



20
25

Canadian Open Parkinson Network

ANNUAL REPORT

CONTACT US:



NATIONAL.MANAGER@COPN-RPCO.CA



[HTTPS://COPN-RPCO.CA/](https://copn-rpcoco.ca/)



[@COPN.RPCO](https://www.facebook.com/COPN.RPCO)



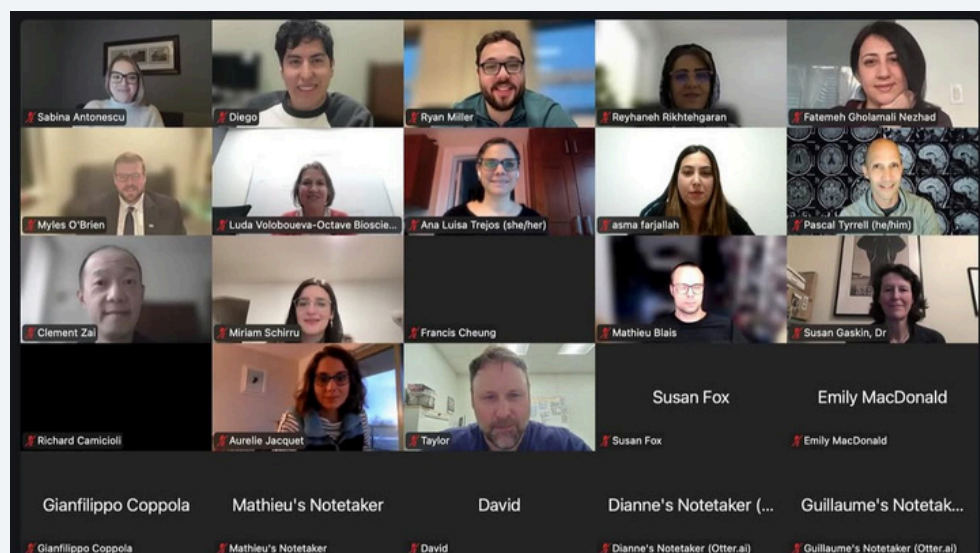


HIGHLIGHTS OF 2025

2025 was a year of remarkable growth and momentum for the Canadian Open Parkinson Network (C-OPN). Our participant community continued to expand, and we welcomed more research members to our growing network as well. C-OPN is proud to house the largest biobank of PBMC samples in Canada, providing an unparalleled resource for researchers working to unlock new insights into Parkinson's disease. This year also marked the launch of our first ever C-OPN Data Challenge, which brought together researchers and innovators in a hugely successful initiative (more details below). Beyond clinics and labs, C-OPN's presence in the community continued to grow, with involvement in high profile events such as the SOLVE Parkinson's Congress, the Parkinson's IQ+You conference, and Calgary's Step n' Stride, among many others. Together, these milestones reflect a network that is not just growing, but truly thriving, driven by the dedication of our participants, researchers, network partners, and the C-OPN core team.

C-OPN GENERAL ASSEMBLY

The 2025 C-OPN General Assembly was a great success. Marking our fifth annual gathering, the event drew a strong turnout from across our community, and we are grateful to everyone who came out to join us. Attendees heard updates from Director Oury Monchi, along with a presentation from Dr. Brazel on a collaborative project with Octave Bioscience, as well as an update on our ongoing partnership with the Canadian Microbiome Mapping Initiative. The assembly closed with presentations from our six research teams selected as winners of the 2025 Data Challenge.





RESEARCH SPOTLIGHTS

C-OPN DATA CHALLENGE

C-OPN congratulated six research teams on winning the 2025 Data Challenge kindly sponsored by Parkinson Canada and Brain Canada. Winners were selected based on their innovative use of the C-OPN database to accelerate Parkinson's disease research. The winning projects and their lead researchers include:

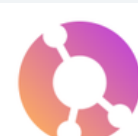
1. **Dr. Madeleine Sharp:** Retrospective Data Harmonization of Canadian Open Parkinson's Disease Datasets
2. **Dr. Pascal Tyrrell:** Beyond "One-Size-Fits-All": Stratifying Parkinson's Disease with Genes, Imaging, and Causal AI
3. **Dr. Myles O'Brien:** Frailty and its Impact on Parkinson's Disease
4. **Drs. Michael Schlossmacher & Juan Li:** Improving the accuracy of the PREDIGT score in classifying typical Parkinson's vs. clinically relevant controls
5. **Drs. Setor Kunutsor & Reyhaneh Rikhtehgaran:** Symptom Burden and Trajectories in PD: Influence of Sex, Age & Comorbidity across Hoehn and Yahr Stages
6. **Drs. Venkat Bhat & Fatemeh Gholamali Nezhad:** Mental Health Symptom Profiles and Clinical Heterogeneity in PD

