THE UNIVERSITY OF BRITISH COLUMBIA

Department of Medical Genetics

island health

PARTICIPANT INFORMATION AND CONSENT FORM

Title of Study: **Silent Genomes: Precision Diagnosis for Indigenous Families with Genetic Conditions**
(Activity 2 of *Silent Genomes: Reducing health care disparities and improving diagnostic success for children with genetic diseases from Indigenous populations*)

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Sponsors: **Genome Canada; Canadian Institutes of Health Research; Provincial Health Services Authority; UBC Faculty of Medicine, BC Children's Hospital Foundation; BC Children's Hospital Research Institute, Michael Smith Foundation for Health Research; Illumina Inc.**

If you are a <u>parent or legal guardian of a child</u> who may take part in this study, this consent form pertains to your <u>child's</u> participation and, if acceptable, is to be signed by you. The assent (agreement) of your child may also be required.

If you are a <u>substitute decision-maker for an adult</u> who may take part in this study, this consent form is also to be signed by you, and the assent (agreement) of the adult for whom you are a substitute decision-maker may also be required.

If you are a <u>parent joining this study along with your child, or other adult joining this study</u>, this consent form is also to be signed by you as an <u>adult</u> participant.

When we say "you" or "your" in this consent form, we mean the <u>research participant you are providing consent for</u>. This may be you, a child, or an adult for whom you are the substitute decision-maker.

"We" means the <u>study doctors and other research staff</u>.

1. INVITATION

You are invited to take part in this research study because:

- You have a medical condition which is not yet understood, and is likely due to a genetic (single gene) cause
  <u>OR</u>
- You are a biological (blood-related) relative of a person who is affected with such a medical condition.

As part of this study you are invited to undergo a type of genetic testing called **'Whole Genome Sequencing' (WGS)**, a new technology which can find changes in DNA, sometimes referred to as "genetic changes" or "**variants**." The purpose of this study is to try to find the variants causing the condition in your family and how best to manage your healthcare.

In most cases, the person affected with the condition as well as two additional blood-related relatives will be invited to take part, although sometimes more family members will be invited (depending on the condition). The reason for including relatives without the condition is to compare genetic changes (variants) that may be identified in the affected family member. When both parents of an affected child participate, we can determine whether the child's variants were passed down through the family, or if they are new genetic changes that happened for the first time in the child.

2. YOUR PARTICIPATION IS VOLUNTARY

Your participation is voluntary. You have the right to refuse to participate in this study. If you decide to participate, you may still choose to withdraw from the study at any time without any negative consequences to your medical care, education, or other services to which you are entitled or are presently receiving.

In order to decide whether or not you wish to be a part of this research study, you should understand what is involved and the potential risks and benefits. This form gives detailed information about the research study, which will be discussed with you. Once you understand the study, you will be asked to sign this form if you wish to participate.

Please take time to read the following information carefully and to discuss it with your family, friends, and doctor before you decide.

3. WHO IS CONDUCTING THE STUDY?

This study is being led by the Principal Investigators (study doctors), Drs. Laura Arbour and Anna Lehman, and the other investigators listed on the first page. This study is funded by Genome Canada, Canadian Institutes of Health Research, **Provincial Health Services Authority, UBC Faculty of Medicine, BC Children's Hospital Foundation, BC Children's Hospital Research Institute, and the Michael Smith Foundation for Health Research. Illumina Inc** is providing in-kind donation only.

4. BACKGROUND

Genetic conditions happen in **all populations around the world**. Individually, genetic conditions are rare, but if we group all genetic conditions together, the number is large. 'Rare' genetic conditions affect at least 1 in 50 people, and the number is even higher if we include more common conditions.

What are genes and gene variants?

We each have ~25,000 **genes** in every cell of our body, which we inherited from our parents. Genes are the 'instructions' for our bodies, which tell our cells, tissues, and organs how to work. Genes are made of **DNA** (deoxyribonucleic acid), a long string of 'genetic letters' that the cells can read. Every person has a slightly different combination of letters, due to changes (**'variants'**) in their DNA. You can think of variants as being similar to 'spelling mistakes' in the DNA. Most of these variants are harmless (**normal variants**), some have an unknown or uncertain effect (**variants of uncertain significance**), while others are known to play a role in disease (**disease-causing variants**).

What is Whole Genome Sequencing (WGS)?

