recorded 68,483 impressions, 1,117 reactions, 16 comments, and 14 reposts. Lastly, between January 1 and December 12, 2025, videos on TDRA's YouTube channel received 5.3K views and 333.1 hours of watch time. As of December 12, 2025, the channel hosted 52 total videos and had 224 subscribers. (see Appendix 9).





PILLAR 4: ADVOCACY

PILLAR 4: ADVOCACY

INDUSTRY CONSORTIUM UPDATE

In 2024, TDRA began working with industry partners including Eisai, Biogen, Eli Lilly, and Roche to explore the development of a formal consortium focused on advancing shared priorities in dementia care and treatment. Three key areas of collaboration were identified: (1) Continuing Medical Education (CME), (2) fellowships, and (3) a real-world outcomes registry. As of August 2024, the terms of reference were developed and reviewed through TDRA's Legal Working Group, with conflict of interest management discussed with the University of Toronto.

In 2025, TDRA is advancing the first initiative with the development of a CME course. A Scientific Planning Committee has been established, including:
Dr. Elena (Irina) Nica-Graham, Dr. Linda Lee, Dr. Martin Ingelsson, Dr. Vathany Kulasingam, Ahmad Alghamdi, and Artee Srivastava.

A learning needs assessment survey informed course development, receiving 113 responses. The course, titled Appropriate Use of Biomarkers in Neurodegenerative Diseases Causing Mild Cognitive Impairment and Dementia, will be accredited through the University of Toronto Temerty Faculty of Medicine CPD Office and is planned for launch in Q1 2026. The fellowship and registry initiatives will follow after the CME course is launched.

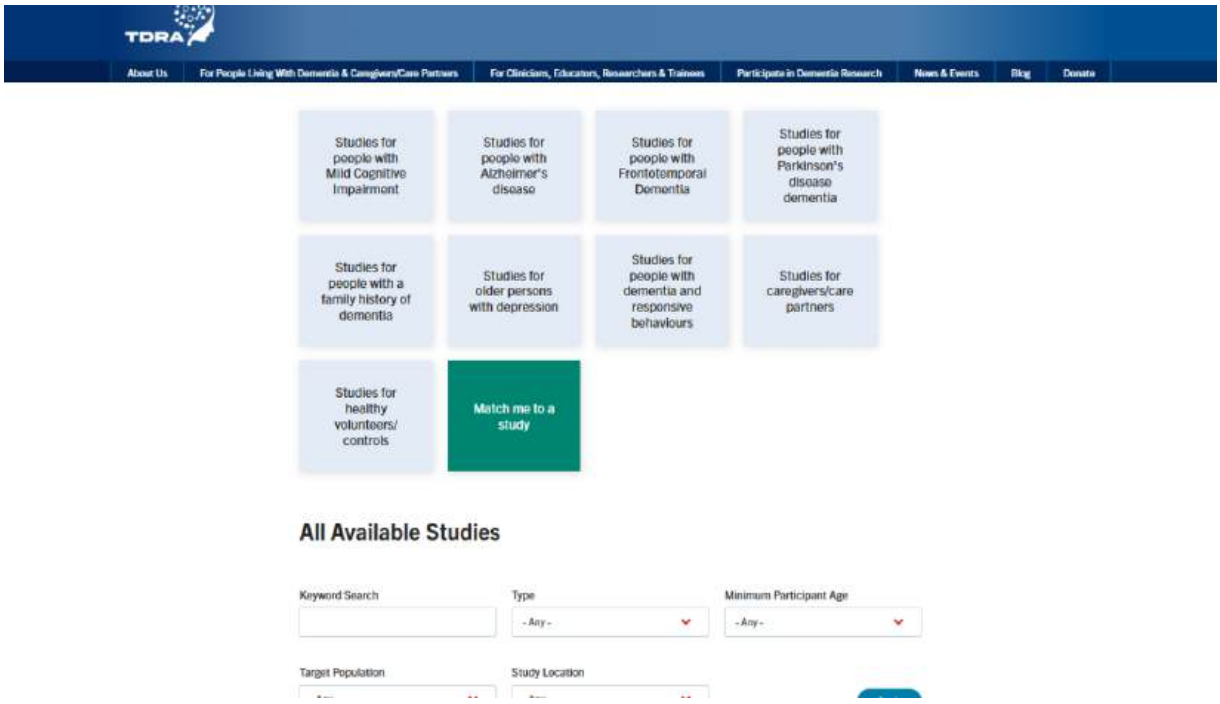
PILLAR 4: ADVOCACY

TDRA RESEARCH STUDIES PORTAL

In 2025 the Research Studies Portal was launched on TDRA's main website. Previously housed on the Toronto Dementia Network (TDN) in partnership with the Alzheimer Society of Toronto (AST), the research studies portal is a free, easy-to-use webpage that connects people to local dementia-related research. The portal contains plain language descriptions of research studies conducted by TDRA affiliated sites to help boost recruitment for active studies and assist with participant matching. For those wanting to participate in research, individuals can either a) self-refer to a specific study they are interested in and be connected to the study team, or b) they can choose to be matched to a study based on screening information they provide (e.g. preferred location, age, interventional vs. observational, etc.). This equitable triage process has proven very successful for participant enrollment and completion.

Sixty-seven cumulative studies have been listed through TDRA (previously TDN, now the research studies portal); twenty-nine of these studies are now inactive or closed. To date, the recruitment triage process has yielded 577 referrals to studies in the TDRA network, including 220 that are enrolled or have completed a study. This is an exceptional enrolment rate of 38%. See appendix 10 for details.

Efforts to spread awareness about the research studies portal and increase recruitment continue, including engaging with community organizations, attending conferences, arranging presentations, and distributing brochures. Additionally, TDRA's recruitment method is featured in various outreach initiatives. Dementia care services such as respite care, nursing, transportation and other forms of support can still be found on the AST website.



PILLAR 4: ADVOCACY

Migration of the TDN Research Study Listings

In 2025, TDRA migrated its Research Study Listings from the Toronto Dementia Network (TDN)—a property of the Alzheimer Society of Toronto (AST)—to the main TDRA website. While the study content was always developed and maintained by TDRA, this transition brings the portal fully into TDRA's digital ecosystem, strengthening sustainability, branding, accessibility, and timely updates.

The new TDRA-hosted portal was developed with University of Toronto web developers and incorporates all accessibility recommendations from the recent TDN audit. It was reviewed by TDRA's governance councils, including the Lived Experience Advisory Partners (LEAP) Council. AST, TDN, and the Alzheimer Society of Canada now link directly to the TDRA portal to ensure continued public access to research opportunities.

PILLAR 4: ADVOCACY

COMMUNITY OUTREACH

Baycrest Caregiver Celebration (April 2025)

TDRA developed a one-page handout geared towards caregivers that includes information on the TDRA, research studies, and resources. This handout, and TDRA brochures, were distributed to attendees of the yearly Baycrest Caregiver Celebration.

OSSCO Spring Fling (May 2025)

TDRA exhibited at the Ontario Society of Senior's Citizens Organizations (OSSCO) Spring Fling where exhibitors and vendors shared services and resources geared towards seniors. There were approximately 150 attendees, 11 of which signed up for the TDRA newsletter and 9 of which signed up to receive more information about dementia research studies.

Walk for Alzheimer's (May 2025)

TDRA sponsored the 2025 Walk for Alzheimer's event hosted by the Alzheimer Society of Toronto. As part of the sponsorship, TDRA had an exhibitor booth at the outdoor event where swag bags were distributed. Over 1000 people attended the event and TDRA gained 6 newsletters sign ups and 6 research study inquiries.

Department of Psychiatry Research Day (June 2025)

TDRA presented a poster titled A Model for Community-based Recruitment for Dementia Clinical Trials at the University of Toronto's Department of Psychiatry Research Day.