STANDARDIZING THE QPN IMAGING DATASET

Researchers: Drs. Nikhil Parag Bhagwat, Jean-Baptiste Poline, and Team

Over two years, this team standardized a complex Parkinson's disease dataset from the Quebec Parkinson Network (QPN), covering 270+ participants' brain scans and clinical/cognitive data. Previously fragmented and hard to access, the data was cleaned, organized, and made privacy-compliant, with new tools built for exploration and access. This work turned QPN into a powerful resource now fueling collaborations through C-OPN and beyond, letting researchers combine datasets for stronger insights into Parkinson's progression. As Dr. Bhagwat put it, the data is like an iceberg: only a fraction is visible without the right infrastructure. Good data infrastructure reveals its full value and drives research that improves patient outcomes.

Explore the data yourself: query.neurobagel.org



Neurobagel Query ^{v0.16.0}
Define and find cohorts at the subject level



MEET THE CURRENT C-OPN COHORT

Gender Distribution

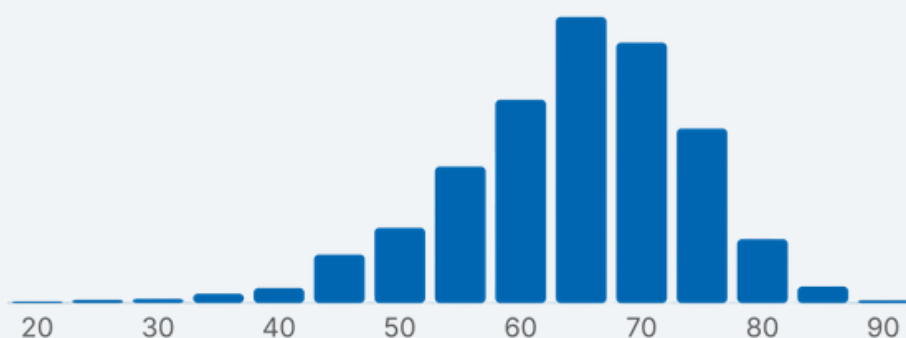


n=1,893
(58.5%)



n=1345
(41.5%)