The entire set of genes/DNA in a person is called the human **genome.** The genome contains about 6 billion DNA units ('genetic letters') in total. **Whole Genome Sequencing (WGS)** is a new genetic technology that allows a person's entire genome to be read and studied at once. Since WGS has the ability to study all of your genes at one time, it has the potential to replace many of the current genetic tests that are available which can only look at a single gene or a small number of genes at one time.

Thousands of variants are found in each person undergoing WGS for a genetic condition. Although most of these will be normal variants or variants of uncertain significance, there is about a **30% chance of finding a disease-causing variant** which leads to a new genetic diagnosis and explains the cause of the medical condition your family was being tested for.

Since WGS looks at your entire genome, it may unexpectedly reveal harmful variants in *other* genes which are not related to the reason you were tested. These types of variants are called '**incidental findings'**, because they were unexpectedly found while looking for something else. Sometimes incidental findings are '**medically actionable'**, meaning that there is an action that can be taken (for example, treatment or prevention plan) to reduce the chance the variant will affect health. For example, a disease-causing variant in a gene related to cancer risk could be unexpectedly found, and that information could lead to a recommendation for special cancer screening. How we will provide incidental finding results back to you is discussed in detail in section 8 (pages 7-8).

5. WHAT IS THE PURPOSE OF THIS STUDY?

The main purpose of this study is to **find the gene variant(s) causing the suspected genetic**

condition in you or your family member. We will do this through WGS testing of family members with and without the condition.

This particular study focuses on Indigenous families in an effort to **reduce the barriers** many Indigenous communities face in accessing genetic testing and diagnosis.

6. WHO CAN PARTICIPATE IN THIS STUDY?

Your family may be able to take part in this study if you self-identify as Indigenous (First Nations, Inuit, or Métis) and/or have Indigenous ancestry and meet the following criteria:

- The affected person in the family has a suspected genetic (single-gene) condition which could present in childhood (childhood-onset)
- The condition has not been diagnosed through other available medical tests and investigations
- The condition is serious enough to affect the person's health or quality of life
- Learning the diagnosis is predicted to have a positive impact on the family's health and well-being (for example, the diagnosis may help improve health care delivery, help with treatment decisions, reduce uncertainty for family, etc.).

Eligibility to join the study will be decided on a case-by-case basis, after the study team has permission from the family to review the affected family member's medical records. The **Principal Investigator (study doctor)** at each site will make the final decision about eligibility, based on which families have the best chance of finding a disease-causing variant through WGS.

7. WHO SHOULD NOT PARTICIPATE IN THIS STUDY?

You will **not** be able to take part in this study if:

- The affected person in your family has already received a diagnosis through other medical tests or evaluations
- The affected person's condition is thought to be caused by something non-genetic, such as an infection, injury, or toxic exposure (either during pregnancy or after birth)
- The affected person is suspected to have a genetic condition for which there is a simpler and more cost-effective test available to the family for diagnosis
- The family is not able to provide informed consent or complete the steps required for this study

8. WHAT DOES THE STUDY INVOLVE?

If you agree to join this study, you will be asked to do the following steps. Each condition and each family is unique, so not every participant will do all the steps listed below.

Meeting with genetic counsellor (approximately 1 hour)

Once the study team has confirmed your family's eligibility to join the study, the genetic counsellor at your enrollment site will meet with you in person at the medical genetics clinic, by videoconference, or by telephone (depending on what your family prefers).

- The genetic counsellor will describe the study to you in detail, provide information about the different types of genetic results your family could receive from WGS testing, and discuss the possible pros and cons of joining this study.
- The genetic counsellor will ask you questions about the condition in your family and about your **family history**. She/he will draw your family tree to understand the biological

relationships in your family and who is affected by the condition.
- You will have the opportunity to have your questions answered.
- If you agree to join the study, you will be asked to sign this **consent form**

Looking at your medical records
We will ask you to sign an '*Authorization to Release Healthcare Information*' consent form to **review your medical records** so we can better understand the condition in your family, including how it might be affecting you. Looking closely at your medical records will also help us to interpret your WGS results – i.e. whether any gene variants we may find through WGS match the features of the condition in your family. Your records will be requested from the healthcare provider who referred you to the study and/or from other medical facilities you have visited in the past. The types of records reviewed may include written reports from doctors, results of previous bloodwork (including any genetic testing), and/or imaging results (such as CT-scan or MRI results/images).

If **other family members' medical records** are important in understanding the condition in your family, we will ask you whether it would be OK for you to approach your relative(s) to provide an information letter about the research study and a form to sign if they give us permission to review their records too. This part is optional. We understand some family members may not agree to us reviewing their medical records, but you will still be eligible for the study.

