Insert Logo of Recruiting Hospital

St. Michael's
Inspired Care.
Inspiring Science.

INFORMED CONSENT FORM FOR PARTICIPATION IN A RESEARCH STUDY

Study Title	The Health Outcomes, Utility, and Costs of Returning Incidental Genomic Findings
Principal Investigator	Dr. Yvonne Bombard, St Michaels Hospital, Li Ka Shing Knowledge Institute. 416-864-6060 x 77378
Funder	Canadian Institute of Health Research

Emergency Contact Number: 416-864-6060 x 77397

INTRODUCTION
You are being asked to take part in a clinical trial (a type of study that involves research). You are being asked to consider taking part in this research study because you are a patient who is within the circle of care of *insert recruiting practitioner* at *insert recruiting hospital*. For this study we are looking to enroll people for whom a new type of genetic test called "genomic sequencing" might discover a gene(s) related to their cancer. The purpose of the study is to learn about the health outcomes, usefulness, and costs related to genomic sequencing. This consent form provides you with information to help you make an informed choice about participating. Please read this document carefully and ask any questions you may have. All your questions should be answered to your satisfaction before you decide whether to participate in this research study.

Please take your time in making your decision. You may find it helpful to discuss it with your friends, family or your physician.

Taking part in this study is voluntary. Deciding not to take part or deciding to leave the study later will not affect current or future health care.

IS THERE A CONFLICT OF INTEREST?
Neither you nor the members of the study team will realize any financial gain directly from any such outcome apart from the goal of getting the study completed. Dr. Bombard and the other research team members have no conflict of interest to declare.

WHAT IS THE BACKGROUND INFORMATION FOR THIS STUDY?
Genetic testing is evolving and there is a new type of genetic test called "genomic sequencing".

- ***Traditionally***, if a person has a disease, such as colorectal cancer, he or she may referred to a genetics clinic to have a genetic test to learn if they have a genetic variation (or change in their DNA) that increases their risk to develop this type of cancer. This is

type of test that only looks at specific genetic variations known to be linked with a specific type of cancer.

- ***Genomic sequencing*** is another type of genetic test that looks more broadly at all genetic variations that a person has, rather than looking for certain one as explained above.

Some (but not all) of the genetic changes or variations found in genomic sequencing may be linked to higher risks of diseases. When a person gets genomic sequencing they can learn about risks for a disease affecting them, such as colorectal cancer. But, they may also have the option to learn extra genetic information about risks for diseases other than the original disease being investigated. This extra information is often referred to as "secondary" or "incidental results". These incidental results can tell if a person has, or is at risk for, a rare disease, like Alzheimer's disease, or common diseases, like heart disease, or even other cancers. It is also important to know that even if a person gets genomic sequencing, there is a chance that no changes related to disease risks will be found.

Making genomic sequencing results available to patients is fairly new. It is unknown how people will feel about learning this extra genetic information or how useful people will find it. The main goal of this study is to understand how learning results from genomic sequencing affects peoples' emotions and actions. The other goals of this study are to understand how useful genomic sequencing is for patients and doctors, and what using this test will cost patients and the healthcare system.

This is a five year study. You will be actively involved in the study for a year and a half of active participation to complete for each participant. After you are done with your active involvement with the study, we will continue our data collection by looking at your heath data about five years after you begin taking part in the study. For this portion of the study we will not need to contact you.

WHY IS THIS STUDY BEING DONE?
The main purpose of this study is to understand the health outcomes, usefulness and costs of receiving results from a type of genetic test called genomic sequencing.

WHAT OTHER CHOICES ARE THERE?
You do not have to take part in this study in order to receive treatment or care.

HOW MANY PEOPLE WILL TAKE PART IN THIS STUDY?
It is anticipated that about 260 people will take part in this study, from research sites located in Ontario.

WHAT WILL HAPPEN DURING THE STUDY?
If you decide to participate in the study you will be asked to sign this consent form and return it to the study staff. A copy of this consent form will be given to you.

Once you consent to participate in the study we will ask you a series of questions about your history of cancer and genetic testing, some questions about your current feelings, emotions and expectations about having genomic sequencing and you past experience with genetic discrimination.

After you answer these questions, you will be "randomized" to participate in one of two study groups, described below. Randomization means that you are put into a group by chance (like flipping a coin). There is no way to predict which group you will be assigned to. You will have an

equal chance of being placed in either group. Neither you, the study staff, nor the study doctors can choose what group you will be in.

Both groups will have genomic sequencing performed. However, if you are in Group One you will receive any results related to your cancer, if they are found, as well as any extra or incidental results you would like to receive, if they are found. If you are in Group Two you will only receive results related to your cancer, if they are found, and no other incidental results. No matter the group you are assigned to, there is a chance that no results will be found. Below is an explanation of what you will be asked to do depending on which group you are randomized to participate in:

Group One (Cancer Results and Incidental Results):

- Once you have consented to the study, you will meet with a genetic counselor to discuss genomic sequencing and your preferences for learning incidental findings. During this session you will be asked to use a computer-based tool called a decision aid to help you select which categories of incidental findings you would prefer to receive. You are not required to receive incidental findings if you prefer not to learn these results; it is only an option available to you, which you will learn more about through the decision aid and the genetic counselor.

- The decision aid will show a video that will give you information about genomic sequencing and incidental results to help you select which incidental results you would like to receive. After using the decision aid you will select which incidental results you would like to receive. The decision aid will also ask you some questions about making your decision.