PRIDE Street Fair (June 2025)

In partnership with AST, TDRA and research portal brochures were distributed at an exhibitor booth during the PRIDE Street Fair in Toronto.

PILLAR 4: ADVOCACY

AAIC 2025 (July 2025)

TDRA had a large presence at this year's Alzheimer's Association International Conference held in Toronto. Not only did TRDA exhibit as part of the Canadian Pavilion, our coordinating center staff presented a poster titled A Model for Community-based Recruitment for Dementia Clinical Trials in addition to the huge research presence of TDRA affiliates: 10 research sessions; 5 oral presentations; 98 posters + 3 virtual posters. In addition to assisting with the planning on AAIC For All, TDRA also hosted a Connect & Reflect Social at a local restaurant as an opportunity for the general public and experts in dementia to connect and discuss the current landscape in dementia diagnosis and care.

CCNA 2025 (Oct 2025)

TDRA exhibited at the Canadian Consortium on Neurodegeneration in Aging (CCNA) and presented a poster titled A Model for Community-based Recruitment for Dementia Clinical Trials. TDRA received 3 newsletter sign-ups and 3 research study inquiries.

CAGP 2025

TDRA's Executive Director, Dr. Carmela Tartaglia, presented her TDRA project titled A Model for Embedding Research in Neurodegenerative Disease Diagnosis, Prognostics, and Care during an oral presentation session at the Canadian Academy of Geriatric Psychiatry Annual Scientific Meeting (CAGP). It received extensive positive feedback.

Intergenerational Classroom 2025

TDRA exhibited during the last class of the University of Toronto's Intergenerational Classroom course at Christie Gardens retirement home. This class brings together younger students and older adults to explore aging and health, fostering mutual learning and understanding. TDRA was able to distribute brochures and have meaningful conversations with both generations about participating in research and the current focus of our research and clinical initiatives.

PILLAR 4: ADVOCACY

LIVED EXPERIENCE ADVISORY PARTNERS COUNCIL

TDRA continued to benefit from the guidance of a highly engaged Lived Experience Advisory Partners (LEAP) Council in 2025, which ensures that lived experience perspectives remain embedded across TDRA initiatives. During this reporting period, LEAP was comprised of 14 active members and three chairs, including two scientific co-chairs and one lived experience chair.

LEAP members remained actively integrated across TDRA governance and programmatic activities. Members participated in active Research Working Groups (RWGs) and continued representation on both the Scientific Advisory Committee (SAC) and the Research Operations Committee (ROC).

In 2025, TDRA also established a new Clinical Table, supported by three associated working groups. LEAP members were appointed to each of these groups to ensure that lived experience perspectives informed clinical, systems, and implementation planning from the outset. Notable LEAP contributions for 2025 are outlined in Appendix 11.

APPENDICES

APPENDIX 1

Brain Canada Database Studies

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Bone, M. B., Freedman, M., Black, S. E., Felsky, D., Kumar, S., Pugh, B., Strother, S. C., Tang-Wai, D. F., Tartaglia, C., & Buchsbaum, B. R. (2025). A Vision Transformer Approach for Fully Automated and Scalable Dementia Screening using Clock Drawing Test Images. Alzheimer's & Dementia, 21(S4). https://doi.org/10.1002/alz70858_097670

Cuperfain, A. B., Black, S. E., Fostoc, M., Freedman, M., Ma, C., Rajji, T., Strother, S., Tang-Wai, D. F., Tartaglia, M. C., Kumar, S., & Group, T. C. R. D. (2025). Delineating the Effects of Alcohol Use on Cognition in Individuals With Neurocognitive Disorders. The Journal of Clinical Psychiatry, 86(3). https://doi.org/10.4088/JCP.24m15738

Pavoni, C., Chowdhury, N., Binns, M., Black, S. E., Kumar, S., Tang-Wai, D. F., Tartaglia, C., & Freedman, M. (2025). Clock Drawing as a Tool to Reduce Cognitive Assessment Time. Alzheimer's & Dementia, 21(S7). https://doi.org/10.1002/alz70861_108482

Soffer M, Butters MA, Herrmann N, et al. About time: neurocognitive correlates of stimulus-bound and other time setting errors in the Clock Drawing Test. Journal of the International Neuropsychological Society. 2024;30(5):471-478. doi:10.1017/S1355617723011396

Tang-Wai, D. F., Strother, S. C., Pugh, B., Spring, R., Vica, C., Nourhaghighi, N., Gee, T., Pisterzi, L., Greenberg, B., Coahran, M., Apatsidou, A., Ding, J., Kumar, S., Black, S. E., & Freedman, M. (2020). Toronto dementia research alliance (TDRA) dementia clinical-research platform: An example of research embedded into clinical care. Alzheimer's & Dementia, 16(S11). https://doi.org/10.1002/alz.041756

tACS-FUS Study

Publication: Mirjalili M, Palamarchuk I, Brooks H, Zomorrodi R, Melichercik A, Wang W, Nestor S, Blumberger D, Datta A, Bowie C, Mdawar B, Hynynen K, Kumar S, Rajji T. (2025). "Individualized Frequency and Montage tACS to Engage Theta-Gamma Coupling and Enhance Working Memory in Mild Cognitive Impairment". Frontiers in Psychiatry. Volume 16 (2025). https://doi.org/10.3389/fpsyt.2025.1565881

APPENDICES

Identifying Pre-Agitation Biometric Signature in Dementia Patients: Preliminary Feasibility Study

Pistritto SC, Burhan AM, Chiu M, Elgazzar S, Lally P, Sun W. Exploring Salivary Brain-Derived Neurotrophic Factor (BDNF) as a Potential Biomarker of Neuroplasticity in Older Adults Through Exergaming. Cureus. 2025 Sep 26;17(9):e93280. doi: 10.7759/cureus.93280. PMID: 41146751; PMCID: PMC12554297.

Multimodal Detection of Agitation in People With Dementia in Clinical Settings

Badawi A, Elmoghazy S, Choudhury S, Elgazzar S, Elgazzar K, Burhan AM. Multimodal Detection of Agitation in People With Dementia in Clinical Settings: Observational Pilot Study. JMIR aging. 2025 Jul 15;8(1):e68156

VR-SIM Carers Project

Burhan AM, Sun W, Chiu M, Choudhury S, Badawi A, Elgazzar K. (2023) Technology enabled care for neuropsychiatric symptoms of dementia: implementation at the point of care. International Psychogeriatrics. 35(S1):40-40. doi:10.1017/S1041610223002090

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Chiu M, Shnall A, Burhan AM. Exploring the Potential of Virtual Reality and Artificial Intelligence as Tools to Design, Develop and Deliver Psychotherapeutic Intervention for Family Caregivers of Persons Living with Dementia. Alzheimers Dement. 2025 Dec 26;21(Suppl 4):e104542. doi: 10.1002/alz70858_104542. PMCID: PMC12742365.