Photography
We may ask to take photographs as a way of documenting the features of the condition in your family. Photos may include your face. Photos can help the study team remember and discuss the condition, especially if the photos show something that cannot be described as well in words. However, photos are optional. You can say 'no' to having photos taken and still take part in this study. **At the end of this consent form, you will be given the choice of whether or not you consent to photos.**

Any photos taken will be part of your research data and will be kept under the same secure conditions as the rest of your data, but separate from your other research data. They will only be available to the research team members. If it is important to include your photos in a future scientific presentation or publication to help other scientists and doctors understand this condition better, we will re-contact you to ask for **separate consent**, and you will have the right to say 'yes' or 'no'.

Digital photos will be kept as required for 5 years after the study is completed, and then they will be destroyed.

DNA sample collection
WGS testing will be done on a DNA sample collected from you. DNA can be collected in different ways, including through a blood, saliva, or cheek-swab sample. A blood sample is the preferred way to collect DNA for WGS, as DNA taken from blood is more likely to give the best results. We will provide you with the paperwork to have a blood sample drawn through **LifeLabs**, a clinical laboratory with many different locations and partner labs. A LifeLabs (or partner lab) staff member will draw your blood sample in a location that is most convenient to you. The blood sample will be taken from a vein, most often the arm, in the usual way. Depending on your age and size, somewhere between 4mL – 10 mL (~1-2 teaspoons) of blood

will be drawn. For children, no more than 1 mL (1/5 teaspoon) of blood per 1 pound of body weight will be taken.

In cases where blood collection is not possible, LifeLabs may be able to arrange saliva or cheek-swab collection instead.

DNA handling and storage

After your blood (or saliva or cheek-swab) sample has been collected by **LifeLabs**, it will be sent to their lab in Ontario for DNA extraction. Once your DNA is extracted, LifeLabs will remove all the information that identifies you (i.e. your name, date of birth, personal health number, address) from your sample, and instead label your sample with a **unique study code or barcode** which will not allow direct identification of you. Your **coded (de-identified) DNA sample** will then be sent to our research lab (the **Genome Sciences Centre, GSC)** in Vancouver, BC, where WGS testing will be done and your sample will be stored.

Only the study doctor and genetic counsellor at your enrollment site, and the central site study team members located at Children's and Women's Health Centre of BC in Vancouver will have access to the key that links your unique study code and research data back to your name and other identifying information. We need to be able to link back to your name since we will need to re-contact you to provide WGS results and to do further confirmation tests if possible disease-causing variants are found.

If a possible disease-causing gene variant is found through WGS, the GSC will send a **coded** sample of your DNA back to LifeLabs, who will do a **test to confirm the gene variant** and issue a clinical report in your name. We will send your name and other information that identifies you to LifeLabs along with your original sample but they will not have access to any of your other research information.

You are the owner of your DNA, and it is considered to be "on loan" to us for the purpose of this research. Your DNA will only be used for the purposes of this particular study. We will *not* sell your DNA, we will *not* use it to make money, and we will *not* share it with others without your knowledge and permission. If we wish to use your DNA for any other research beyond the purpose of this study, we will come back to you and ask permission. If you want your DNA destroyed or sent back to you at any time, we will do that.

Once this study is complete and the results of the study have been published, any remaining DNA at the GSC will be destroyed unless you specifically request that your sample be returned to you or moved to a different study or biobank that you have provided separate consent for.

Whole Genome Sequencing (WGS) genetic testing

WGS will be done at our research lab (the GSC in Vancouver, BC), using your **coded (de-identified) DNA sample**. All electronic (computer) data resulting from WGS will be stored on a highly secure server at the GSC, and sent to the central study site at **BC Children's Hospital Research Institute (BCCHRI)** through a secure File Transfer Protocol (FTP). All data from your WGS testing will be securely backed up on the BCCHRI servers.

❖ *Types of WGS results*

Our research team will study your data from WGS and create a list of possible disease-causing gene variants. Decisions about which variants might be disease-causing will be made

by our research team, made up of doctors, genetic counsellors, data specialists, and lab staff. There are four different types of possible results from WGS testing:

1) **A disease-causing gene variant is found that explains the condition that your family was originally being tested for ('positive' result):** This would provide an explanation for the condition in your family.
2) **No gene variant is found to explain the condition in your family ('negative' result)**: This does not mean that there is no genetic cause – it may be that we just can't find it with our current technology.
3) **Variant(s) of Uncertain Significance (VUS) are found**: Everyone has many gene variants in their DNA. Some variants cause disease, others do not. Sometimes there is not enough information available to decide if a variant might cause a health condition. When the meaning of a variant is unclear, we refer to it as a VUS.
4) **Incidental Findings (IFs) are found**: Sometimes, by chance, WGS finds a gene variant that may cause a completely *different* health condition –something we were <u>not</u> looking for. Please read the next section to learn more about IFs and the choices you will need to make about them.