- This initial session will take approximately 2 hours to complete.

- During the consent process we will ask for your permission to access a previously stored sample of your DNA at Mount Sinai Hospital. If you do not have a stored sample we can access, then we will take a blood sample. From your blood sample we will extract a sample of your DNA and this sample will be used for genomic sequencing. If you need to provide a blood sample, we will arrange to have your blood sample taken at a local clinic.

- 1 week after the first session, the genetic counselor will contact you by telephone and will ask you to confirm which incidental results you would like to receive, if any. Before this phone call, you will review the decision aid. You will be emailed a link and log in information to access the decision aid online.

- After you have confirmed which results you would like to receive, your DNA sample will be sequenced. It will take 3-4 months to get your sequencing results.

- Once we have your results a genetic counselor will call you to set up a meeting to discuss your results. You will be able to choose to meet over the phone or in person. In the meeting you will be given results related to your cancer and your incidental results - that you selected to receive from the decision aid. If any incidental results requiring urgent, immediate action are found during the analysis process, prior to the 3-4 month time for return of results, these results will be returned as soon as possible; you will not have to wait 3-4 months.

- If we found a result related to your cancer, a genetic counselor from the clinic where you were being seen for your cancer diagnosis will also take part in this meeting as this result is related to your care with them. These results will also be shared with the clinic where you were seen for you cancer. The genetic counselor will explain your results in detail and what they mean for your health. Depending on the type of results found, she or he may also make recommendations and referrals for follow-up with your family physician or with a specialist. All results will be shared with your family physician. If no results related to your cancer are found, only the study genetic counselor will be involved in this meeting, not your genetic counselor from [insert name of recruiting clinic].

- At the end of the meeting where we discuss the results from you genomic sequencing we will ask you will be asked to complete a questionnaire about your feelings about receiving your incidental results and your health actions. The meeting about your results and completing this questionnaire will take you approximately1 hour to complete.

- Two weeks after the meeting in which you received results related to your cancer and incidental results,, you will be asked to complete a questionnaire over the phone. This questionnaire will be about your feelings about receiving your incidental results and your health actions. This will take you approximately 45 min to complete.

- You will then be asked to complete a phone questionnaire, 6 weeks, 6 and 12 months after receiving your results. The questions at these time points will be about your feelings, your health actions and any costs you incurred since receiving your genomic sequencing results, and your understanding of your results and how they impact your health. At 12 months you will also be asked any genetic discrimination you have experienced since being the study. The questionnaire at each time point will take about 45 minutes to complete.

- After completing this final set of questions at 12 months your active participation in this study will be finished, though we will continue to look at your health data for five years. We will not need to contact you during that time.

Group Two (Cancer Results Only):

If you are in group Two you will only receive your genomic sequencing results related to your cancer, if they are found. You will **not** receive any other incidental findings during the study.

If you are in group Two you will go through the same steps as group one with a couple of differences because you will **not** receive **extra** incidental findings as part of the study. These differences are:

- During your initial meeting with the genetic counselor you will only discuss genomic sequencing to identify the genetic cause of your cancer. You will not be asked to discuss or select any other incidental findings. Because you are not selecting or discussing incidental findings, you will not use the Decision Aid.

- About 1 week after your initial meeting with the genetic counselor we will contact you by telephone and will only ask you to confirm if you would still like to receive genomic sequence results related to your cancer.

- If you are in group two all the other steps are the same as outlined above in group one.

In Group Two, at the **end** of your active participation in the study (one year after you receive your cancer and or medically actionable results) you will have the option to receive incidental results, if you wish to. At that point, you will speak with a genetic counselor as you make your selection of other incidental findings you would like to learn, if any. As in group one, referrals will be made to specialist clinics, if necessary, and results will be shared with [Insert name of recruiting clinic] and your family physician.

For both groups, some participants (approximately 40 in total) will be asked to complete a conversational interview between 9 – 12 months after receiving your results. This interview will be conducted over the phone with our study staff. We will ask you about your thoughts and experiences since learning about your results and how you have used this information in your health decisions. This interview will take about an hour and can be scheduled at a date and time of your choosing. This visit will be audio-recorded and transcribed. We will ask you not to use your name, or the name of any relatives during this interview. Any names and identifiers will be deleted during the transcription process, which is called de-identification. Transcription is taking the words and dialogue on the audiotape and writing or typing it word for word.

TIME	ACTIONS • Baseline questions • Randomization into Group 1,or Group 2	
	GROUP 1 (130 participants)	**GROUP 2** (130 participants)
	Will be able to learn cancer results and all Incidental findings.	Will be able to learn cancer results, no incidental findings
Meeting 1: First meeting	• In person • Meet with GC • Use decision aid • Select what type of incidental findings to learn	• In person • Meet with GC
Meeting 2: 1 week after meeting 1	• Phone • Review decision aid • Confirm genomic sequencing and selection of incidental findings	• Phone • Confirm genomic sequencing
	• Sample sent for sequencing	• Sample sent for sequencing
Meeting 3: 3-4 months after meeting 2.	• Phone or in person, with genetic counselor • Learn cancer and incidental results • Learn about referrals made • Questionnaire	• Phone or in person, with genetic counselor • Learn cancer results • Learn about referrals made • Questionnaire
Meeting 4: 4 weeks after meeting 3	• Phone call with study team • Questionnaire	• Phone call with study team Questionnaire
Meeting 5: 4 months and two weeks after meeting 4	• Phone call with study team • Follow-up questionnaire	• Phone call with study team • Follow-up questionnaire
Meeting 6: 3-6 months after	• Phone, with study team • Conversational interview	• Phone, with study team • Conversational interview