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O'Hara, E., Al-Bayati, R., Chiu, M., & Dubrowski, A. (2024). User Experience Testing of the Meta Quest 2 for Integration With the Virtual Reality Simulation for Dementia Coaching, Advocacy, Respite, Education, Relationship, and Simulation (VR-SIM CARERS) Program. Curēus (Palo Alto, CA), 16(8), e66314. https://doi.org/10.7759/cureus.66314

APPENDICES

APPENDIX 2: TDRA–JAMA FORUM PRESENTATION TITLES AND SPEAKERS

Novel Rare Variants in MAPT-Related Genetic FTD Contribute to Symptomatic Presentation and Age of Onset: A Genome-Wide GENFI Study
Dr. Saira Mirza

Dermal α-Synuclein and 4R-Tau SAAs with Serum NfL: A Multimodal Approach to Enhance Diagnosis of Parkinsonian Syndromes
Dr. Ivan Martinez

Surgical Outcomes Associated with Domain-Specific Performance on the Montreal Cognitive Assessment
Ellene Yan

Biomarkers for In Vivo Signatures of Proteinopathies: Redefining Personalized Medicine in Neurodegenerative Diseases Requires Moving Beyond Single Pathology
Dr. Juan-Camilo Vargas-González

Predictors of Falls in Alzheimer Disease Agitation on Escitalopram: Analysis from the SCitAD Study
Dr. Amer Burhan

GWAS and Polygenic Score Analyses Reveal Links Between Cognition and Antidepressant Response in Older Adults
Dr. Samar Elsheikh

Individual-Level Prediction of Cognitive Decline in Alzheimer's Disease via Graph Convolutional Networks
Dr. Min Su (Peter) Kang

Cognitive Impairment Is an Independent Predictor of Recurrent Stroke and Death in Ischemic Stroke/TIA Survivors: Multivariable Prediction Models in a Prospective, Registry-Linked, Population-Based Cohort
Dr. Rick Swartz

Extracellular Vesicles as Biomarkers of Brain Cellular Dynamics: Applications in Clinical Neuropsychiatry
Dr. Erica Vieira

Inflammation and APOE ε4 Genotype Modify the Link Between Earlier Menopause and Memory Decline
Madeline Wood Alexander

Computer Vision Technology for Fall Risk Prediction in Nursing Home Residents with Dementia
Dr. Andrea Iaboni

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APPENDIX 3: TDRA-AFFILIATED PRESENTATIONS AT AAIC 2025

TDRA FEATURED RESEARCH SESSIONS

Brain Health PRO: Evaluating a Web-Based Multidomain Intervention to Improve Dementia Literacy and Self-Efficacy
Sylvie Belleville, Nicole D. Anderson, John R. Best, Paul W.H. Brewster, January Durant, Mohamed Abdelhafid Kadri, Andrew Lim, Jody-Lynn Lupo, Manuel Montero-Odasso, Haakon B. Nygaard, MD, Penelope J. Slack, Howard Chertkow, Howard H. Feldman

A web-based multidomain intervention improves modifiable risk factors for Alzheimer's disease
Nicole Anderson

The combined influence of earlier menopause and cardiac function on brain health
Tallinn Splinter, Madeline Wood Alexander, Amy Kirkham, Gillian Einstein, Sandra Black, Jennifer Rabin

Overview of sex and gender in FTD
Carmela Tartaglia

Sex differences in clinical phenotypes of behavioral variant frontotemporal dementia
Xulin Liu

Female Informants are associated with higher CDR PLUS NACC-FTLD scores in patients with Frontotemporal Dementia
Juan Camilo Vargas Gonzalez

Communication of prognosis to patient with PSP and family
Juan Camilo Vargas Gonzalez

Use of biomarkers to differentiate 4-repeat tauopathies from AD (Clinical Toolbox)
Indira Garcia Cordero

Clinical detection of PSP, not only an "atypical parkinsonism" (Clinical Toolbox)
Blas Couto

Management of neurobehavioral changes in PSP (Clinical Toolbox)
Alonso Morales-Rivero

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TDRA ORAL PRESENTATIONS

The interplay between synaptic integrity and age at menopause on Alzheimer's disease risk in women
Madeline Wood Alexander

Antioxidant N-acetylcysteine as an intervention for neuropsychiatric symptoms in individuals with vascular mild cognitive impairment
Alan Peng, Yejin Kang, Damien Gallagher, Nathan Herrmann, Zahinoor Ismail, Sandra Black, Alex Kiss, Paul Oh, Joel Ramirez, Walter Swardfager, Kate Survilla, Ethan Mah, Danielle Vieira, Krista Lanctôt

One size does not fit all: menopause hormone therapy type and route of administration influences cognitive health
Laura Gravelsins, Tanvi Puri, Madeline Wood Alexander, Andrew MCGovern, Paula Duarte-Guterman, Jennifer Rabin, Kelly Murphy, Liisa Galea

Spatio-temporal digital markers of behavioural and psychological symptoms to support clinical dementia care
Leia Shum

Sex-Specific Associations Between Systemic Inflammation and Brain Health in Aging: Evidence from a Multi-Ethnic Canadian Cohort
Katie Vandeloo, Rachel Yep, Jordan Chad, Tulip Marawi, Alexander Nyman, Madeline Wood Alexander, Georgia Gopinath, Angelina Zhang, Simran Malhotra, Rohina Kumar, Sarah-Mei Chen, Silina Boshmaf, Harleen Rai, Walter Swardfager, Sandra Black, Maged Goubran, Jennifer Rabin

TDRA POSTER PRESENTATIONS

Mapping molecular pathways underlying the relationship between plasma ptau and Alzheimer's disease pathology: an imaging transcriptomic study
Min Su (Peter) Kang

Unique features of microglial response in Progressive Supranuclear Palsy
Satoshi Tanikawa

Biofluid biomarkers in Frontotemporal lobar degeneration
Carmela Tartaglia

Speech-Based Detection of Alzheimer's Disease: Leveraging Spectral Contrast and Pitch Variability as Potential Diagnostic Markers
Hamed Azami

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TDRA POSTER PRESENTATIONS (CONTINUED)

Glial Inflammation in the posterior white matter modulates the amyloid-tau-cognition relationship
Julie Ottoy

Periventricular white matter hyperintensities co-localize with deep intramedullary venules, sparing compact fiber tracts and can increase or decrease over time in Alzheimer's disease
Fuqiang Gao

Informant Effect on Functional Activities Questionnaire scores in the National Alzheimer's Coordinating Center Uniform Data Set
Juan Camilo Vargas Gonzalez

Identifying a combination of biomarkers to predict treatment response to nabilone for the treatment of agitation in Alzheimer's disease – a post hoc analysis
Janet Wang

Assessing the association between cognitive impairment and perioperative trajectory of frailty in older adults undergoing anesthesia and surgery: a multicentred cohort study
Eric Ka J

Differentiating apathy and depression across neurodegenerative disorders: sex-specific associations with severity and location of white matter hyperintensities
Almira Siddiqui

Correlates of white matter hyperintensities in Royal Canadian Air Force pilots and aircrew
Joel Ramirez

The moderating effect of theta-gamma coupling on response to cognitive remediation combined with transcranial direct current stimulation in older adults with mild cognitive impairment or remitted major depressive disorder: a PACtMD analysis
Heather Brooks, Mina Mirjalili, Clement Ma, Alina Lee, Daniel Blumberger, Christopher Bowie, Corinne Fischer, Alastair Flint, Nathan Herrmann, Sanjeev Kumar, Krista Lanctôt, Linda Mah, Benoit Mulsant, Nicole Schoer, Reza Zomorrodi, Tarek Rajji

A vision transformer approach for fully automated and scalable dementia screening using clock drawing test images
Michael Bone, Morris Freedman, Sandra Black, Daniel Felsky, Sanjeev Kumar, Bradley Pugh, Stephen Strother, David Tang-Wai, Carmela Tartaglia, Bradley Buchsbaum

Can Thumbs UP: The Prevention arm of the Canadian Consortium on Neurodegeneration in Aging (CCNA)
Nicole Anderson

Expanding the impact of the Driving and Dementia Roadmap through a national radio ad campaign
Gary Naglie

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TDRA POSTER PRESENTATIONS (CONTINUED)

Risk factor profiles and changes in risk factors and cognitive function over 12 months: The CAN-THUMBS UP Brain Health Support Program Study
Nicole Anderson

Efficacy and safety of N-acetylcysteine in patients with vascular mild cognitive impairment (vMCI): Memory and antioxidant in vMCI Exercise Intervention Trial (MOVE-IT)
Yejin Kang, Nathan Herrmann, Damien Gallagher, Jinghan Jenny Chen, Ethan Mah, Kate Survilla, Danielle Vieira, Sandra Black, Ana Andreazza, Alex Kiss, Paul Oh, Joel Ramirez, Walter Swardfager, Susan Marzolini, Krista Lanctôt