It is important to understand the limitations of the WGS performed for this study. This study focuses on finding disease-causing gene variants *related to the specific condition* in the affected person in your family, and not on finding gene variants that may cause other *unrelated* diseases. Therefore, **the WGS performed for this study is not a full analysis of all your genes, and a 'negative' result does not mean that you do not have any genetic risk factors.**

❖ *<u>Incidental (unexpected) findings</u>*

Gene variants that cause health conditions *unrelated to the original reason for testing* are called **Incidental findings (IFs)**. Although we will <u>not</u> purposely look for gene variants related to *different* diseases and will try to lower the chance of finding them, they may be found unexpectedly. IFs can be found in anyone who has WGS testing- even in healthy people.

Some IFs have a relatively high risk of causing health conditions where screening, prevention, or treatments are available to help improve health. These are called '**medically actionable' IFs**. It is not always clear which IFs fit this category, so our team as a whole will review each possible one and come to an agreement about it.

In this study, there are two types of medically actionable IFs that participants might have to face:

1) **Childhood-onset IFs**: These IFs predispose to health conditions where disease features can occur in childhood. Examples of conditions in this category are neurofibromatosis (a genetic condition of the skin and nervous system) and Long QT syndrome (a genetic condition affecting heart rhythm).
2) **Adult-onset IFs**: These IFs predispose to health conditions where features do not usually occur until adulthood. Examples include gene variants that increase the risk for certain types of cancer or heart disease.

❖ *<u>How will WGS results be given back to you?</u>*

We will provide your WGS results to the healthcare provider who referred you to the study, and it will be his/her responsibility to share the results with you. Your healthcare

provider will have the option of including the study genetic counsellor and/or study doctor in the results appointment, and follow-up genetic counselling will be available to you as part of this study.

We will inform your healthcare provider of your results from this study, even if nothing of significance is found. The types of results you may get back include:

- **Negative result,** which means that no gene variants believed to be related to the condition in the family were found. This result does not guarantee there is no genetic cause- it may be that we just cannot find it with our current technology.

- **Disease-causing gene variant(s)** that explain the *original condition being tested for* or that explain *some of the features/symptoms* you have.

- **Certain Variants of Uncertain Significance (VUS) that are decided by the study team to be possibly disease-causing** for the *original condition being tested for* or for *some of the features/symptoms* you have.

- **Medically actionable IF** results will be handled in different ways, depending on whether the participant is a child, dependent adult (who has a legal substitute decision-maker), or competent adult who is capable of making his/her own decisions. Our approach, explained below, is based on current Canadian guidelines for reporting IFs:

  - **Child participant**: In the interest of the child, any **childhood-onset** medically actionable IFs found during this study will be given back to the child's referring healthcare provider. We will not usually report back any IFs causing adult-onset conditions; however, there may be some rare cases in which knowing about an adult-onset condition in childhood may be in the family's best interest.

  - **Dependent adult participant (requiring legal substitute decision-maker):** Given that a dependent adult is not able to make his/her own healthcare decisions, we **will** give back results for any medically actionable IFs that are found. This is in the best interest of the participant, to be sure that he/she has the opportunity to receive appropriate healthcare and take preventative actions to reduce harms related to the IF.

  - **Adult participant (competent)**: Adults who are able to make their own decisions have the option of whether or not they wish to be informed of any medically actionable IFs discovered in them. **At the end of this consent form, you will be given the choice of whether or not you wish to be told.** We will discuss the pros and cons of receiving IF results as part of this consent process, and will give you as much time as you need to come to a decision. Whatever your choice is now, you may change your mind in the future by contacting the study team.

    The decision of whether to learn about IFs is a personal one – what is right for one person may not be right for another. Some people like to know all they can about their health risks because they believe it will help them to plan and take preventative actions. Others would rather not know what conditions they are at-risk for in case, for example, it causes them stress, strains family relationships, or puts

them at risk for discrimination. This is further discussed in Section 10 ('*What are the possible harms and discomforts*?'), on pages 9-10 of this consent form.

Please note that if any information related to paternity (who a child's father is) or other unexpected family relationship is discovered during this research study, it will not be disclosed to participants.