meeting 5	(40 participants in total)	(40 participants in total)
Meeting 7: 6 months after meeting 5.	• Phone call with study team • Follow-up questionnaire	• Phone call with study team • Follow-up questionnaire
	ACTIVE PARTICIPATION ENDS	ACTIVE PARTICIPATION ENDS
After end active participation		• Option to learn incidental findings • Phone or in person meeting with genetic counselor • Select what other incidental results to learn, if any • Incidental findings will be given to you by the genetic counselor, referrals made, results will be shared with family physician
4 years after end of active participation	Study team will view your health data.	Study team will view your health data.

WHAT ELSE DO I NEED TO KNOW ABOUT THE STUDY?
This study is not the only way to have genomic sequencing. Genomic sequencing is available outside of the study for a cost. If you are interested in this outside of the study, you can talk to your physician.

If you participate in this study we would like your permission to access your medical records at *insert recruiting hospital* and your family physician. We will only collect the information we need for the study. We will use this information to confirm your cancer history, any treatments received, and your genetic testing history. We will also use this information to see what medical tests or procedures you receive after receiving the results from your genomic sequence. We will continue to look at this information for 5 years after you have enrolled in the study. To participate in this study you must allow us to access your medical records at *insert recruiting hospital* and at your family physician.

In this study we will inform your family physician and your clinicians at the recruiting clinic about your participation in this study. Results from the study will be placed in your medical file, though it will made clear that these results are a research result. All reports that are produced for this study that are placed in you medical file will be clearly labeled as a research result. Because these are labeled as research results, this might mean that you will need follow-up genetic testing to confirm some results. We will also talk with your clinician at *insert recruiting hospital* your family physician and to any physician your are referred to as a result of this study about the results of your genomic sequencing about how helpful they found this information for your care.

We would also like collect your Ontario Health Insurance Plan (OHIP) number. This information, along with information collected about you in this study, will be transferred to the Institute for Clinical Evaluative Sciences (ICES) and linked with information about you found in health-related databases (e.g., Ontario Health Insurance Plan (OHIP) physician claims database, Ontario Cancer Registry) for the purpose of analyzing the health services you use during the course of the study (e.g., clinic visits, hospitalizations, medications) and their costs. Your personal health information will be protected and your confidentiality will be maintained. In order

to participate in this study you must be willing to share you OHIP number and consent to our use of it to gather information about healthcare costs.

For both groups, at the end of your active participation, we would also like gather information from your family members about what actions, if any, they have taken due to the results of your genomic sequencing. If you would like your family members to be involved, we will ask that you tell them about our study, and give them our contact information. This is completely optional. You do not have to tell your family members about this study. Your family members can contact us if they are interested in being involved. If they decide to participate, we will gain their consent. If they consent to participate we will ask them about any actions they have taken as a result of your genomic sequencing findings. We will also ask them for their OHIP number so we can link their information to health databases and learn about health services they used and cost incurred as result of the information you learned from your genomic sequencing. You do not have to approach any family members on behalf of the study if you do not wish to.

Finally, we would also like to collect the name and contact information of one of your family members to whom you would like your genome sequencing results returned. In the event that you pass away before receiving sequencing results and a life-threatening, actionable result is found that might impact other family members, this result would be shared with a family member you indicated. It is in their best interest to learn about it so that they may make decisions that could help them or other family members take actions to reduce their risk of developing a disease. Only life-threatening, medically actionable information would be shared; no other genetic information would be shared. You also do not have to provide the contact information of a family member to share this information with.

☐ In the event that I die before I receive the results from my genomic sequence I do **not** give my permission for the study staff to share any life threating genetic results with anyone.

☐ In the event that I die before I receive the results from my genomic sequence I **do** give my permission for the study staff to share any life threating genetic results only with the person I have provided.

_____	_____	_____
Participant's Name	Signature	Date

Collection or Use of Your Stored DNA Sample (Required)

Most participants in this study will already have a DNA sample stored at Mount Sinai Hospital. We will use your stored DNA sample to extract the DNA needed for this study. If you do not have a stored DNA sample (or if you do not agree to use your stored DNA sample for this study), then a Blood sample will be taken on your second meeting with genetic counselor after you have made your final decision about which incidental finding you would like to receive. From you blood, a sample of DNA will be extracted. Your DNA sample will be sent to a laboratory at Sick Kids Hospital's Center for Applied Genomics, where it will be sequenced. DNA and blood samples will not be stored or used for any other research purposes. DNA and Blood samples will be destroyed once sequencing has been done.

☐ I do **not** give my permission for my stored DNA sample at Mount Sinai hospital to be used to extract DNA to be used in this study for genomic sequencing.

☐ I **do** give my permission for my stored DNA sample at Mount Sinai hospital to be used to extract DNA to be used in this study for genomic sequencing.

_____	_____	_____
Participant's Name	Signature	Date

How will samples be identified?
To protect your identity, the information that will be on your samples will be limited to your study ID number. Despite protections being in place, there is a risk of unintentional release of information. Due to technological advances in genetics, there may be a risk that the genetic information in the samples could be linked back to you.

