



What is the TF4CN?

TF4CN is the Terry Fox Canadian Comprehensive Cancer Centre Network. TF4CN is a new pan-Canadian initiative proposed and led by the Terry Fox Research Institute to create a research network to enable seamless collaboration among Canada's top cancer research centres. These centres will be designated as Terry Fox Canadian Comprehensive Cancer Centres.

Why is TFRI proposing this initiative?

We believe that an integrated research network is needed to accelerate the introduction of personalized and precision cancer medicine to clinicians and cancer patients across the country.

What is personalized and precision cancer medicine?

Personalized medicine means identifying the best treatment for an individual patient based on the genetic or molecular make-up of their tumour(s) and other factors, including their response to previous treatments.

Precision medicine refers to treatments that target specific characteristics of a cancer. For example, in the past all breast cancer patients might be given a standard treatment; whereas now, clinicians are able to identify different types of breast cancer and treat each type accordingly. Precision medicine takes this a step further, for example: creating treatments based on the genetics of a tumour or to target cancerous cells while leaving normal cells unharmed.

The ability to truly personalize precision medicine will allow clinicians to target the right treatment to the right patient at the right time.

What are Comprehensive Cancer Centres?

Comprehensive Cancer Centres have three key things in common: they conduct leading-edge clinical, laboratory and population research; they provide the highest-levels of cancer care to patients and they train the next generation of

clinicians and researchers. There is no independent, international evaluation of these factors in Canada and this initiative seeks to provide this assessment.

Why link Comprehensive Cancer Centres?

We want to link these centres so that ideas can be tested in one or more centre and applied more rapidly across the network. Patients across the country can then have the potential of faster access to the best care available. With large amounts of information now being generated about cancer as a result of rapid advances in areas such as genomics and bioinformatics, linking these centres together will give us a distinct advantage on many different levels, all of which may be helpful to cancer patients.

Don't Canadian cancer researchers and cancer centres already work together?

Yes, cancer researchers and institutions across Canada work together every day, although this tends to be on a project-by-project or a patient-by-patient basis. Creating pan-Canadian research programs has many challenges: each institution has its own standards and processes to do with data privacy, ethics reviews, tissue collection and so on. By defining and agreeing to jointly applied standards, much of this 'red tape' can be reduced, making inter-institutional collaboration across Canada much easier.

Do other countries have comprehensive cancer centres?

Yes, in developing this proposal TFRI has looked to similar models of centres operating in the United States, the United Kingdom, France and Germany. We will learn and draw from the best aspects of all of these centres to address the specific needs of Canada's research community and health care system. The TF4CN will take these models one step further to create a unique network of comprehensive cancer centres.

Why do cancer patients need this network?

We believe TF4CN will be a game-changer and will ultimately improve the survival and quality of life of all Canadians afflicted by cancer.

Over the past several decades great progress has been made in research and treatment, but many challenges remain. Outcomes for some cancers are very good, while others are poor. There is an urgent need to focus on hard-to-treat cancers – those that are rare, have reached an advanced stage, or have become resistant to treatment.

The TF4CN will facilitate each high-performing centre to use its unique expertise and talent for the benefit of the whole network. New technologies and treatments developed through this research platform may bring hope to those patients for whom current treatments have failed. This, in turn, may provide evidence for a better way to treat patients. What today is a hard-to-treat cancer will be, hopefully in the future, easily treatable.

Why is TFRI leading this network?

Terry Fox united a country in 1980 for a cause that endures today. Through its translational research programs, TFRI has pioneered pan-Canadian research projects, helping scientists from different institutions to work together for the greater good of patients. This has been carried out on project-by-project basis. The next step to move innovation into clinical practice is to empower institutions to collaborate daily. TFRI has the experience and partnerships essential to create the network needed to do this. This will benefit not only cancer patients in Canada, but cancer patients around the world.

Who belongs to this network?

TFRI has identified two partners with whom it will work to pilot the program: the Princess Margaret Cancer Centre in Toronto and the BC Cancer Agency in Vancouver. Initially, these institutions and TFRI will work on developing the infrastructure and technologies required to link their research on personalized

and precision cancer medicine. Other leading cancer care and research institutions in Canada will be invited to apply once the pilot is underway and as soon as resources become available.

How much will the network cost?

The initiative is expected to cost \$70 million a year over the next 10 years to ensure the network is fully operational. We expect this funding will be generated from a variety of new funding sources, both public and private.

How are similar initiatives funded in other countries?

In countries that currently have comprehensive cancer centres, financial support is provided mainly by national and federal governments. Support is needed to ensure these centres operate at an internationally competitive level. The funds are allocated to eligible institutions who achieve the designation and are also available to others interested in becoming a designated centre.

When will patients see benefits?

In the short term, a pilot project is planned between the Princess Margaret Cancer Centre and the BC Cancer Agency. We expect that clinicians and patients at these centres will quickly benefit from the different expertise and technologies at the linked centres. In developing the pilot project, these centres will also test how a comprehensive cancer centre network can serve more remote parts of the country. In the longer term, as the network expands, we anticipate that the benefits will be made available more broadly across Canada.