❖ *Confirming disease-causing gene variants and medically actionable IFs*

If a **disease-causing variant**, a **VUS suspected to be disease-causing**, or a **medically actionable IF*** is found through WGS, your result will be confirmed by a repeat genetic test at LifeLabs before being given back to you and your referring healthcare provider. Since these types of results may affect your healthcare, it is important to make sure the result is correct by double-checking it in a **clinical** (non-research) lab before letting you know about it. Once confirmed, LifeLabs will give these results back to your healthcare provider as a **clinical report**, which will include your name and other identifying information.

If a **clinical report** of your genetic test result is issued, i*t will no longer be only research data, but will become part of your medical record*, like all your other health records. These reports are also stored long-term in the LifeLabs clinical genetics database. Unlike your research data, clinical reports may be read by any healthcare providers involved in your care, either now or in the future.

**Please note: IFs will not be confirmed or reported back for those adult participants who have opted out of receiving IF results.*

❖ *Re-testing and follow-up*

Throughout the length of this study (approximately 4 years), we will likely re-test your DNA sample and/or re-analyze your data as our knowledge and WGS capabilities grow. Therefore, it is possible that you may receive new gene variant results at a later date, or that the interpretation of your results may change over the course of the study. New or changed results will be given back as explained in the *'How will WGS results be given back to you?'* section above.

Possible additional tests - optional

Throughout this study, we may suggest extra procedures to help understand the full nature of the condition in your family. This may involve the study of additional tissues such as another blood sample, hair sample, urine sample, skin biopsy, or tissue biopsy from a previous surgery. If this is the case, a **separate consent form** will be presented to you and you can decide whether you want to have the additional studies done.

If a gene variant is found that we suspect may be disease-causing but additional studies are required to be sure, we may wish to send your sample to a researcher who specializes in that particular gene for further analysis. In such cases, **a separate consent form** will be presented to you. If you consent to sending your sample for further analysis, only your de-identified (coded) sample will be shared with the other researchers and your identity will be protected.

Re-contact for future research studies - optional

At the end of this consent form, you will be given the choice of whether you would like to be

re-contacted about other research opportunities in the future.

9. WHAT ARE MY RESPONSIBILITIES?

Please keep in contact with us to let us know if you change your address or contact details. If there are significant health changes in the study participant related to the suspected genetic condition being tested for, it would be helpful for you to let us know.

10. WHAT ARE THE POSSIBLE HARMS AND DISCOMFORTS?

Discomfort of blood draw

The risks of drawing blood may include some minor local discomfort, light-headedness (dizziness or fainting), and/or minor infection or bruising around the area where the needle was inserted. If you are planning to have blood drawn as part of your routine clinical care, we will make every effort to coordinate your study blood draw so it can be done at the same time.

Risks related to WGS and Incidental Findings (IFs)

- *Potential psychological impact*:

When you donate your blood or tissue for genetic testing or research, you are sharing genetic information, not only about yourself, but also about biological (blood) relatives who share your DNA. If you learn that you have a genetic condition, there may be other family members, including those alive now or those who may be born in the future, who may also be at risk of having the same condition. This knowledge may provide you or your family with important information that could be used either to prevent the disease (if possible) or to inform other health care decisions. However, there is also a risk that simply having this knowledge may cause worry or stress. For some people, genetic results may influence their decision to have a child or affect other lifestyle decisions. This is one of the reasons that families have access to a genetic counsellor as part of the study. Genetic counselling helps each family to assess the pros and cons of the testing and understand what your results might mean for your wider family.

- *Potential risk of disclosure of your genetic information:*

There is a small risk of loss of privacy for you and your family. Despite our best efforts to protect your privacy, we cannot guarantee that your data will remain completely anonymous in all situations. If we decide to publish results from this study in a scientific medical journal, we will not include any information about your identity (such as your name, community, birth date, etc.). However, it is possible that somebody somewhere - perhaps, for example, someone who looked after you in hospital - may realize the unnamed person in the study could be you. Studies published in medical journals are distributed worldwide and are mainly read by doctors and scientists, but could be read by non-doctors too.

There is always a risk of computer systems or research offices being broken into and data stolen, although the chance is estimated to be very small. Every effort will be made to protect your privacy and the confidentiality of your genetic results.