Can I withdraw these samples?
If you no longer want your samples to be used in this research, you should tell the study coordinator, who will ensure the samples are destroyed.

If sequencing has already been done on your sample(s) it will not be possible to withdraw your sample, since it will have been destroyed after sequencing.

WHAT KIND OF RESULTS COULD I LEARN?
You might learn results related to your cancer, for example that you have a genetic change that puts you at higher risk for developing cancer.

If chose you learn about medically actionable results, you might learn that you have a higher than average risk for other types of cancer, or certain types of heart problems like arrhythmias. You also might learn about how you react to some medications.

Other incidental findings that you might learn could be related to risk for common diseases like Type 2 diabetes or coronary artery disease. Or, you might learn about your risk for rare genetic disorders, like muscular dystrophy, or some types of progressive deafness. You might learn about risk for brain-diseases like Alzheimer's Disease. You might learn if you are a carrier for genetic diseases, like cystic fibrosis, that probably will not affect you, but that you might be able to pass on to your children. These are just a few examples of the types of results that you might learn. You will be able to choose what types of incidental findings you would like to learn, if any.

Lots of information can be found from genomic sequencing. Some genomic sequencing results are known to be linked to risk for diseases. The meaning of some other results is not known. We will only give you results that are **known** to be linked to risk for diseases.

Finally, there is always a chance that even if you have genomic sequencing, no results known to be linked to diseases will be found.

WHAT KINDS OF QUESTIONS WILL I BE ASKED?
Examples of the types of questions you will be asked in the decision aid include:

"*How important is it for you to learn about your risk for common diseases that you can reduce with a healthy diet & exercise?"* or

"How important is it for you to learn that you may get an untreatable brain disease so you can tell or prepare your family?" or

"*How strongly do you agree with this statement: I feel sure about what [category of incidental findings] to choose*." or

"*How strongly do you agree with this statement*: *This decision is easy for me to make*."

Some questions that you will be asked in our questionnaire will relate to your general feelings such as:

"*How often would you say you feel tense or 'wound up?"*
"*How often would you say you feel cheerful?"*

Some questions are about your feelings about your genomic sequencing results:

"In the past seven days, how much did you feel irritable and angry?" or
"In the past seven days, how much did you try not to think about receiving your genomic test results?"

Some questions are about your feelings about your health:

"During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise? or
"Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?"

Some questions are about your health care spending:

"In the past month, how much have you spent on medication for a condition related to a diagnosis found as result of genomic sequencing?"
"In the past moth, how much have you spent on counseling for a condition related to a diagnosis found as result of genomic sequencing?"

WHAT WILL YOU DO WITH THE RESULTS OF GENOMIC SEQUENCING?

A genetic counselor will call you over the phone and deliver the results of your genomic sequencing. If you are in Group One you will receive any results related to your cancer as well as any incidental results, depending on which categories of incidental results you chose to receive. If you are in Group Two you will only receive results related to your cancer, and incidental results considered medically actionable.

Any results that we find that may impact your health will be referred to a specialist. The study genetic counselor and medical geneticist will develop referrals and consult notes, which they will give to [insert name of recruiting clinic]. [Insert name of recruiting clinic] will handle results related to your cancer, and will facilitate referrals to specialists. The type of specialist will depend on the nature of the disease risk found in your genomic sequence. For example, you may be referred to a cardiologist if results suggest that you are at increased risk for a heart condition. It is possible that we will find multiple results that will require referrals to multiple specialists. Your family physician will also be made aware of these results and any referrals that have been made, so that she or he may help you manage the results and these referrals. You also may receive some results that may not have a direct impact on your health, but may be important for you to be aware of. These types of results will be shared with your family physician. If you do not have family physician we will help locate one.

After the genetic counselor given your results to you in person or over the phone, we will mail you a copy of the results along with any letters of referral that have been made for you. We will also mail any referral letters to your family doctor and specialist(s).

It is possible that scientists will learn more in the future about the meaning of your genomic sequence results. At this time, we do not plan to contact you in the future to discuss such new knowledge. Also, genomic sequencing can detect variants in genes known to be associated with

a particular disease or condition. However, genome sequencing may also reveal variations in these genes that are not known to be associated with a particular disease or condition. These are known as “variants of uncertain significance”. Over time, as we learn more about variants of uncertain significance, they may be reclassified to be disease-causing or harmless. In this study, we will look for and return results related to your cancer that are known to be related to that cancer as well variants of uncertain significance. However, if you are in the study group that includes incidental results we will only look for and return results to you that are known to be related to a disease or condition. For incidental results we will not look for or return any “variants of uncertain significance”.

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This research may tell us about the way you are related to your family. It may tell us that you or your family members are not related. If such information is found, we will not tell you or anyone else.

Finally, it is important to note that if you receive a positive result for an incidental finding, it does not mean that you are guaranteed to develop that disease. The results you receive are estimates of risk and if you are found to have a genetic variant you may or may not develop that disease or condition in your lifetime. Also, if you are found not to have a variant for a disease or condition you may still develop the disease. It could be that our test did not detect the variant or that something else may cause you to develop the disease.

WHAT ARE THE RESPONSIBILITIES OF STUDY PARTICIPANTS?