Spinal cord quadruple misfolded proteins in chronic traumatic encephalopathy
Hidetomo Tanaka, Lauren Black, Shelley Forrest, Carmela Tartaglia, Mozhgan Khodadadi, Nusrat Sadia, Charles Tator, William Stewart, Gabor Kovacs

Grip Strength Normalized by Lean Body Mass: A Novel Biomarker for Cognitive Health in Older Adults
Dvir Dori, Maliha Chowdhury, Nicole Anderson, Brian Tan, Danielle D'Amico, Howard Chertkow

Extracellular vesicles as biomarkers of brain celluar dynamics: applications in Alzheimer's dementia, mild cognitive impairment and late-life depression
Erica Vieira, Yuliya Nikolova, Sarah Elmi, Ana Paula Mendes-Silva, Sanjeev Kumar, Breno Diniz, Tarek Rajji

Soluble epoxide hydrolase-derived linoleic acid diols, cerebral small vessel disease markers and white matter microstructural integrity in type 2 diabetes mellitus
Si Won Ryoo, William Lin, Myuri Ruthirakuhan, Yuen Yan Wong, Natasha Anita, Malcolm Binns, Manuel MonteroOdasso, Stephen Arnott, Carmela Tartaglia, Anthony Lang, Sean Symons, Robert Hegele, Bradley MacIntosh, Krista Lanctôt, Ameer Taha, Sandra Black, Walter Swardfager

Rare genetic variants influence regional cortical and subcortical grey matter volumes in genetic frontotemporal dementia: A GENFI Study
Saira Mirza, Maurice Pasternak, Andrew Paterson, Carmela Tartaglia, Sandra Black, Sara Mitchell, Morris Freedman, David Tang-Wai, Ekaterina Rogaeva, David Cash, Martina Bocchetta, John van Swieten, Robert Laforce, Fabrizio Tagliavini, Barbara Borroni, Daniela Galimberti, James Rowe, Caroline Graff, Elizabeth Finger, Sandro Sorbi, Alexandre Mendonca, Christopher Butler, Alexander Gerhard, Raquel SanchezValle, Fermin Moreno, Matthis Synofzik, Rik Vandenberghe, Simon Ducharme, Johannes Levin, Markus Otto, Isabel Santana, Jonathan Rohrer, Mario Masellis

Characterizing the relationship between neuroinflammation and neurodegeneration in AD and FTLD
Chloe Anastassiadis

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TDRA POSTER PRESENTATIONS (CONTINUED)

Computational perivascular space volumes derived from magnetic resonance imaging relate to lower cognitive performance and cognitive decline – A multicenter individual patient data meta-analysis
Francesca Chappell, Roberto Duarte, Maria Valdes Hernandez, Rosalind Brown, Jose Bernal, Lucia Ballerini, Joel Ramirez, Stephanie Berberian, Lauren Woods, Hugo Kuijf, Alberto De Luca, Geert Jan Biessels, Sandra Black, Joanna Wardlaw

Structure-function decoupling in genetic frontotemporal dementia
Kamen Tsvetanov, et al.

Disentangling the effects of Alzheimer's pathology and cerebral small vessel disease on hippocampal morphology
Kristina Xhima, Julie Ottoy, Erin Gibson, Katherine Zukotynski, Christopher Scott, Ginelle Feliciano, Sabrina Adamo, Philip Kuo, Michael Borrie, Howard Chertkow, Richard Frayne, Robert Laforce, Michael Noseworthy, Frank Prato, Demetrios Sahlas, Eric Smith, Vesna Sossi, Alexander Thiel, Jean-Paul Soucy, Jean-Claude Tardif, Maged Goubran, Sandra Black, Joel Ramirez

Multimodal functional neuroimaging of hippocampal engagement in cognitively normal older
Kevin Solar, Melisa Gumus, Sriranga Kashyap, Nicolas Deom, Ljubica Zotovic, Kamil Uludag, Krista Lanctôt, Sandra Black, Luis Garcia Dominguez, Richard Wennberg, Mary Pat McAndrews

TMEM106B modulates disease severity in genetic frontotemporal dementia phenoconverters
Maurice Pasternak, Saira Mirza, Andrew Paterson, Carmela Tartaglia, Sara Mitchell, Sandra Black, Morris Freedman, David Tang-Wai, Ekaterina Rogaeva, David Cash, Mario Masellis

Microstructural differences in white matter tracts in Alzheimer's disease, cerebrovascular disease, and Parkinson's disease
Dana Broberg, Sandra Black, Richard Swartz, Anthony Lang, Angela Roberts, Robert Bartha

Impaired glymphatic clearance measured from DTI-ALPS in neurodegenerative and cerebrovascular disease
Daniela Andriuta, Joel Ramirez, Lauren Woods, Min Su (Peter) Kang, Stephanie Berberian, Fuqiang Gao, Christopher Scott, Dana Broberg, Robert Bartha, Richard Swartz, Mario Masellis, Sandra Black

Age Prediction with Resting-State EEG: An Explainable Hybrid Deep Learning Framework Using Periodic and Aperiodic Features Across Eyes-Open and Eyes-Closed Conditions
Hamed Azami, Ahmad Zandbagleh

Examining subjective cognitive decline in a Canadian mult-iethnic cohort of older adults
Georgia Gopinath, Rachel Yep, Tulip Marawi, Rohina Kumar, Simran Malhotra, Angelina Zhang, Madeline Wood Alexander, Alexander Nyman, Silina Boshmaf, Katie Vandeloo, Sandra Black, Maged Goubran, Jennifer Rabin

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TDRA POSTER PRESENTATIONS (CONTINUED)

Do males and females show distinct symptoms in Alzheimer's disease and behavioral variant frontotemporal dementia?
Xulin Liu, Sterre de Boer, Carmela Tartaglia

The effect of Nabilone on neuropsychiatric symptoms in Alzheimer's Disease: A secondary analysis
Tiffany Pan, Hui Jue Wang, Nathan Herrmann, Myuri Ruthirakuhan, Damien Gallagher, Nicolaas Paul Verhoeff, Alex Kiss, Sandra Black, Krista Lanctôt

Sex and age differences in cognitive presentation, mild cognitive impairment, and dementia prevalence in older patients with concussion – a retrospective observational study
Davina Premraj, Yasmin Soliman, Carmela Tartaglia, Charles Tator, Artee Srivastava

Sleep variables in the S-CitAD RCT of escitalopram for agitation in Alzheimer's disease
Paul B. Rosenberg

Brain morphology in extraordinary geometrician Harold coxeter: implications for connectivity
Christopher Scott, Debra Kigar, Pei Li, Aaron Wen, Devon Malhotra, Zain Daudi, Sandra Black, Sandra Witelson

What is the prevalence of impaired cognitive domains in surgical patients? A systematic review and meta-analysis
Subin Park, Ellene Yan, Ray Martinez Rodriguez, Bijal Desai, Jonathan Chung, Aparna Saripella, Marina Englesakis, Keera Fishman, Frances Chung

The Relationship Between Amyloid Burden, Cognition and Neuropsychiatric Symptoms in Individuals with Amnestic Cognitive Decline
Alia Alokley

A national Virtual Education Program to Promote the Brain Health of Aging Adults with Intellectual and Developmental Disabilities
Anupan Thakur, Nicole Bobette, Mary Chiu, Prachi Patel, Tiziana Volpe, Yona Lunsky

Exploring the Potential of Virtual Reality and Artificial Intelligence as Tools to Design, Develop and Deliver Psychotherapeutic Intervention for Family Caregivers of Persons Living with Dementia
Mary Chiu, Adriana Shnall, Amer M. Burhan

