



B2B Research Program – Participation Timeline

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- ✓ Initial contact from B2B Study Coordinator
- ✓ Complete baseline questionnaire package
- ✓ In-person interview
- ✓ Complete post-interview worksheets

Since we began, 387 women have agreed to participate, and 228 interviews have been completed so far!

24 Months

- ✓ Donate blood sample
- ✓ Complete 24-month follow-up package

136 participants are now eligible to complete the 24-month follow-up

48 Months

- ✓ Donate blood sample
- ✓ Complete 48-month follow-up package

10 participants are now eligible to complete the 48-month follow-up

72 Months

- ✓ Donate blood sample
- ✓ Complete 72-month follow-up package

To begin in 2016

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Keeping active through the winter (continued)

“My favourite way to stay active during winter months is outdoor skating, with a thermos of hot cocoa!”  
– Angela Wallace, Interviewer

“I do one group exercise class a week and still run outside. This past week I ran in a snow storm, and then the next day I basically ran in small swimming pools because of the Chinook!”  
– Margo Hopkins, Interviewer



B2B Research Program contact information

Name	Position	Telephone	E-mail
Dr. Nigel Brockton	Principal Investigator	(403) 944-3077	nigel.brockton@albertahealthservices.ca
Dr. Christine Friedenreich	Principal Investigator	(403) 698-8009	christine.friedenreich@albertahealthservices.ca
Stephanie Laborge	Study Coordinator	(403) 476-2579	stephanie.laborge@albertahealthservices.ca
Angela Wallace	Interviewer	(403) 669-0825	angela.wallace2@albertahealthservices.ca
Margo Hopkins	Interviewer	(403) 256-4536	margo.hopkins@albertahealthservices.ca
Nicole Slot	Quality Control	(403) 295-3405	nicole.slot@albertahealthservices.ca

Visit us at: [www.B2BProgram.com](http://www.B2BProgram.com)

A few notes from our team...

In June of last year, the Department of Population Health Research was evacuated from our offices in the Holy Cross building, and we have been occupying temporary space in a variety of locations since that time. We are pleased to announce that in February we will be moving to more permanent space at the Richmond Road Diagnostic and Treatment Centre. Our department is looking forward to being able to work together in contiguous space once again.

The B2B Research Program has now been running for four years, which means that some of our participants are eligible to participate in the 48-month follow-up portion of our study. Our team will be contacting eligible participants over the next several months to verify your mailing address and to send out the follow-up questionnaire package. We thank you for your continued participation in this program!

Keeping active through the winter

With the holidays behind us, and a few more months of cold and slushy weather still to come, we asked the B2B Research Program team, “What is your favourite way to stay active during the winter?” Their answers can be found throughout this issue of the B2B Research Program Newsletter.

“Walking and cross country skiing are my favourite winter activities. After I drop my kids off at the bus I walk for about 50 minutes and this gets my day going. Calgary has lots of sun in the winter and it is nice to feel the sun’s rays when walking. I have found that the key to winter walking is to be dressed appropriately (i.e. I often walk in snowpants) and to have good boots with a decent tread. Cross country skiing is something we do in the weekend. The trail system out in Kananaskis and Peter Lougheed Provincial Park is amazing! My family tries to get out there once a week to enjoy the mountains, fresh air and to be active. Yes Calgary can have some bitter winter days, but there are lots of moderate days where it is easy to get outside and move!”

Nicole Slot, Quality Control



Valuable samples threatened by flood now safe and sound

By Lindsay Holden  
Reprinted with permission from Alberta Cancer Foundation’s LEAP Magazine

Albertans could hardly believe their eyes on June 20, 2013, as they witnessed rivers breach their banks and streets turn to waterways.

Record rainfall coupled with rapid melting of Rocky Mountain snow loads caused a flood that was called the worst disaster in the province’s history. The flood killed four people, displaced 100,000 people from homes, and caused damage estimated in excess of \$5 billion on businesses, vehicles, and residences.

Among the irreplaceable assets poised for destruction was a \$40-million collection of tumour samples used worldwide for cancer research, belonging to the Alberta Cancer Research Biorepository. Steps from the swelling Elbow River, the samples were secured below ground in 27 ultra-cold freezers at the Holy Cross Hospital.

As river waters steadily rose, and the clouds emptied onto Calgary’s low-lying communities, warnings for commuters to stay off bridges and avoid downtown were broadcast, and a small leadership group in charge of the biorepository debated whether they should protect it.

“We all saw the weather alert about a massive storm. Water was roaring down the mountain through Bragg Creek out into the plains, and moving towards Calgary,” says Dr. Randy Johnston, who is the director of the biorepository, and a researcher and teacher through the faculty of medicine at the University of Calgary.

“We knew we only had a couple of hours before the water started to hit the city,” Johnston says, adding a smaller flood in 2005 had given hospital administrators a chance to put a disaster plan to the test, but the waters that year were nothing compared to what was coming. (con’t on page 2)

Did you know?

The blood and tissue samples that you donated prior to your participation in the B2B Research Program are held at the Alberta Cancer Research Biorepository, and were among those that were saved during the June 20<sup>th</sup> flood.



“Everyone said ‘don’t worry,’” says Johnston, who was in Vancouver, B.C. at the time of the flood. He was trading hurried calls and emails with managers about whether to leave or take action. “We reached a decision that we couldn’t take a chance.”