If you choose to participate in this study, you will be expected to:

- Provide the study team with your OHIP number.
- Allow the study team to access your medical records at *insert recruiting hospital*.
- Allow the study team to access a DNA sample stored at Mount Sinai hospital, or provide a DNA sample if one is not stored there.
- Use an online Decision Aid and make a decision about the type of medically actionable or incidental findings you would like to receive from genomic sequencing, if any.
- Inform the study team if you or your partner are pregnant or planning to become pregnant **before** consenting to participate, as you will not be eligible if this is the case.
- Allow the study team to communicate your genomic sequencing results and information about your participation with your clinicians at *insert recruiting hospital.*
- Allow the study team to communicate your genomic sequencing results and information about your participation with your family doctor.
- Complete questionnaires at the time-points listed above with members of the study staff, over the phone. Questionnaires will include questions about your demographics, health behaviours, mood and feelings, medical history and health spending. You may decline to answer any questions you wish.
- Participate in a semi-structured interview with a member of the study team, over the phone. Not all participants will be contacted for this, about 40 will be in total.

HOW LONG WILL PARTICIPANTS BE IN THE STUDY?

The total time period for this study will be five years. Your active participation (the time that you will be in contact with the study team and complete tasks related to the study, such as

questionnaires) will last about one and a half years. Five years after you begin participating, the study team will look at your administrative data at ICES but will not contact you. There will be ten study visits. The initial visit will be in person, and the rest will take place over the phone or in person. Study sessions are described in detail above. If you are in Group Two, once you have completed your last phone c (about 1 year after learning your genomic sequencing results), any additional incidental results that you choose to learn will be given to you (see above for procedure).

CAN PARTICIPANTS CHOOSE TO LEAVE THE STUDY?

You can choose to end your participation in this research (called withdrawal) at any time without having to provide a reason. If you choose to withdraw from the study, you are encouraged to contact the study genetic counselor or study staff.

If you leave the study and your DNA or Blood sample has not yet been used for sequencing, your DNA or Blood sample will be withdrawn and destroyed. If your sample has already been used for sequencing, it will have been destroyed. If you leave the study after sequencing is complete, your raw genomic sequence data will be destroyed, unless it has already been uploaded for data sharing, after which it will not be possible to remove it from the database, however you will be able to remove the sequencing data from the study itself. The results of the analysis of your sequence data, and any other information recorded before you withdrew (eg. questionnaire responses) will still be used by the researchers for the purposes of the study, but no information will be collected after you withdraw your permission. Any data that we do hold onto will be kept confidentially and will not contain your name or any other identifying information.

CAN PARTICIPATION IN THIS STUDY END EARLY?

Participation will end if you choose to withdraw. If you are to become ill again and feel that will significantly impact your ability to participate, you may choose to withdraw yourself. If you become pregnant or your partner becomes pregnant during the course of the study, you will not have to stop participating.

WHAT ARE THE RISKS OR HARMS OF PARTICIPATING IN THE STUDY?

There are some possible risks to learning information from genomic sequencing and incidental findings. It is possible that you may experience distress from participating in this study or from learning about your genomic sequencing results. This is one of the purposes of our study: to learn how people react to learning about their genomic sequencing results. If you do experience any emotional distress or discomfort, we can refer you to a psychologist or psychiatrist. In addition, you are always free to refuse to answer any particular questions at any time if you feel uncomfortable.

If you experience distress related to study results (positive or negative) the study genetic counselor will discuss this distress with you. If necessary, you will be provided online and phone contact information for patient support groups. If you seem overwhelmed, the genetic counselor will ask if you would like a referral to a mental health specialist for more long-term support.

In these cases, the genetics counselor work with the genetic counselor at the clinic that referred you to this study to get you a referral to psychologist or psychiatrist. The genetic counselors will work with you through this process to ensure that you follow through with the referral and seek further care. If the genetic counselor feels that you need immediate mental health service, they

will refer you emergency department at St. Michael's Hospital. In this case, the genetic counselor will work with you to ensure you receive follow up care.

Since distress may occur at any time during the study, please contact the study team if at any time you experience any distress as result of the study. We will put you in touch with the study genetic counselor, who will ensure that the appropriate care is delivered.

If you choose to share your results with your family members or others, it may affect how they feel about you, or how you feel about them. For these reasons, you and your family may wish to seek further counseling. In some cases you may want to see a mental health professional.

There is a chance that your genetic information may be used against you or your family members. This is a form of discrimination. Canada recently passed a legislation (Bill S-201) that makes genetic discrimination illegal. For instance, it is illegal for insurance companies, employers or other parties to use genetic testing results against you, or to force you to reveal the result of a genetic test. However, we cannot fully guarantee you that no one will ever use your research test results against you.

Your participation in this study is confidential; however there is a small chance that you genetic data (results from genomic sequencing) could identify you or family members. This is because each person's genomic make up is unique, similar to a fingerprint. Because your families genetic make up is very similar to yours this mean that your sequencing data could potentially identify them. We will do everything to ensure that your identity is protected; but because of the uniqueness of your genetic data we cannot guarantee confidentiality for you or your family members.

You may be asked to provide a fresh blood sample if you do not have one stored at Mount Sinai Hospital. If you do, there could be bleeding or bruising caused by drawing blood. This is a small risk and almost never causes a problem.

Participation in this study, and the details of any decisions you make about your participation, will in no way affect any aspect of the care you are receiving from St Michael's Hospital, *insert recruiting hospital*, any hospital, health care facility or any medical staff.

WHAT ARE THE BENEFITS OF PARTICIPATING IN THIS STUDY?