Health service utilization and transition to nursing home among a cohort with mixed neurodegenerative pathologies: the linked Ontario Neurodegenerative Disease Research Initiative (ONDRI) Cohort
Susan Bronskill, Laura Maclagan, Lavina Matai, Abby Emdin, Angela Roberts, Malcolm Binns, Paula McLaughlin, Sandra Black, Richard Swartz

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TDRA POSTER PRESENTATIONS (CONTINUED)

Association Between Day-to-Day Variation in Electroencephalographic (EEG) Sleep Features and Daytime Cognitive Function in Adults at Risk for Dementia
Dharmendra Gurve, Andrew Centen, Penelope Slack, Thien Thanh Dang-Vu, Sylvia Belleville, Nicole Anderson. Manuel Montero-Odasso, Haakon Nygaard, Howard Chertkow, Howard Feldman, Paul Brewster, Andrew Lim

Identifying multimodal amyloid, tau, and neurodegeneration (ATN) subtypes in Alzheimer's Disease across datasets and imaging markers
Katrina Carver, Andrew Clappison, Min-Su (Peter) Kang, Nesrine Rahmouni, Jenna Stevenson, Walter Swardfager, Joanne Mclaurin, Bojana Stefanovic, Richard Swartz, Sean Nestor, Jennifer Rabin, Serge Gauthier, Jean-Paul Soucy, Jean Chen, Mario Masellis, Sandra Black, Pedro RosaNeto, Julie Ottoy, Maged Goubran

Baseline estimation of cognition with retinal thickness in aging and Alzheimer's disease: an ONDRI study
M. Amin Banihashemi, Faryan Tayyari, Morgan Koo, Malcolm Binns, Paula McLaughlin, Donna Kwan, Mario Masellis, Richard Swartz, Peter Kertes, Wendy Hatch, Christopher Hudson, Maged Goubran, Sandra Black, ONDRI Investigators

Ethnic differences in association between vascular risk and brain MRI markers of dementia: Findings from the CAMERA study
Rohina Kumar, Katie Vandeloo, Simran Malhotra, Angelina Zhang, Sara-Mei Chen, Rachel Yep, Tulip Marawi, Harleen Rai, Alexander Nyman, Georgia Gopinath, Madeline Wood Alexander, Silina Boshmaf, Walter Swardfager, Sandra Black, Maged Goubran, Jennifer Rabin

White matter perivascular spaces are associated with lower phosphorylated tau and preserved cognitive function in Alzheimer's disease
Celine Huang, Si Won Ryoo, Sofia Perfetto, William Lin, Myuri Ruthirakuhan, Yuen Yan Wong, Malcolm Binns, Stephen Arnott, Robert Bartha, Sean Symons, Julie Ottoy, Bradley MacIntosh, Maged Goubran, Jennifer Rabin, Joel Ramirez, Walter Swardfager

A Model for Community-Based Recruitment for Dementia Clinical Trials
Winnie Qian

Heterogeneity in response to N-acetylcysteine in vascular cognitive impairment
Yejin Kang, Damien Gallagher, Nathan Herrmann, Sandra Black, Alex Kiss, Paul Oh, Joel Ramirez, Walter Swardfager, Krista Lanctôt

Genetic moderation on the relationship between brain white matter hyperintensities and amyloid-beta
Yuen Yang Wong et al.

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TDRA POSTER PRESENTATIONS (CONTINUED)

Brain cholesterol metabolism in Alzheimer's disease: Insights from ADNI and the UK Biobank
Myuri Ruthirakuhan, Yuen Yan Wong, Sofia Perfetto, Lisa Xiong, Che-Yuan Wu, Wi Won Ryoo, Daniel Mori-Fegan, Meghan Chenoweth, Walter Swardfager

Apoptosis protein markers in comorbid type 2 diabetes mellitus and depression; mediators of vascular contributions to cognitive impairment
Sofia Perfetto, Myuri Ruthirakuhan, Yuen Yan Wong, Si Won Ryoo, Celine Huang, Bradley MacIntosh, Walter Swardfager

Relationships between plasma biomarkers, neuroimaging markers and cognition in cerebral amyloid angiopathy
Ryan Muir et al.

Alzheimer and neurodegeneration biomarkers in mild cognitive impairment with Lewy body disease in COMPASSND
Richard Camicioli, Sandra Black, Michael Borrie, Howard Chertkow, Jennifer Cooper, Philippe Desmarais, Roger Dixon, Myrlene Gee, Ging-Yuek Hsiung, Zahinoor Ismail, Stephen Joza, Mario Masellis, Oury Monchi, Manuel Montero-Odasso, Krista Nelles, Ronald Postuma, Shady Rahayel, Eric Smith, Cheryl Washington

Synaptic Biomarkers in Alzheimer's Dementia: A Meta-Analysis
Amish Gaur

Multiscale Dispersion Entropy of Resting-State EEG in Older Adults with Alzheimer's Dementia, Mild Cognitive Impairment, or remitted Major Depressive Disorder
Hamed Azami, Mary Pat McAndrews, Mostafa Rostaghi, Reza Zomorrodi, Heather Brooks, Daniel Blumberger, Corinne Fischer, Alastair Flint, Nathan Herrmann, Sanjeev Kumar, Damien Gallagher, Linda Mah, Benoit Mulsant, Bruce Pollock, Tarek Rajji

Heterogeneity and progression of amyloid and vascular injury in Alzheimer's and mixed dementia cohorts
Julie Ottoy, Andrew Clappison, Eric Yin, Min Su (Peter) Kang, Erin Gibon, Katrina Carver, Joel Ramirez, Miracle Ozzoude, Katherine Zukotynski, Stephanie Berberian, Ginelle Feliciano, Christopher Scott, Walter Swardfager, Fuqiang Gao, Lauren Woods, Eric Smith, Nesrine Rahmouni, Ging-Yuek Hsiung, Robert Laforce, Frank Prato, Philip Kuo, Jean-Paul Soucy, Jean-Claude Tardif, Pedro Rosa-Neto, Sandra Black, Maged Goubran

Glymphatic perivascular clearance and extracellular vesicles: neuroimaging & blood-based biomarkers in mild cognitive impairment
Joel Ramirez, Lauren Woods, Jeng-liang Wu, Stephanie Berberian, Austyn Roseborough, Min Su Kang, Erin Gibson, Daniela Andriuta, Sandra Black, Manuel Montero-Odasso, Shawn Whitehead

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TDRA POSTER PRESENTATIONS (CONTINUED)

Rightward white matter disease is correlated to intraplaque hemorrhage
Faraz Honarvar, Joshua Noronha, Adam Gibicar, Pascal Tyrrell, Pejman Maralani, Corinne Fischer, Sandra Black, Alan Moody, April Khademi

Evaluating the predictive value of frontal white matter hyperintensity burden on cognitive response to NAC and exercise therapy in vascular mild cognitive impairment: Findings from the MOVE-IT trial
Ethan Mah, Damien Gallagher, Nathan Herrmann, Sandra Black, Joel Ramirez, Kate Survilla, Danielle Vieira, Jinghan Jenny Chen, Yejin Kang, Paul Oh, Susan Marzolini, Ana Andreazza, Alex Kiss, Walter Swardfager, Krista Lanctôt

Sex difference in tau and synaptic pathologies in a humanized MAPT mouse model revealed by PET imaging
Christopher Morrone

Impact of white matter hyperintensities on disease progression in Progressive Supranuclear Palsy-Richardson syndrome
Indira Garcia Cordero

Linking hippocampal atrophy to emotional dysregulation and sleep disturbances in neurodegenerative disease
Kaela Franco, Joel Ramirez, Fuqiang Gao, Vanessa Yhap, Christopher Scott, Maged Goubran, Mark Boulos, Sandra Black

