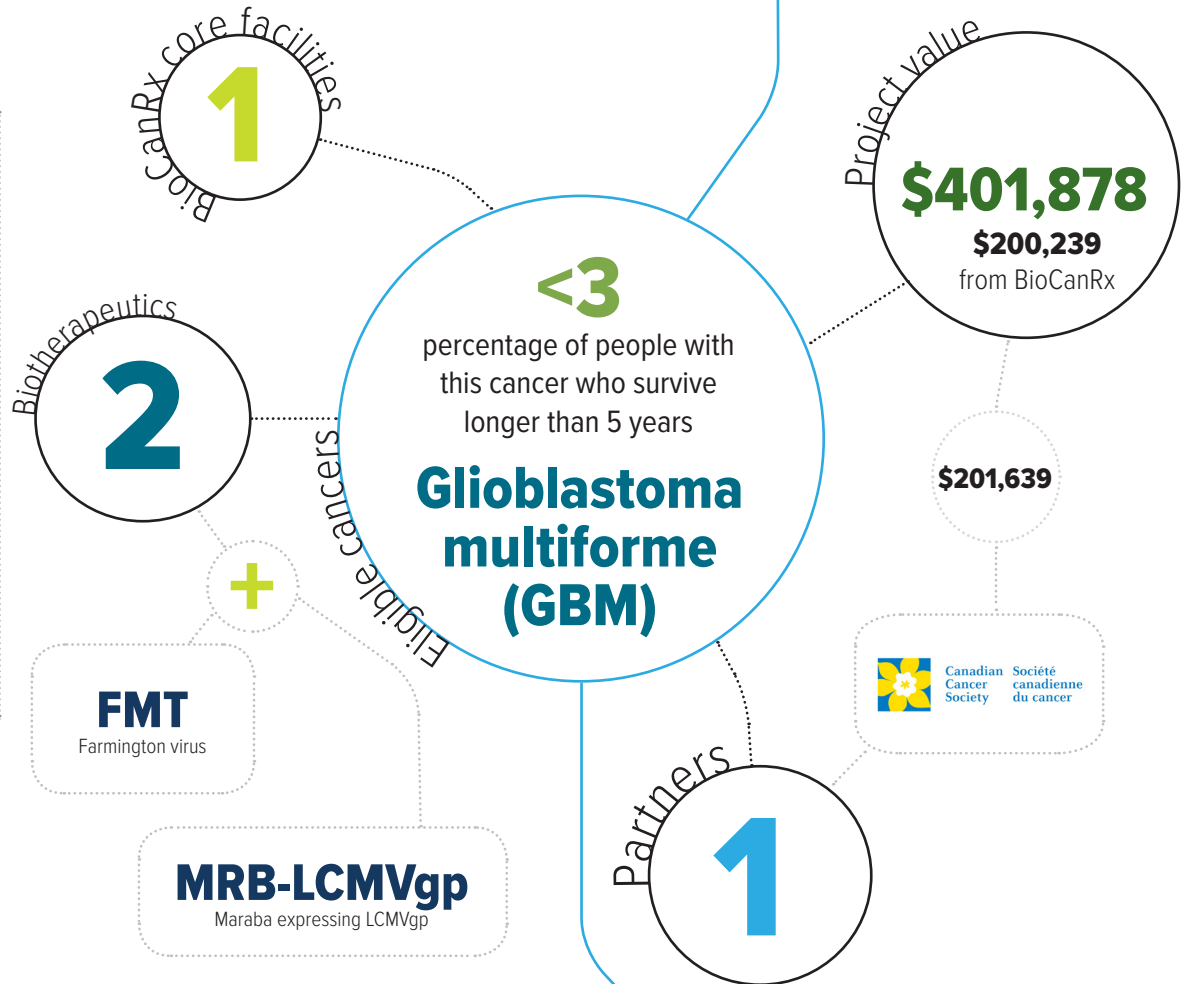


**Development of an oncolytic vaccine for brain cancer**

July 1, 2015 to June 30, 2017

**Highlights**

- Adapts the Canadian innovation of oncolytic vaccines to a potential treatment for glioblastoma multiforme (GBM)
- Evaluates two rhabdovirus platforms, Farmington (FMT) and Maraba, that are engineered to express the CMV antigens found in GBM tumours
- Builds on internationally recognized Canadian leadership in the development of oncolytic rhabdovirus vaccines



**About the project**

There have been no significant improvements in the treatment of glioblastoma multiforme (GBM) for the past 35 years. The overall five-year survival rate is less than 3% for GBM patients. Even for those who can undergo the current gold standard-of-care (surgical resection, radiation and the specialty chemotherapeutic, temozolomide) the five-year survival rate is just 34%. Clearly, there is a tremendous need to improve the outlook for this disease.

Dr. Stojdl's lab has developed a new approach to GBM therapy that uses cancer-killing viruses to harness a patient's own immune cells to fight their tumour. This immune activation is critically important during oncolytic virotherapy because patients whose tumours are packed with immune cells have a much better prognosis. These viruses have proven extremely safe in the brain and effective at dealing with issues that frustrate current GBM therapies.

This project will engineer an adapted virus designed to activate immune cell populations that are already established at high levels in the majority of individuals with GBM. Almost all GBM patients in Canada would be eligible for this therapy at the clinical trial phase. The virus will also be designed to act as a beacon that guides these activated immune cells to the tumour site.

With previous success in bringing oncolytic viruses to clinical trial, this streamlined and highly rational project is uniquely positioned to succeed in its goal of bringing this technology to Phase I/IIa trials, and ultimately vastly improving the outlook of GBM patients in Canada.

**Key investigator**

Dr. David **Stojdl**  
 Children's Hospital of Eastern Ontario  
 Research Institute, University of Ottawa

**CHERO**  
 RESEARCH INSTITUTE

# Catalyst project investigators



## Ottawa

CHEO Research Institute,  
University of Ottawa  
**Scientific investigator**  
Dr. David Stojdl

The Ottawa Hospital,  
University of Ottawa  
**Clinical advisors**  
Dr. Garth Nicholas  
Dr. Vasco Ferreira Da Silva

## Hamilton

McMaster University  
**Scientific investigator**  
Dr. Yonghong Wan

## BioCanRx

**\$200,239**

approved on  
June 10, 2015

## BioCanRx core facilities

GMP viral vector laboratory  
The Ottawa Hospital

**July 1, 2015**

• Project starts

### July 1, 2015 to June 30, 2016

- Engineer FMT and MRB-LG viruses that express human CMV pp65/IE1
- Evaluate and compare the efficacy and safety of these FMT and Maraba viruses in mouse models and their ability to stimulate an immune response, or immunogenicity.

### July 1, 2016 to June 30, 2017

- Evaluate immunogenicity of the engineered FMT and MRB-LG viruses in mice with an immune system that mimics the human immune system
- Model, evaluate and compare translational efficacy in the context of primary patient material.

The power to kill cancer lies within us.  
Let's tell our bodies how.