You may not benefit from participating in this study. With your sequencing information you may learn about a genetic cause of your cancer, as well as new information about your risks for various diseases other than your cancer. You may or may not find this information helpful. Ultimately, this research will allow doctors and genetic counselors help understand the impact of learning about incidental results from genomic sequencing.

IS MY PARTICIPATION VOLUNTARY?

Yes, your participation in this study is voluntary. You may decide not to be in this study, or to be in the study now and then change your mind later. You may leave the study at any time without affecting your care. You may refuse to answer any question you do not want to answer, or not answer a question by saying "pass" or selecting "skip" when answering questions.

WHAT IF I AM INJURED IN THIS STUDY?

If you become ill, injured or harmed as a result of taking part in this study, you will receive care. The reasonable costs of such care will be covered for any injury, illness or harm that is directly a result of being in this study. In no way does signing this consent form waive your legal rights nor does it relieve the investigators, sponsors or involved institutions of their legal and professional responsibilities. You do not give up any of your legal rights by signing this consent form.

HOW WILL PARTICIPANT HEALTH INFORMATION BE KEPT CONFIDENTIAL?
If you decide to participate in this study, the study doctors and study staff will only collect the information they need for this study.

Records identifying you at St Michael's Hospital will be kept confidential and, to the extent permitted by the applicable laws, will not be disclosed or made publicly available, except as described in this consent document.

Authorized representatives of the following organizations may look at your original (identifiable) medical/clinical study records at the site where these records are held, to check that the information collected for the study is correct and follows proper laws and guidelines.

- The research ethics board who oversees the ethical conduct of this study in Ontario, St Michael's Hospital Research Ethics Board, to oversee ethical conduct of research at this location

The following organizations may/will also receive study data and or your samples:
- St. Michael's Hospital
- The Centre for Applied Genomics at SickKids Hospital (who provides sequencing)
- Dr. Lerner-Ellis' laboratory at Mount Sinai Hospital (who analyses the sequencing data)

Information that is collected about you for the study (called study data) may also be sent to the organizations listed above. Representatives of Clinical Trials Ontario, a not-for-profit organization, may see study data that is sent to the research ethics board for this study. Your name, address, or other information that may directly identify you will not be used. The records received by these organizations may contain your *participant code, sex, and date of birth*.

Studies involving humans sometimes collect information on race and ethnicity as well as other characteristics of individuals because these characteristics may influence how people respond to different interventions. Providing information on your race or ethnic origin is voluntary.

If the results of this study are published, your identity will remain confidential. It is expected that the information collected during this study will be used in analyses and will be published and presented to the scientific community at meetings and in journals.

Even though the likelihood that someone may identify you from the study data is very small it can never be completely eliminated. It is important to note that the genomic sequencing data we gather from you is inherently identifiable because it contains your unique genetic make-up. In order to protect your genomic sequencing data we will de-identify the information, meaning we will remove any identifiable information, such as name and date of birth, from the data set However, because the data contains your unique genetic make up the data cannot ever be fully de-identified.

Questionnaire data will be entered into an online data collection software. The data collected will be stored on a server that resides in Canada and no assurance can be made about its confidentiality or that it will only be used for research purposes. This data will be removed from the server after the study has completed data collection.

Information will not be directly disclosed to insurance companies or employers.

Finally, we will ask for your email in order to communicate with your during the course of the study. we will only use email for communication purposes, we will not ask for and share any data via email. Please note that the security of email messages is not guaranteed. Messages may be forged, forwarded, kept indefinitely, or seen by others using the internet. Do not use email to discuss information you think is sensitive. Do not use email in an emergency since email may be delayed. If you do not wish to use email for communicate we will use phone and or mail to communicate with you.

HOW WILL THE RESEARCH DATA BE STORED?

There are two different types of data in this study that will be stored differently: Raw genomic sequencing data, and general study data.

Raw data from genomic sequencing has the most potential to potential to identify you or your family. This data will be stored at St. Michael's Hospital in our study files at lab at Mount Sinai Hospital that will analyze your sequencing data. It is possible that this data will be uploaded to a external database that helps scientists learn more about how genetics are linked to disease (see section below, *Will the research data be shared with other researchers?)*. If this data is uploaded it will not contain any of your identifiable information. This data will not be included with the general study data.

Your genome data will be analyzed to look for changes that might impact your health. The results of this analysis will be a list of all of the changes (variants) found in your DNA that you requested to learn. You cannot be identified from this type of data (the changes found). This data will be added to the general study data.

All study data, files and material will be kept at St. Michael's Hospital, in a secure area. All computer files will be kept on servers at St Michael's Hospital and will conform to all privacy and confidentiality laws.

All of the study data (questionnaires, results of sequencing analysis) will have any identifiable information removed. Each participant and their answers (data) will be assigned a specific code and only the principal investigator will have the "code key" which can link the codes back to the data. The code key will be kept on a secure server at St Michael's Hospital and will only be accessible to the principal investigator.

Information that we transfer from our study locations to our study offices at St. Michael's Hospital will be done manually by our study staff. Study data will be uploaded onto a encrypted (password protected) USB key. Once the data is uploaded at St. Michaels Hospital it will be erased off the USB.

The information that is collected for the study will be kept in a locked and secure area by the study doctor for 10 years. Only the study team or the people or groups listed below will be allowed to look at your records. Study data, including contact information and sequencing data will be stored on the secure servers at St. Michael's Hospital. We will retain all study data for 10 years after the completion of the study.