Sex Differences in Neuropsychiatric Symptoms Associated with Agitation in Frontotemporal Lobar Degeneration
Celine Sakran

Technology-enabled Integrated Care Pathway (Tech-ICP) for Behavioral and Psychological Symptoms of Dementia in Long-Term Care
Suzanna Apostolovski

Antioxidant N-acetylcysteine as an intervention for neuropsychiatric symptoms in individuals with vascular mild cognitive impairment
Alan Peng, Yejin Kang, Damien Gallagher, Nathan Herrmann, Zahinoor Ismail, Sandra Black, Alex Kiss, Paul Oh, Joel Ramirez, Walter Swardfager, Kate Survilla, Ethan Mah, Danielle Vieira, Krista Lanctôt

Examining the Effects of Excessive Alcohol Use on Verbal Memory Processes in Older Adults with Mild Cognitive Impairment
Ari Cuperfain, Sara Pishdadian, Janine Louis, Malcolm Binns, Sandra Black, Howard Chertkow, Morris Freedman, Clement Ma, Mario Masellis, Paula McLaghlin, Joel Ramirez, David Tang-Wai, Carmela Tartaglia, Sanjeev Kumar

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TDRA POSTER PRESENTATIONS (CONTINUED)

Non-Pharmacological Group Programming in the Geriatric Mental Health Outpatient Services (GMHOS) at the Centre for Addiction and Mental Health (CAMH)
Senaya Karunarathne

The Baycrest Quick-Response Caregiver Tool: A Mixed Methods Study in Long-Term Care
Robert Mandan

Empowering Caregivers: Innovative Tools for Supporting Families of People with Dementia in Community and LTC Settings
Adriana Shnall, Yael bar

Comparing the Association Between Dementia Risk Scores and Cognitive Function Among Members of a Research-based
Danielle D'Amico, Brian Tan, Deanise Berba, Howard Chertkow, Nicole D. Anderson

Is poor performance on ultra-rapid cognitive screening tools associated with clinical outcomes? Updated findings from the Detection of Cognitive Impairment (Detect CI) study
Ellene Yan

BDNF Val66Met genotype, age at menopause, and physical activity synergistically influence cognition in postmenopausal women
Madeline Wood Alexander, Jane Paterson, Yuen Yan Wong, Walter Swardfager, Sandra Black, Jennifer Rabin

Improving Cognition in Older Adults in Community Housing (ICOACH)
Bernadette Mdawar

Does APOE4 genotype moderate the effects of multidomain exercise interventions in older individuals living with mild cognitive impairment
Frederico Pieruccini-Faria, Surim Son, Teresa Liu-Ambrose, Amer M. Burhan, Quincy J Almeida, Laura E. Middleton, Karen Li, Sarah Fraser, Louis Bherer, Manuel Montero-Odasso

Efficacy of a cognitive and leisure-based training program for older adults with a memory complaint
Sylvie Belleville, Aline Moussard, Ana-Inès Ansaldo, Patricia Belchior, Louis Bherer, Nathalie Bier, Veronique Bohbot, Lola L. Cuddy, Brigitte Gilbert, Regina Jokel, Kelly J Murphy, Natasha Rajah, Elizabeth Rochon, Jason Steffener, Angela Troyer, Nicole D. Anderson

The CAN-THUMBS UP Brain Health Support Program: Adherence, completion rates, and technical success in a fully remote online intervention study
Jody-Lynn Lupo, Penelope J. Slack, Nicole D. Anderson, Sylvie Belleville, Paul W.H. Brewster, Andrew Lim, MD; Manuel Montero-Odasso, Haakon B. Nygaard, Howard Chertkow, Howard H. Feldman

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TDRA POSTER PRESENTATIONS (CONTINUED)

Health behaviour changes driven by personalized feedback reports from wearables data: A HANDDS-ONT study
Ivan Culum, Emily Narayan, Elizabeth Godkin, Kit Beyer, Richard Swartz, Douglas Munoz, Sandra Black, Mario Masellis, Anthony Lang, Vanessa Thai, Desmond Oklikah, William McIlroy, Karen Van Ooteghem, Angela Roberts

Recruitment and Baseline Characteristics for the Lifestyle, Exercise and Diet (LEAD) 2.0 Trial: A 6-month randomized controlled trial of virtual exercise and nutrition interventions in older adults with subjective cognitive decline
Bobby Neudorf, Noah Koblinsky, Krista Power, Malcolm Binns,; Alexandra J. Fiocco, Shlomit Rotenberg, Susan Marzolini, Paul I. Oh, Jane Thornton, Fatim Ajwani, Kylie Sullivan, Stéphanie Chevalier, Caryl Russell, Guylaine Ferland, Nicole D. Anderson, Laura E. Middleton

Locomotor and anxiety symptoms in the late-onset Alzheimer's disease LOAD2 mouse model with normal age-related cognitive decline
Shinwon Kang, Ashish Kadia, Junhui Wang, Aram Abbasian, John Georgiou, Graham L Collingridge

Leveraging Explainable Artificial Intelligence to Identify Key Features required for Differentiating Clinical Neurocognitive Disorder Diagnoses using Toronto Cognitive Assessment
Hamed Azami, Sandra Black, Morris Freedman, Stephen Strother, David TangWai, Carmela Tartaglia, Sanjeev Kumar

Cerebral focal WMH co-locate with transcerebral intramedullary vessels and can vary over time
Fuqiang Gao, Joel Ramirez, Melissa Holmes, Julia Keith, Mario Masellis, Richard Swartz, Sandra Black

Assessing hyperexcitability in the context of cortical gray matter structures and white matter integrity in the dorsolateral prefrontal cortex and motor cortex of Alzhemer's dementia patients
Jessica Hira

Age influence on repetition suppression revealed in the hippocampus with MEG
Melisa Gumus, Luis Garcia Dominguez, Wen Jia Zhao, Richard Wennberg, Michael Mack, Ljubica Zotovic, Krista Lanctôt, Sandra Black, Mary Pat McAndrews

segcsdPVS: A convolutional neural network-based tool for quantification of enlarged verivascular spaces (PVS) on T1-weighted images
Erin Gibson, Joel Ramirez, Lauren Woods, Stephanie Berberian, Julie Ottoy, Christopher Scott, Vanessa Yhap, Fuqiang Gao, Roberto Duarte, Maria Valdes Hernandez, Anthony Lang, Carmela Tartaglia, Sanjeev Kumar, Malcolm Binns, Robert Bartha, Sean Symons, Richard Swartz, Mario Masellis, Navneet Singh, Bradley MacIntosh, Joanna Wardlaw, Sandra Black, Andrew Lim, Maged Goubran

APPENDICES

TDRA POSTER PRESENTATIONS (CONTINUED)

Mapping tau spread to long-range functional and structural connections along the major axes of brain organization
Julie Ottoy

Automating SPECT reconstruction for dementia research initiatives
Sauraj Sudheendra, Gregory Szilagyi, Christopher Scott, Vincent Gaudet, Sandra Black, Katherine Zokytynski

Effect on Neuropsychiatric Inventory–Questionnaire scores in the National Alzheimer's Coordinating Center Uniform Data Set
Juan Camilo Vargas Gonzalez

Fall Risk and Psychotropic and General Medication Use in Dementia with Neuropsychiatric Symptoms
Sena Gok

Assessment of clinical factors that predict response to Nabilone for agitation in Alzheimer's disease: A post hoc analysis of a randomized control trial
Oriel Feldman, Myuri Ruthirakuhan, Nathan Herrmann, Damien Gallagher, Giovanni Marotta, Alex Kiss, Hui Jue (Janet) Wang, Yejin Kang, Sandra Black, Krista Lanctôt