If you decide to reveal your genetic test results to others, there is a chance it could lead to discrimination towards you and/or your blood relatives. A federal government law enacted in May 2017, called the *Genetic Non-Discrimination Act* bans discrimination based on genetic characteristics and makes it illegal for insurance companies (such as life insurance companies) and employers to require people to reveal their genetic test results. Insurance companies and employers are not allowed to use your *genetic test results* against you (for

example, they cannot use this information to decide whether to offer you life insurance or whether to hire you for a job). See *GNA* fact sheet available at: https://www.cagc-accg.ca/doc/S201%20fact%20sheet%20-%20final%20copy%20-%20May%2017%202017.pdf Although this law is helpful, it does not prevent insurance companies from using information about your current symptoms or family history of a health condition, or the results of *other types of medical tests* to decide if they will insure you (even if that health condition has a genetic basis). Also, laws sometimes change over time, so no one can guarantee that the *GNA* will always be in place to protect you.

As discussed in the '*Confirming disease-causing gene variants and medically actionable IFs'* section on page 9, if you receive a **clinical report** of your genetic test results from LifeLabs, it will become part of your medical record and may be read by any healthcare providers involved in your care, either now or in the future. These reports are also stored long-term in the LifeLabs clinical genetics database. Having genetic test results enter your medical record would remove your choice to keep your results private from your healthcare providers.

11. WHAT ARE THE POSSIBLE BENEFITS OF PARTICIPATING?

No one knows whether or not you will directly benefit from taking part in this study. It is possible that you will receive a genetic explanation for the condition in your family, which in some cases is helpful in guiding the medical care and support of affected family members. Some people find it helpful to learn the reason for the medical condition in their family.

We hope that the information learned from this study can be used in the future to benefit other people with suspected genetic conditions.

12. WHAT ARE THE ALTERNATIVES?

It is important for you to know that you can choose not to take part in the study. Choosing not to participate will in no way affect your health care. The availability of genomic testing varies across Canada – If you choose not to join this study, WGS testing may or may not be available through the medical system in your region.

13. WHAT IF NEW INFORMATION BECOMES AVAILABLE THAT MAY AFFECT MY DECISION TO PARTICIPATE?

You will be told of any new information that becomes available that may affect your willingness to remain in the study. You may be asked to provide renewed consent if new information is learned that may affect your decision to take part in the study.

14. WHAT HAPPENS IF I DECIDE TO WITHDRAW MY CONSENT TO PARTICIPATE?

You may withdraw from this study at any time without giving reasons. If you choose to enter the study and then decide to withdraw at a later time, you have the right to request the withdrawal of your information (and/or samples) collected during the study. This request will be respected to the extent possible. Please note however that there may be exceptions where the data (and/or samples) will not be able to be withdrawn, for example where the data (and/or sample) is no longer identifiable (meaning it cannot be linked in any way back to your identity) or where your data have been combined with other data. If you would like to request the withdrawal of your data (and/or samples), please tell the study doctor at your site. If your participation in this study includes any optional studies or long-term follow-up, you will be asked whether you wish to withdraw from these as well.

15. CAN I BE ASKED TO LEAVE THE STUDY?

If you are not able to complete the steps of the study, we may ask you to withdraw from the study. If you are asked to leave the study, the reasons for this will be explained to you and you will have the chance to ask questions about this decision. You could also be removed from the study if we are no longer able to contact you (e.g. moved, no forwarding address).

16. HOW WILL MY TAKING PART IN THIS STUDY BE KEPT CONFIDENTIAL?

Your confidentiality will be respected. However, research records and health or other source records identifying you may be inspected in the presence of the Investigator or his/her designate by representatives of Health Canada, the study sponsors, or the Research Ethics Board at the University of British Columbia for the purpose of monitoring the research. No information or records that disclose your identity will be published without your consent, nor will any information or records that disclose your identity be removed or released without your consent unless required by law.

Your rights to privacy are legally protected by federal and provincial laws that require safeguards to ensure that your privacy is respected. You also have the legal right of access to the information about you that has been provided to the sponsor and, if need be, an opportunity to correct any errors in this information. Further details about these laws are available on request.

You will be assigned a unique study code as a participant in this study. This code will <u>not</u> include personal information that could identify you (e.g. it will not include your name, health card number, SIN, date of birth, address etc.). This code will be used on your data and samples collected during the course of this study, so that your identity will be kept confidential. Only the study doctors, their designated study team members, and LifeLabs will be able to match your name to the unique study code that is used on your research-related information. The key matching your name to your study code will not be released to anyone else without your consent, unless required by law.