The audio recordings that are a part of this study will be downloaded to our study computers at St Michael's Hospital and transcribed. Transcription is taking the words and dialogue on the audiotape and writing or typing it word for word. During transcription all names and identifiers will be deleted; this is called de-identifying. Once the transcription is complete we will destroy any audio files.

The decision aid used in the study will ask you questions but does not ask for or store any identifying information. There are parts of the decision aid that you are able to input your own answers. We ask that you not enter any information that could identify you or family members in these sections.

DNA samples will be destroyed after sequencing and will not be stored.

If you participate in this study, information about your genetic variants found as a result of this research project will be stored in your hospital file at [insert name of recruiting hospital] and your file with your family physician. Some institutions involved in this study share the patient information stored on its computers with other hospitals and health care providers in Ontario so they can access the information if it is needed for your clinical care. The study team can tell you what information about you will be stored electronically and may be shared outside of St. Michael's Hospital. If you have any concerns about this, or have any questions, please contact the St. Michael's Hospital Privacy Office at 416-864-6060 (or by email at privacy@smh.ca).

WILL THE RESEARCH DATA BE SHARED WITH OTHER RESEARCHERS?
All data related to the study, including genomic sequencing results and your clinical data, may be shared with other scientific investigators.

DNA and blood samples will not be shared or used for any other research purposes.

1. **Raw genomic sequence data and phenotype data (information about physical and clinical characteristics such as cancer diagnosis)** may be shared with other researchers in two ways:
    a. **Directly by the study Principal Investigator**: Any researchers wishing the Principal Investigator to share this data would for research purposes must seek approval from the Research Ethics Board at their own institution for their research study, would be bound to protect the data by a data sharing agreement and would not be allowed to share the data with other researchers.

    b. **Uploaded to a genetics databases for data sharing**. Your sequencing data may be and phenotype data may be put in a controlled-access database. This means that only researchers who apply for and get permission to use the information for a specific research project will be able to access the information. Your genomic data and health information will not be labeled with your name or other information that could be used to identify you. Researchers approved to access information in the database will agree not to attempt to identify you. The databases we would share genetic sequencing and phenotype data with are restricted to researchers investigating cancer and or genetic variations.

    Sharing this data directly with other researchers and with the genetics data sharing databases would be done so other researchers can use this information to better understand, genetic variations related to any disease (including cancer) and what genetic changes might cause disease. When we share this data, all direct identifiers (e.g. your name, date of birth) will be removed and only a code-key will be used to identify it. It is important for you to know that genetic data is unique and therefore non-confidential. There is a chance that you or your family may be identified by your sequence data. There also the risk of accidental release of your information (other parties other than the intended researchers seeing your data). Although this risk is small, it can never be completely eliminated.

You may participate in the study without agreeing for us to share your genetic sequence and phenotype data. Please indicate your choice below.

☐ I do **not** give my permission for my genomic sequence and phenotype information to be shared with other researchers and uploaded to genetics data sharing datasets.

☐ I give permission for my genomic sequence and phenotype information to be shared with other researchers and uploaded to genetics data sharing datasets.

_____	_____	_____
Participant's Name	Signature	Date

2. **General research results (such as number of participants in the study, combined preferences for receiving incidental findings, average age of all the participants, etc.)** may be shared with other researchers to support their research work. This data will be shared directly by the study Principal Investigator. Any of this type of data that we share will be de-identified and will not contain your personally identifiable information and cannot be linked back to you. We would provide this information to investigators who are studying similar topics to this study, such as cancer, genetic diseases, the usefulness of genomic sequencing or people's preferences for learning incidental findings. Data might be shared with researchers who want to learn about the usefulness of genomic sequencing information, or about how people feel about learning genomic sequencing information, or other types of similar research. Any investigators wishing to use this data would need to seek approval from the Research Ethics Board at their own institute, would be bound to protect the data by a data sharing agreement and would not be allowed to share the data with other researchers.
You may participate in the study without agreeing for us to share your research results/study data. Please indicate your choice below.

☐ I do **not** give my permission for my research results/study data to be shared with other researchers.

☐ I give permission for my research results/study data to be shared with other researchers.

_____	_____	_____
Participant's Name	Signature	Date

WILL FAMILY DOCTORS/HEALTH CARE PROVIDERS KNOW WHO IS PARTICIPATING IN THIS STUDY?
Your family doctor/health care provider will be informed that you are taking part in this study, as well any genomic sequencing results will be communicated to them to allow you to receive appropriate medical care.

If you do not want your family doctor/health care provider to be informed, please discuss this with the study team.

If you receive results related to your cancer, they will be returned to healthcare providers at the *insert name recruiting clinic* so that you can receive appropriate care at that center. Other

results may require follow up in other specialist clinics, in which case referrals will be made to healthcare providers in those clinics. [Insert name of recruiting clinic] will make and manage referrals to specialist clinics.

As we stated earlier, as a part of this study we would like to access your family medical records and your medical records the clinic that referred you to this study (insert clinic name here). This information necessary so we can track what type of follow up care you received as a result receiving genomic sequencing results from this study. If you are not willing this information you may not be eligible to participate in this study.

WILL INFORMATION ABOUT THIS STUDY BE AVAILABLE ONLINE?