Combining Video-Based Skeletal and Wearable Physiological Data for Early Detection of Agitation in Dementia Using Deep Learning
Somayya Elmoghazy, Sara Elgazzar, Abeer Badawi, Khalid Elgazzar, Amer M. Burhan

Characterizing the contribution of alcohol use towards neuropsychological profiles in mild cognitive impairment
Ari Cuperfain, Sara Pishdadian, Malcolm Binns, Sandra Black, Howard Chertkow, Morris Freedman, Janine Louis, Clement Ma, Mario Masellis, Paula McLaughlin, Joel Ramirez, David Tang-Wai, Carmela Tartaglia, Sanjeev Kumar

Comparing Traditional and Digital Cognitive Assessments in an Online Dementia Risk Reduction Program: Results from the CAN-THUMBS-UP Brain Health Support Program
Paul Brewster, Diane Jacobs, Nicole Anderson, John Best, Manuel MonteroOdasso, Sylvie Belleville, Haakon Nygaard, Howard Feldman, Howard Chertkow

Assistive Technology to Support Dementia Management: A Scoping Review of Reviews
Chaitali Desai, Erica Dove, Alyssa Benitez, Jarshini Nanthakumar, Emilia Main, Heather Colquhoun, Arlene Astell, Alex Mihailidis, Natasha Layton, Amer M. Burhan, Brian C. Chan, Rosalie H. Wang

APPENDICES

TDRA POSTER PRESENTATIONS (CONTINUED)

The Opinions, Attitudes, and Practices of Physicians Regarding Pharmacologic Therapies for Dementia in Canada
Ferron F Ocampo, Joey Champigny, Krista L Lanctôt, Mario Masellis, Sara Mitchell

Exploring sex-specific risk factors in cognitive decline: a network analysis of modifiable and non-modifiable determinants
Brittany Intzandt, Joel Ramirez, Benjamin Lam, Mario Masellis, Christopher Scott, Gillian Einstein, Louis Bherer, Sandra Black

Promoting Brain Health and Resilience in family Caregivers of Adults with Intellectual and/or Developmental Disabilities
Yona Lunsky, Mary Chiu, Anupam Thakur, Prachi Patel, Nicole Bobbette, Tiziana Volpe, Robert Balogh, Lee Steel, Amy Baskin, Anna Lobo, Johanna Lake

Ethnicity moderates the associations between personality-related motivational systems and subjective cognitive decline
Angelina Zhang, Simran Malhotra, Rohina Kumar, Sarah-Mei Chen, Rachel Yep, Katie Vandeloo, Tulip Marawi, Harleen Rai, Alexander Nyman, Georgia Gopinath, Madeline Wood Alexander, Silina Boshmaf, Walter Swardfager, Sandra Black, Maged Goubran, Jennifer Rabin

TDRA VIRTUAL POSTERS

White Matter Hyperintensity in Athletes: A Cross-Sectional Study
Yasmin Soliman

Prevalence of postoperative neurocognitive disorders in older non-cardiac surgical patients: a systematic review and meta-analysis
Wendy WY Huang

The study of epigenetic clocks in former professional contact sports athletes with repetitive head injuries
Xuelin Tang

APPENDICES

APPENDIX 4: TDRA POSTER

A MODEL FOR COMMUNITY-BASED RECRUITMENT FOR DEMENTIA CLINICAL TRIALS

Presented at the Department of Psychiatry Research Day, AAIC 2025 and CCNA 2025

Alzheimer Society Toronto

A Model for Community-based Recruitment for Dementia Clinical Trials

TDRA

Brittany Prokop[1,2], Natalie Dren[2], Winnie Qian[2], Victoria Telford[2], Tarek K. Rajji[3,4,5], David Tang-Wai[2,6], Luca F. Pisterzi[2,7]

[1]Independent Researcher, Davis, CA, USA; [2]Toronto Dementia Research Alliance, Toronto, ON, Canada; [3]Department of Psychiatry, The University of Texas Southwestern, Dallas, TX, USA; [4]Department of Psychiatry, University of Toronto, Toronto, ON, Canada; [5]Centre for Addiction and Mental Health, Toronto, ON, Canada; [6]Department of Neurology, University Health Network, University of Toronto, Toronto, ON, Canada; [7]Alzheimer Society of Canada, Toronto, ON, Canada

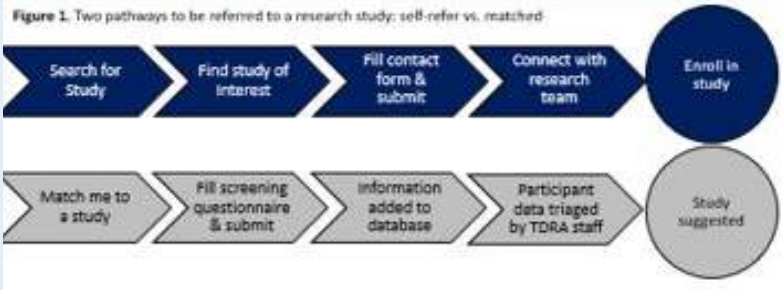
Background

- **The Toronto Dementia Research Alliance (TDRA)** is a collaboration among the University of *Toronto (U of T), Baycrest (BYC), the Centre for Addiction and Mental Health (CAMH), Ontario Shores Centre for Mental Health Sciences (OSH), Sunnybrook Health Sciences Centre (SHSC),* and the *University Health Network (UHN)*
- TDRA aims to advance research and innovation in dementia prevention and the standardization of dementia clinical care
- A proper system to engage the community in clinical dementia research trials is lacking
- Barriers to access, and enroll in, clinical research exist for both potential participants and recruiting clinicians
- There is limited research on the best methods to recruit persons with dementia into research studies
- To address this gap, TDRA developed a centralized research recruitment process and web-based platform to better connect individuals with dementia research opportunities

Methods

- The TDRA Research Studies Portal, previously hosted on the **Toronto Dementia Network (TDN)** until July 2025, was developed in partnership with the Alzheimer Society of Toronto (AST) to serve as a user-friendly web-recruitment platform
- This platform allows individuals living with dementia, caregivers/care partners, and healthy volunteers to explore and connect with active dementia-related research studies
- To be listed on the recruitment platform, studies must:
  - ✓ *Be conducted at a TDRA partner site*
  - ✓ *Be investigator-initiated*
  - ✓ *Have a TDRA-reviewed plain language summary*
  - ✓ *Be REB approved*
- Two pathways to be referred:
  1. Self-referral
  2. Be matched to a study

Figure 1. Two pathways to be referred to a research study: self-refer vs. matched



Results

Table 1. TDN referral summary from August 2021 – May 13, 2025

Participating Site	# of Studies	# of Studies: Lead Site	# of Referrals	# of Enrollments & Completions	% of Referrals Enrolled or Completed
BYC	25	18	84	31	37%
CAMH	12	8	35	10	29%
OSH	4	2	13	3	23%
SHSC	26	21	233	91	39%
UHT (SMH)*	4	1	12	2	17%
UHN	19	14	119	41	34%
UofT	6	6	12	7	58%
Total	N/A	70	508	185	36%

Total Individuals 296 *UHT (SMH) – Unity Health Toronto (St. Michael's Hospital)

Table 2. Self-refer vs. matched study completion summary and returning inquiries

Referral Type	Number of Referrals	Enrolments/Completions	Returning Inquires*
Self-referred	225	75 (33%)	71
Matched	283	115 (41%)	75

*inquiries made by individuals that have multiple submissions

Conclusions

- A public-facing web-based approach demonstrates strong potential to increase recruitment to dementia studies
- This approach has yielded an over 35% enrolment/completion rate
- Trust and relationship building plays a key role in dementia research recruitment and retention, as shown by returning participants who enrol in additional research studies
- Having a research team dedicated to screening, triaging, and matching participants to appropriate studies may result in a higher enrollment rate than self-referrals
- This model supports a scalable approach to dementia recruitment that can serve as a template to improve research accessibility