Age Distribution



Youngest: 20 years

Oldest: 95 years

Mean: 66.2 Years

Education Level

Bachelor's Degree: 30.6%

Postgraduate Degree: 23.1%

Trade Certificate: 16.8%

High School: 14.8%

Non-University Diploma: 13.8%

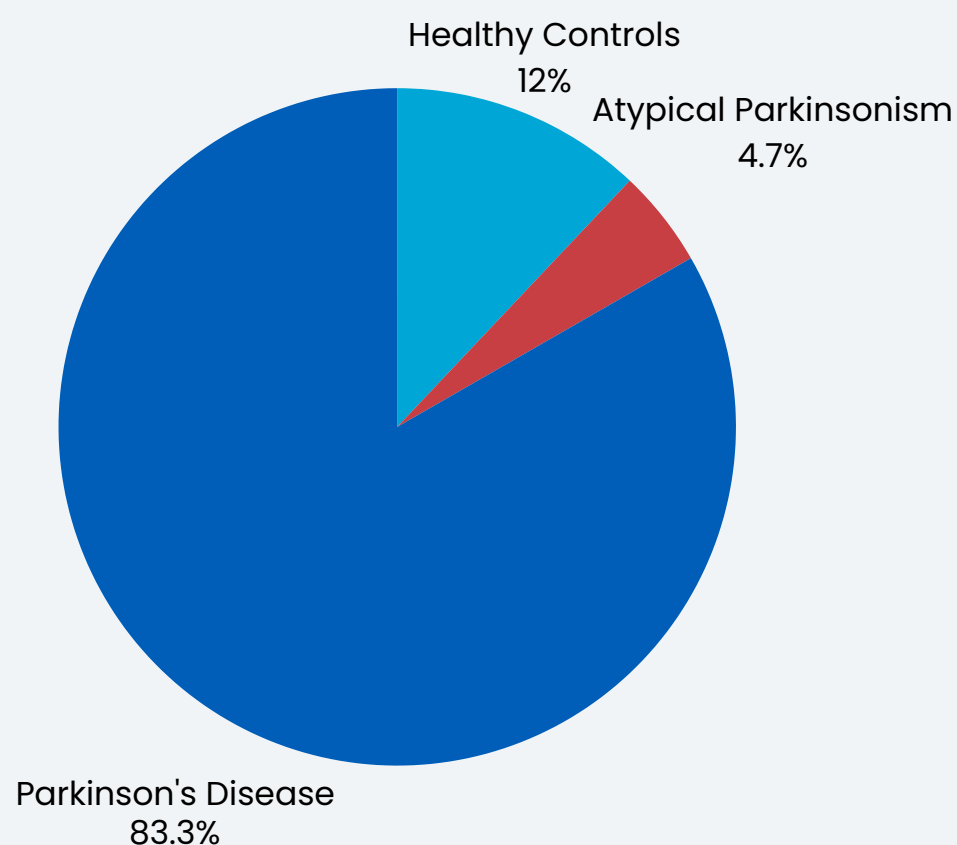
Grade School: 2.6%

None: 0.2%

Biological Specimens

DNA	1,658
Serum	1,502
PBMCs	1,150
Plasma	684

Participant Distribution



C-OPN Sites in 9 Cities:

Vancouver, Calgary, Edmonton, London, Toronto, Ottawa, Montreal, Quebec City, and Halifax



COMMUNITY ENGAGEMENT



Members of the C-OPN team and from our C-OPN Parkinson Community Advisory Committee (PCAC) had the opportunity to connect in Montreal



The C-OPN team recruiting more amazing members for our Parkinson Community Advisory Committee (PCAC) at the SOLVE Parkinson's Conference in Fredericton



C-OPN team members connected with the Calgary Community at the 2025 Step n' Stride walk hosted by Parkinson Association of Alberta



Our Clinical Research Advisor, Iris, and Calgary C-OPN Site Coordinator, Parisa, at the Calgary Parkinson Research Initiative (CaPRI) Showcase



Anna representing the C-OPN team at the GBA1 conference in Montreal



C-OPN National Manager, Anna, PCAC member, Serge, (left) and Dr. Madeleine Sharp (right) at the Parkinson's IQ + You conference in Montreal



MOVING FORWARD

GOALS FOR C-OPN

1. **Expand and Deepen Longitudinal Data Collection:** Implement in-person follow-ups at all 11 sites every 18 months, with standardized clinical testing (MDS-UPDRS, MoCA, comorbidity updates) and repeat biospecimen collection. This strengthens trajectory modeling and deepens collaboration with network partners such as GP2 and Octave Bioscience.
2. **Advance Equity and Inclusive Participation Through Remote Models:** Diversify recruitment to better reflect Canada's population using remote strategies, digital phenotyping, mailed biospecimen kits, and virtual assessments for rural participants. Partner with Indigenous communities using OCAP®-aligned approaches to improve generalizability and study environmental/lifestyle risk factors.
3. **Enhance Data Integration and Open Science Access:** Deploy an upgraded DNASTack Omics-AI portal to unify clinical, imaging, wearable, and biospecimen data under FAIR principles. This provides secure, equitable access to harmonized datasets and AI-enabled tools for real-time analysis, accelerating discovery.
4. **Launch a Nationwide Resilience Research Program:** Use the expanded platform to run PD's first large-scale resilience study, combining behavioural, cognitive, biological, and digital measures with microbiome, genetic, proteomic, and imaging data. This will help identify predictors of resilience and disease trajectories, informing patient stratification and treatment.
5. **Establish a National DLB/PDD Sub-cohort:** Recruit DLB/PDD participants using harmonized protocols and a new validated DLB-specific questionnaire for earlier diagnosis. Integrate clinical, cognitive, imaging, and molecular data via Omics-AI to model disease trajectories and build a registry-biobank for trial readiness.

ACKNOWLEDGEMENTS

Thank you to our incredible C-OPN sponsors: Hilary & Galen Weston Foundation, Parkinson Society British Columbia, Brain Canada Foundation, and Parkinson Canada