“It was surreal,” says Charlene Karvonen, manager of the biorepository. The speed and sound of rushing water steps from the hospital was incomprehensible and frightening to her. “Everything we did was just trying to stay one step ahead. There was 13 feet of floodwater in 24 hours.”



Flood waters surround the Holy Cross building. Dr. Nigel Brockton took this photo from the roof of the building.

The collection of samples was stored in 27 massive basement freezers, poised to be submerged in floodwater, sewage, and mud. But each unit weighed approximately 1,000 pounds and required temperatures of below -80°C – some even colder and operating on liquid nitrogen. Moving them would be risky, if not downright difficult.

The biorepository comes from 15 years of painstakingly detailed collecting and cataloguing of human blood, saliva, tissue and tumour samples, which researchers could access at any given time for dozens of worldwide studies. Today 47 different cancer studies draw from the biorepository, which is one of the largest of its kind in the world and growing. The Alberta Cancer Foundation has also been a long-time supporter of the facility, investing \$2.8 million this year alone.

To lose the samples would have been “traumatic,” Johnston says. “Not only to society and the researchers who invested in the collection and clinical annotation, but all those people have entrusted us with their specimens,” he says, adding some samples originate from people who have since died.

**Valuable samples threatened by flood now safe and sound**

(continued from front page)

“It would be horrible it would have been a loss of trust,” he says. Meanwhile, it is impossible to assign a value to the potential discoveries that may come from continued study of the material, as past work on them has led to effective molecular therapies resulting in cancer survival, he says. “Already it is paying off.” The creation of an antibody therapy called Herceptin, for example, was developed by a U.S. firm based on the biospecimens from Calgary’s bank. Researchers learned about a particular mutation of breast cancer cell occurring in five to 10 per cent of cases. It features an excessive number of growth receptors that cause cells become overly sensitive to growth signals, and to rapidly divide and multiply. It’s bristling with antennae – even a tiny growth signal that would not trigger a healthy cell is stimulated to start dividing, dividing, dividing,” he says, adding the therapy was a breakthrough that involved a worldwide effort of shared research.

Other samples stored at the biorepository belong to the “Tomorrow Project” which is a venture that employs 60 members of a research team, and is about halfway through collecting samples from 50,000 healthy Albertans. The intent is if any of the participants come down with cancer later, researchers can go back to their sample history and potentially identify a sign in the urine or blood. If indicators are found to exist, they could become the basis for future screening and prevention programs.

By 4:30 p.m. on the day of the Alberta floods, Karvonen and her team called in a moving crew to begin lifting the freezers onto freight elevators to the fourth floor of the Holy Cross – a vacant space on higher ground, but gutted, dirty and under renovation. Temperatures in the freezers could remain at safe levels for a period of time provided freezer doors were kept locked, so the managers knew there was only a small window to make the move. Relocating them via truck through flooded streets was impossible.

**Did you know?**

*Our very own Dr. Nigel Brockton, alongside Charlene Karvonen, have been invited to present at the International Society for Biological and Environmental Repositories (ISBER) 2014 in Florida. During their presentation, “Come Hell or High Water: Disaster Preparedness for Biospecimen Collections”, they will share their experiences from the June floods with an international audience of scientists and other professional organizations.*



The freezers, containing irreplaceable research samples, in their new temporary location on the fourth floor of the Holy Cross.

“Just as the last freezer was coming up, the flood waters came rushing in where the freezers had been stored, power went out, and elevators stopped working. All electrical stations shorted out,” says Johnston.

The team sourced four diesel generators, and brought in emergency electricians who ran a power cable from the outside of the building through a window to maintain the temperatures.

When the waters receded, a massive cleanup was underway in Alberta backed by 2,200 Canadian Armed Forces troops, and within a few weeks, the Calgary Stampede went ahead as scheduled. A spontaneous volunteer campaign saw complete strangers show up for impromptu shifts to help shovel mud and restore damaged homes, and an uplifted can-do spirit prevailed.

Life in Calgary and communities downstream was returning to normal for many, with downtown offices reopening, and dark skies turned bright.

“But our story wasn’t quite over,” Karvonen says.

Shifts of workers who were tasked to monitor the freezers on an hourly basis, which meant a buddy system of staff paired

up to climb dark stairwells with flashlights and headlamps and navigate a disaster zone with dust masks and protective gear to ensure generator power was on. Over the months, crews hauled 120 carbon dioxide tanks up the four floors, changed filters, and attended to alarms and stalled generators.

“As a result of tremendous efforts we did not lose a single specimen,” Johnston says.

Karvonen also credits a dedicated team that was representative of Calgarians’ positive spirit even in a crisis. Four months after the flood, elevators were finally restored at the Holy Cross, and the freezers were finally moved October 2013 to safer territory in a clinic in south Calgary.

“People really rose to the occasion, and everyone had a role and did whatever they needed to do,” recalls Karvonen. “You would listen to the media about stories of people losing everything in their homes or businesses. There was hardship everywhere, but I saw people were not being defeated or deflated. We were strengthened by how we pulled together.”

- Lindsay Holden  
Reprinted with permission from Alberta Cancer Foundation’s LEAP Magazine



Team member Joseph Roberts stands next to the 48 CO2 tanks that had to be carried up four flights of stairs in the Holy Cross building. Each weigh approximately 200 pounds, and are vital to the operation of the ultra-cold freezers.

Photographs taken by Dr. Nigel Brockton