References

1. Davis R, Bekker P. Recruitment of Older Adults With Dementia for Research: An Integrative Review. Res Gerontol Nurs. 2022 Sep-Oct;15(5):255-264. doi: 10.3928/19404921-20220830-04. Epub 2022 Sep 1. PMID: 36113010; PMCID: PMC10950034.
2. National Institutes on Aging. (2018). Together we make the difference: National strategy for recruitment and participation in Alzheimer's and related dementias clinical research

www.tdra.utoronto.ca/research-studies

Baycrest camh Sunnybrook UHN

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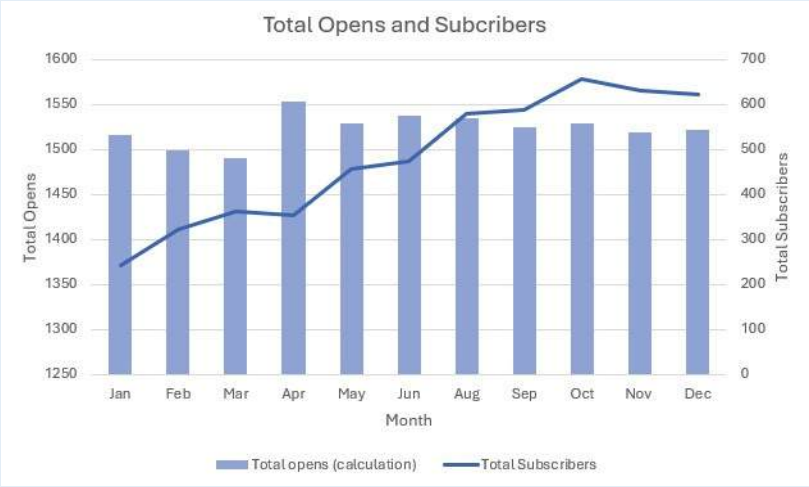
APPENDIX 5: TDRA NEWSLETTER ANALYTICS



GLOSSARY

Click Rate	Percentage that tells you how many successfully delivered campaigns registered at least one click.
Unsubscribe Rate	The number of people who opted out of your emails divided by the number of people who got the email. This should be as low as possible.

APPENDICES

APPENDIX 6: ADVANCES IN DEMENTIA RESEARCH WEBINAR SERIES – FULL SESSION LIST AND ANALYTICS

DATE	TOPIC	SPEAKER(S)	ATTENDEES
January 31, 2025	**Brain Stimulation & Dementia: Exploring the Current Landscape through Diverse Perspectives (Panel for Alzheimers Month)**	Dr. Mina Mirjalili, Dr. Luca Pisterzi, Vince Pancuska	62
March 19, 2025	**Supporting Independence – How Rehabilitation and Technology Can Help People Living with Dementia**	Christina Commisso Erica Dove	33
July 9, 2025	**Cannibis and Agitation in Dementia**	Dr. Krista Lanctôt	65
September 11, 2025	**DBS for sleep & memory in AD**	Dr. Taufik Valiante	56
November 4, 2025	**Exploring Nature-Based Virtual Reality to Support Mood and Wellbeing in Alzheimer's Disease**	Dr. Harmehr Sekhon	25

APPENDICES

APPENDIX 7: KEY METRICS FOR TDRA'S PORTAL WEBSITE

GENERAL ANALYTICS	JAN 1-DEC 31, 2025
Active Users	1.0k
New users	975
Total downloads	257
Total TorCA downloads	86
Total BNA-SF downloads	40
Total French TorCA downloads	7

APPENDIX 8: KEY METRICS FOR TDRA'S X PROFILE

GENERAL ANALYTICS	JAN 1-DEC 31, 2025
Total followers	956
Total impressions	22.8k
Total engagements	1.3k

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APPENDIX 9: KEY METRICS FOR TDRA'S YOUTUBE CHANNEL

GENERAL ANALYTICS	JAN 1-DEC 31, 2025
Views	5,469
Watch time (hrs)	344.6
New subscribers	30
Total subscribers	227
Total post likes/reactions	63
Total impressions	44,224

APPENDIX 10: RESEARCH STUDIES PORTAL RECRUITMENT METRICS AND STUDY LISTINGS BREAKDOWN

PARTICIPATING SITE	# OF STUDIES	# OF STUDIES: LEAD SITE	# OF REFERRALS	# OF ENROLLMENTS & COMPLETIONS	% OF REFERRALS ENROLLED OR COMPLETED
BYC	29	18	114	42	37%
CAMH	13	7	42	13	31%
OSH	4	1	12	3	25%
SHSC	27	21	248	103	42%
UHT (SMH)	4	0	13	3	23%
UHN	22	16	134	46	34%
UofT	6	4	14	10	71%
Total	**105**	**67**	**577**	**220**	**38%**

APPENDICES

APPENDIX 11: NOTABLE LEAP CONTRIBUTIONS – 2025

TDRA Priority-Setting Survey
LEAP members contributed to a TDRA-wide survey that identified which dementia risk factor should be prioritized for investigation following the completion of the Temerty-Tanz-TDRA Initiative.

Caregiver and Public Resource Review
Alicia Heaver and Chaitali Desai reviewed and edited caregiver- and public-facing TDRA resources to improve clarity, accessibility, and usability.

LEAP Conflict of Interest (COI) Form
Connie Putterman contributed to the revision and refinement of TDRA's updated LEAP COI form.

TDRA Research Studies Portal
LEAP members provided input on the portal's interface, content, language, and wayfinding to improve usability and accessibility for community users.

Alzheimer's Association International Conference (AAIC) – For All Committee Representation
Paul Lea and Wai Haung Yu served on the AAIC For All Committee alongside TDRA staff, supporting planning for the event's topics, structure, logistics, and considerations related to accessibility and barriers to participation.

Clinical Table and Working Group Participation
LEAP members were represented across all three Clinical Table Working Groups:

- Regional Access: Anuroop Duggal
- Investigations and Treatments: Chaitali Desai
- Integration of Primary and Secondary Care: Paul Lea

Walk for Alzheimer's Planning
LEAP members contributed to planning and engagement activities in support of the Walk for Alzheimer's event.

University of Toronto Translational Research Program (TRP) Capstone Project
Alicia Heaver acted as an advisor to a TRP capstone project focused on developing a dementia self-management and symptom-tracking app. Her feedback improved the interface design, reduced cognitive burden for care partners, and strengthened supportive and person-centred language.

APPENDICES

APPENDIX 11: NOTABLE LEAP CONTRIBUTIONS – 2025 (CONTINUED)

Trauma-Informed Care Education Model (Sunnybrook)
Chaitali Desai and Fran Schellenberg advised Erin Munro (Sunnybrook) on the development of a Trauma-Informed Care Education Model for caregivers. Their input shaped simulation-based training modules, communication tone, and strategies to support dignity, emotional nuance, and psychological safety during responsive behaviours.

AAIC 2025 Engagement

- AAIC For All Presenters: Mary Chiu, Carmela Tartaglia, and Wai Haung Yu
- Booth Support: Ron Beleno
- Scientific Poster Presentation: Chaitali Desai
- AAIC for All Social Attendees: Paul Lea, Ron Beleno, Rick Levine, Mary Chiu, Anuroop Duggal, and Cara Sullivan

CIHR Grant – Biomarker and Precision Medicine Study
Chaitali Desai, Wai Haung Yu, and Mary Chiu contributed letters of support and participated in the grant review process. Adeen volunteered to serve as a knowledge user should the project be funded.

Technology-Enabled Integrated Care Pathway (Tech-ICP) Project
Dave Spedding and Chaitali Desai contributed as LEAP representatives, offering perspectives to support implementation and lived-experience alignment.

TDRA

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