Neurofibromatosis and Cancer Research Grants (NF-25)
Grant Recipients

Applicant Institution	Project Title Summary	Grant Duration

Carolina Barnett Tapia
The Toronto General Hospital– UHN

$395,678
2025-2028

Understanding and improving healthcare for people with NF1

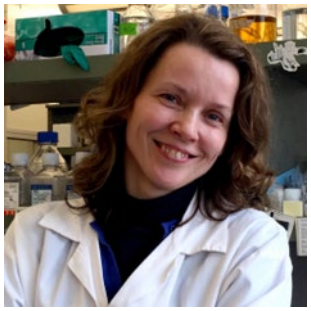
Currently, we are not sure how many people with neurofibromatosis type 1 (NF1) – a condition that increases the likelihood of developing cancer – receive cancer screening and treatment, what types of cancer they develop or what their outcomes are. A team led by Dr Carolina Barnett Tapia is conducting a study to shed light on this information to improve care and optimize use of healthcare resources.

Problem: People with NF1 are at risk of developing different types of cancer. There is limited information regarding how often they develop cancer, their outcomes for different types of cancers and their engagement with healthcare resources, including cancer screening.

Solution: Researchers will use a registry of about 2,000 people with NF1 in Ontario to learn what cancers they develop, if they receive appropriate tests and screening, and survival rates after diagnosis. They will then compare this information in people with and without NF1 and correlate the results with other factors such as socioeconomic status and location.

Impact: The team will develop testing guidelines for people with NF1 to improve cancer detection without burdening people or healthcare systems. Their results will change the way people with NF1 are monitored and treated, leading to earlier cancer detection and better outcomes.

Dalia Barsyte Lovejoy and Suganth Suppiah — **$400,000**
University of Toronto — **2025-2028**



Finding new ways to treat nerve tumours

Neurofibromatosis type 1 (NF1), a common inherited disorder, puts people at risk of developing malignant nerve tumours, which cannot currently be treated. A team led by Drs Dalia Barsyte-Lovejoy and Suganth Suppiah will genetically modify cells to learn why these cancers form and test potential new treatments.

Problem: People with neurofibromatosis type 1 often develop benign nerve tumours. Though some of these tumours remain harmless, others become malignant and pose a great risk for people with NF1. Because these tumours are not well understood, they currently have no effective treatments.

Solution: The researchers will introduce mutations into cells from benign nerve tumours to simulate the progression to cancer. This will help them understand how and why the cells become cancerous and test new drugs targeting that process.

Impact: This project could help us understand why some benign nerve tumours become cancerous in people with NF1 and spot weaknesses that make those cancers vulnerable to new treatments.

David Kirsch — **$400,000**
Princess Margaret Cancer Centre — **2025-2027**

Testing tumour immunotherapy in models of neurofibromatosis type 1

Neurofibromatosis type 1 (NF1) is a common inherited disorder that increases the risk of sarcomas (cancerous soft tissue and bone tumours). Dr David Kirsch and his team, who have previously shown the promise of immunotherapy in treating other soft tissue sarcoma, are now testing whether this approach also works for sarcoma that arises from mutations in the NF1 gene.

Problem: People with NF1 are more likely to develop soft tissue sarcomas known as “malignant peripheral nerve sheath tumours” (MPNSTs). Current treatment options for MPNSTs, such as chemotherapy, are not very effective and may have harmful side effects for people with NF1, such as a higher risk of secondary cancers.

Solution: To understand how immunotherapy treatments may work in people with NF1 and sarcomas, Dr Kirsch and his team will use genetic tools to create sarcomas that resemble NF1 mutant MPNSTs. Then they will test immunotherapies on these tumours alone and in combination with radiation therapy.

Impact: This project could expand treatment options beyond traditional approaches and increase survival rates for people with NF1 and sarcomas.