Most of your study data (such as your WGS data, medical details about your condition, photographs, etc) will be labelled <u>only</u> with your unique study code and will be stored in password-protected files on the computer servers at the study doctors' institutions, which are protected by strict security measures. Any photographs taken of you will be stored in a separate file from your other study data. The list matching your name to unique study code will be stored on the same secure servers, but in separate password-protected files.

Hard-copies of paperwork which could contain your personal information (i.e. medical records received for this study, signed consent form, family tree drawn by the genetic counsellor during the research visit, and records of the study team's communications with you) will be kept in a file in a lockable cabinet behind a locked door at your study doctor's institution and will only be accessed by the study doctor and genetic counsellor at your local site.

If we present or publish any study results for other scientists or health care providers, we will not include any personal information about you. If we wish to include your photographs in a future scientific presentation or publication, we will re-contact you to ask for separate consent, and you will have the right to say 'yes' or 'no'. Any scientific papers we write from this study will be reviewed by our Indigenous oversight committee before being published.

As discussed in previous sections, if you receive a **clinical report** of your genetic test results from LifeLabs, it will contain your name and other identifying information on it and will become part of your medical record. It will also be stored long-term in the LifeLabs clinical genetics database. As part of your medical record, it may be read by any healthcare providers involved in your care, either now or in the future. Safeguards are in place, as the privacy of medical records is protected by law.

17. WHAT HAPPENS IF SOMETHING GOES WRONG?

By signing this form, you do not give up any of your legal rights and you do not release the study doctor, participating institutions, or anyone else from their legal and professional duties. If you become ill or physically injured as a result of participation in this study, medical treatment will be provided at no additional cost to you. The costs of your medical treatment will be paid by your provincial medical plan and/or by the study sponsors.

18. WHAT WILL THE STUDY COST ME?

All research-related medical care and any tests that you have during your participation in this study will be provided at no cost to you.

19. WHO DO I CONTACT IF I HAVE ANY QUESTIONS ABOUT THE STUDY DURING MY PARTICIPATION?

If you have any questions or would like further information about the study at any time, or if you feel you have suffered any adverse effects from the study, **please contact:**

Victoria site – Sarah McIntosh (genetic counsellor) and Dr. Laura Arbour (study doctor) at: 250-853-3262 or 1-888-853-8924 (toll-free); sarahmc@uvic.ca
OR
Vancouver site – Karen Jacob (study coordinator/genetic counsellor) at: 604-875-2000 ext 5271; karen.jacob@bcchr.ca

20. WHO DO I CONTACT IF I HAVE ANY QUESTIONS OR CONCERNS ABOUT MY RIGHTS AS A PARTICPANT?

If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the University of British Columbia Office of Research Ethics by e-mail at **RSIL@ors.ubc.ca or by phone at 604-822-8598 (Toll Free: 1-877-822-8598).** Please reference the study number (H18-00726) when contacting the Complaint Line so the staff can better assist you.
You may also contact the Vancouver Island Health Authority (VIHA) Research Ethics Board at 250-519-6726; researchethics@viha.ca.

21. AFTER THE STUDY IS FINISHED:

This study is expected to last at least 4 years, although there is a possibility the study will be renewed for a longer period. As required, the data from this study will be stored for at least 5 years after the study is finished. Once all the testing and data analysis are complete and the findings are published, any remaining DNA samples will be destroyed, unless you specifically request that they be returned to you or transferred to another study or biobank that you have provided separate consent for. If you prefer that we return any remaining sample to you instead of destroying it at the end of the study, you may request this by contacting the study team (see section 19, above).

PRECISION DIAGNOSIS FOR INDIGENOUS FAMILIES WITH GENETIC CONDITIONS
PARTICIPANT CONSENT

My signature on this consent form means:

- I have read and understood the information on this consent form.
- I have had enough time to think about the information provided.
- I have been able to ask questions and have had satisfactory responses to my questions
- I understand that my participation in this study is voluntary.
- I understand that I am completely free at any time to refuse to participate or to withdraw from this study at any time, and that this will not change the quality of care that I receive.
- I authorize access to my health records as described in this consent form.
- I understand that I will be informed of any incidental findings (IFs) identified in a child participant that could alter his/her medical management during childhood.
- I understand that adult participants have the option of choosing whether or not they wish to be informed of any IFs identified in them that may alter their medical management.
- I understand that if a disease-causing or likely disease-causing variant is found in me, then my genetic test result will be confirmed in a clinical lab and will become part of my medical record, which all of my healthcare providers can look at.
- I understand that there is no guarantee that this study will provide any benefits to me.
- I understand that I am not waiving any of my legal rights as a result of signing this consent form.