A description of this clinical trial will be available on https://www.clinicaltrials.gov/. This website will not include information that can identify you. You can search this website at any time. When research results from the study are published, publications will be available online.

WHAT ARE THE COSTS TO PARTICIPANTS?

You will not be charged for your participation in this study. We will cover the costs of the genomic sequencing and procedures (e.g. blood draw) related to this study. You will not be charged for genetic counseling that is directly related to this study. We will reimburse you for out of pocket expenses incurred as a result of being in this study (for example meals, babysitters, parking and getting to and from (enter name of participating hospital) for this study.. If you withdraw from the study, we will pay you for your expenses for taking part in the study up until that point.

ARE STUDY PARTICIPANTS PAID TO BE IN THIS STUDY?

You will not be paid for taking part in this study.

It is possible that the research conducted using your samples and/or study data may eventually lead to the development of new diagnostic tests, new drugs or devices, or other commercial products. There are no plans to provide payment to you if this happens.

WHAT ARE THE RIGHTS OF PARTICIPANTS IN A RESEARCH STUDY?

You will be told, in a timely manner, about new information that may be relevant to your willingness to stay in this study.

You have the right to be informed of the results of this study once the entire study is complete. To receive results from the study, you can contact the research team.

Your rights to privacy are legally protected by federal and provincial laws that require safeguards to ensure that your privacy is respected.

By signing this form you do not give up any of your legal rights against the study doctor, sponsor or involved institutions for compensation, nor does this form relieve the study doctor, sponsor or their agents of their legal and professional responsibilities.

You will be given a copy of this signed and dated consent form prior to participating in this study.

WHAT IF RESEARCHERS DISCOVER SOMETHING ABOUT A RESEARCH PARTICIPANT?

The purpose of this study is to learn about the health outcomes, utility and costs of incidental findings. If you choose not to learn about certain types of incidental findings, we will not disclose them to you against your wishes. Otherwise, incidental findings will be revealed to you.

As outlined in detail above, if you participate in Group One you will have the option to select to receive all types of incidental findings during the study. If you participate in Group Two, you will have the option to receive medically actionable incidental findings during the study. In Group Two, at the end of the study you will be able to learn other incidental findings, if you wish to.

WILL I BE CONTACTED AFTER I HAVE COMPLETED THE STUDY?

We would like your permission to re-contact you after the study has completed. We will not share your contact information with anyone. You would only be contacted by members of the study team. You may be re-contacted and invited to participate in follow-up research to get your feedback on this consent process, the decision aid or genetic counseling parts of this study, how information about incidental findings was communicated to you, or other studies related to genetics testing. We might contact you to invite you to participate in follow-up research to this study, such as research about how you feel about your results of genomic sequencing in the long term. We may contact you to invite you to participate in other studies related to the topic of genetics and genomic sequencing. We will provide you with additional information about new research studies and provide you with a separate consent form when we contact you. You can decline to take part in any future research when you are approached and are not obliged to participate if you have agreed to re-contact. If you agree to be re-contacted you can remove yourself from this list at any time by contacting the principle investigator or the study coordinator. If you do not wish to be re-contacted you can still take part in this study. We will keep your re-contact information for 10 years, after which time we will no longer contact you without your permission.

☐ I give permission to be contacted by study staff in the future.

☐ I do not wish to be contacted by study staff in the future.

_____	_____	_____
Participant's Name	Signature	Date

Whom do participants contact for questions?

Study Contact

If you have questions about taking part in this study, or if you suffer a research-related injury, you can talk to the study investigator, or the investigator who is in charge of the study at this institution. That person is:

- Dr. Yvonne Bombard Ph.D., Principal Investigator, 416-864-6060 x 77378
- Marc Clausen, Research Coordinator 416-864-6060 x 77397
- *Inset name and phone of Principal Investigator at recruiting site*

Research Ethic Board Contact

If you have questions about your rights as a participant or about ethical issues related to this study, you can talk to someone who is not involved in the study at all. That person is:

St. Michael's Hospital Research Ethics Board Chair 416-864-6060 ext. 2557

The REB is a group of professional staff that oversees the ethical conduct of research studies but are not part of the study team. Everything that you discuss with them will be kept confidential.

INFORMED CONSENT FOR CLINICAL RESEARCH

The Health Outcomes, Utility, and Costs of Returning Incidental Genomic Findings: Main Study.

1. All of my questions have been answered.
2. I understand the information within this informed consent form.
3. I allow access to my Ontario Health Insurance Plan (OHIP) number
4. I give permission for the research team to access my DNA sample stored at Mount Sinai Hospital for use in this study.
5. If necessary, I give the study permission to take a sample of my blood and extract a sample of my DNA from the blood sample for the purpose of genomic sequencing.
6. I give permission for genomic sequencing to be performed on my DNA sample.
7. I allow the researchers to access my medical records at [Insert name of recruiting clinic].
8. I allow the researchers to access my medical records at my family physician / general practitioner.
9. I understand that my family doctor/health care provider will be informed of my participation in this study, and that my genomic sequencing results will be shared with him/her.
10. I understand that my genomic sequencing results will be shared with [insert name of recruiting clinic].
11. I do not give up any of my legal rights by signing this consent form.
12. I know that I can leave the study at any time.
13. I agree to take part in this study.

_____	_____	_____
Signature of Participant/	PRINTED NAME	Date
_____	_____	_____
Signature of Person Conducting the Consent Discussion	PRINTED NAME & ROLE	Date