

**Category of Research:** Oncogenes and Tumour Suppressors

**Cancer type:** Pancreatic cancer

**Ranking:** 6

**Partnership:** Pancreatic Cancer Canada

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**Province:** Quebec

**Title:** Elucidating the genetics of pancreatic cancer.

### Layman Summary:

Pancreatic cancer is a deadly disease. Most patients are diagnosed with pancreatic cancer when the cancer is not operable and not curable. Previous research studies have shown that some families have a higher chance of getting pancreatic cancer because there are certain inherited genetic changes (called mutations) that put these families at risk for developing these tumors. The genetic changes that cause these hereditary forms of pancreatic cancer are mostly unknown. We believe that by identifying the genetic changes that cause pancreatic cancer in families, we will help doctors detect this frightening cancer early when it is still curable.

Therefore, we will search across all of the human genes to find the genetic changes that cause the inherited forms of pancreatic cancer. We will search the genes of 103 patients whose pancreatic cancer likely developed due to an inherited genetic problem. After identifying the genetic changes that associate with pancreatic cancer in these families, we will confirm these findings by searching for similar genetic changes in other patients with pancreatic cancer, testing pancreatic tumors from patients with these genetic changes, and testing individuals without pancreatic cancer to verify that these genetic changes do not occur in people without cancer. Our goal is to identify new genetic causes of hereditary pancreatic cancer. Doctors can then use this new information to develop genetic tests to identify people at high risk for this deadly cancer. Genetic counselors will be able to offer these genetic tests to individuals with a family history of pancreatic cancer, followed by cancer screening to patients who test positive for a hereditary cause of pancreatic cancer with the goal of detecting pancreatic cancer early when cure is still possible.

August 2014