I will receive a signed copy of this consent form for my own records. I consent to take part in this study.

ADULT PARTICIPANT consent:

_____	_____	_____
Printed name (adult participant)	Signature (adult participant)	Date

_____	_____	_____
Printed name & role of person obtaining consent	Signature	Date

OR

PARENTAL/GUARDIAN consent for CHILD participant (<18 years old) or LEGAL SUBSTITUTE DECISION-MAKER consent for dependent adult participant who is incapable of consent:

The parent/guardian or substitute decision-maker (legally authorized representative) and the investigator are satisfied that the information contained in this consent form was explained to the child/participant to the extent that he/she is able to understand it, that all questions have been answered, and that the child/participant assents to participating in the research.

Printed name of child: _____ **OR** adult participant (ward): _____

_____	_____	_____
Printed name of parent/guardian **OR** substitute decision-maker	Signature	Date

_____	_____	_____
Printed name & role of person obtaining consent	Signature	Date

PRECISION DIAGNOSIS FOR INDIGENOUS FAMILIES WITH GENETIC CONDITIONS

OPTIONAL CONSENT CHECKBOXES – <u>COMPETENT ADULT participant (Form 1)</u>

Printed name of adult participant: _____

OPTION 1 –Photographs: Photographs of me, including photos of my face, may help the study doctors better understand the condition in my family and help with the interpretation of my Whole Genome Sequencing results. I understand that I have the option of deciding whether or not to have photos taken. Any photos taken will only be viewed by the study team members. They will have the same protections as the rest of my research data but will be stored separately from my other research data. If the study doctors feel it is important to include my photos in a future scientific presentation or publication, I will be re-contacted and asked for **separate consent**, and I will have the right to say 'yes' or 'no' to this.

Please check <u>one</u> box below.

☐ **YES, I agree** to have photographs taken of me for the purposes of this research study.

☐ **NO, I do NOT agree** to have photographs taken.

OPTION 2 - Incidental (Unexpected) Findings (IFs): I understand that I can choose whether or not I wish to be informed of any incidental findings that could alter my health management. Whatever I choose now, I can change my decision at any time by re-contacting the study team.

Please check <u>one</u> box below.

□ **YES, I DO** wish to be informed of any 'medically actionable' incidental findings found in me.

□ **NO, I do <u>NOT</u>** wish to be informed of any incidental findings found in me.

OPTION 3 - Re-Contact for Future Research Studies:

I understand that new research studies may be of interest to my family. I can choose whether I wish to be re-contacted about future research opportunities. If I agree to be re-contacted, it does <u>not</u> mean I have to participate in any future research projects. I will have the right to say 'yes' or 'no' to participating in any future studies that are presented to me.

Please check <u>one</u> box below

☐ **YES, I agree** to be contacted in the future to learn about a new research study.

☐ **NO, I do NOT agree** to be contacted in the future to learn about a new research study.

PRECISION DIAGNOSIS FOR INDIGENOUS FAMILIES WITH GENETIC CONDITIONS

OPTIONAL CONSENT CHECKBOXES–CHILD /DEPENDENT ADULT participant (Form 2)

Printed name of child participant: _____

OR

Printed name of dependent adult (ward): _____

OPTION 1 – Photographs: Photographs of my child/ward, including photos of his/her face, may help the study doctors better understand the condition in the family and help with the interpretation of Whole Genome Sequencing results. I understand that I have the option of deciding whether or not to have photos of my child/ward taken. Any photos taken will only be viewed by the study team members, and will have the same protections as the rest of my child's/ward's research data but will be stored separately from the other research data. If the study doctors feel it is important to include my child's/ward's photos in a future scientific presentation or publication, I will be re-contacted and asked for **separate consent**, and I will have the right to say 'yes' or 'no' to this.

Please check one box below.

☐ **YES, I agree** to have photographs of my child/ward taken for the purposes of this research study.

☐ **NO, I do NOT agree** to have photographs of my child/ward taken.

OPTION 2 – Re-Contact for Future Research Studies

I understand that new research studies may be of interest to my family. I can choose whether I wish to be re-contacted about future research opportunities for my child/ward. If I agree to be re-contacted, it does not mean my child/ward has to participate in any future research projects. I will have the right to say 'yes' or 'no' to participating in any future studies that are presented to me.

Please check one box below.

☐ **YES, I agree** to be contacted in the future to learn about a new research study.

☐ **NO, I do NOT agree** to be contacted in the future to learn about a new research study.