



THE HOSPITAL FOR
SICK CHILDREN

Research Ethics Board

PhenomeCentral Consent Form for Parents, Legal Guardians or Substitute Decision Makers

Title of Research Project:

PhenomeCentral: A portal for phenotypic and genotypic matchmaking for patients with rare genetic disorders

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Sponsorship:

This research is funded by the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council of Canada (NSERC), Genome Canada and the Canadian Care for Rare Fund.

Conflict of Interest:

Dr. Brudno and the other research team members have no conflict of interest to declare.

Purpose of the research:

You are being asked to consider participating in this study because your child has an undiagnosed genetic condition. PhenomeCentral is a secure database, developed, stored and managed at the Hospital for Sick Children by the Centre for Computational Medicine. PhenomeCentral is a database for scientists and health care providers, at the Hospital for Sick Children and internationally, to securely store clinical and genetic information on individuals with rare genetic disorders. PhenomeCentral searches in the database for individuals with similar clinical symptoms and/or genetic variants (also referred to as a “match”) and connects the scientists/health care providers caring for these individuals. PhenomeCentral aims to:

- 1) Help health care providers arrive at a faster diagnosis of individuals with undiagnosed rare genetic disorders
- 2) Facilitate any ongoing or new research on the study of genes that affect human development and health in order to improve diagnosis, management and treatment of rare diseases

Finding a match may enable scientists and/or clinicians to carry out research to attempt to determine if there is a shared genetic diagnosis for the two “matched” individuals. This may lead to improved management, therapy, and understanding of the disorder.

As PhenomeCentral begins to find matches and diagnoses for individuals, the database will begin to store information about individuals with diagnosed (known) disorders. As an individual with an undiagnosed

genetic disorder, your child may match with another individual with a known disorder. Through consultation with your clinician, this may help establish a diagnosis or a previously described genetic disorder in your child, which may lead to a better understanding of the cause of the disorder, natural history (typical course of disease), prognosis, and the appropriate management, treatments or therapies.

Description of the research:

If you consent to be part of this study, your child's treating clinician/researcher will gather clinical information about your child's medical condition that has been obtained during standard clinical appointments (today and in the past) with your child's treating clinician. This may include medical history information, family history information, physical examinations, and reviewing your child's medical records relevant to your child's undiagnosed genetic condition. This may also include results of genetic tests that have been ordered as part of your child's standard clinical care. PhenomeCentral only stores information, it does not store physical samples such as blood, DNA or tissue. You will choose the types of information that are included in the database (Please see the Participation section). Your child will not be asked to have any additional tests or examinations, or provide any additional information for PhenomeCentral outside of what has already been obtained through your standard clinical appointments.

If there are new clinical findings or genetic information that are learned during a clinical visit after the date on which you provide consent, and your child's condition remains undiagnosed, your child's treating clinician/researcher may add it to PhenomeCentral if it is relevant to your undiagnosed condition.

With your consent, your child's treating clinician/researcher will send (upload your child's information) to the PhenomeCentral database. PhenomeCentral is password protected. Your child's information will be stored individually and identified only by a unique ID assigned to your child. This means that all your child's information available on the database will be de-identified and cannot be linked back to your child. Only your child's treating clinician/researcher will be able to link any information back to your child. Study team members at SickKids will not be able to link any information back to your child.

Use of Medical Photographs: Pictures may sometimes be a useful tool for diagnosing conditions. As part of this study, you are being asked to provide consent for the study team to access any medical photographs taken of your child by your child's treating doctor. These pictures may be stored in your child's medical records at SickKids and will be uploaded to PhenomeCentral. If your child's treating clinician has taken photographs of your child that show features of his/her undiagnosed condition, you may choose to allow these to be included in the database. The pictures may include unique features which may identify your child. It may also include pictures of your child's face. This part of the study is voluntary.

You may also be asked by the study team to consent to have new pictures taken of features of your child's condition. This is also voluntary. You will be asked to indicate your choice about allowing the use of your child's pictures on PhenomeCentral.

If you provide consent now, you have the option to withdraw your consent later. Note that you can only withdraw stored pictures from the database. Any pictures which have been shared cannot be withdrawn.

Your child will need to provide assent for pictures to be shared or new pictures to be taken. This means that even if you agree to share pictures or take new ones, your child's choices will be given priority. Details are provided in the assent form. In addition, once your child reaches the age where he/she can consent for him/herself, your child will be re-consented for the study.

Your child's treating clinician/researcher will have access to PhenomeCentral by reading and agreeing to the Terms and Conditions of PhenomeCentral. You may request a copy of the Terms and Conditions if you wish to review them before completing the consent process.

PhenomeCentral compares your child's clinical and genetic information with other individuals entered in the database. Potential matches are presented to the clinician/researcher with the similarities and differences highlighted and a form to contact the other clinician/researcher. It is the responsibility of the clinician/researcher enrolling you in this study to communicate with the clinician/researcher they have matched with to determine if the match is real. It is the responsibility of the clinician/researcher enrolling you in this study to notify you if a real match is found.

If, at a later date, a new individual is entered into the database that matches with your child, PhenomeCentral will make available the contact information of your child's clinician/researcher to facilitate communication and evaluation of the match. Your clinical and genetic information will be revealed so that your clinician/researcher can determine if the match is real. It is the responsibility of the clinician/researcher enrolling your child in this study to notify you if a real match is found. PhenomeCentral is not responsible for contacting clinicians/researchers or patients. As a parent/guardian you are not able to search PhenomeCentral to look for matches.

If a potential match is found, the clinician/scientist enrolling your child in this study may wish to re-contact you to notify you of the match, obtain more information about your child's condition, and/or notify you about possible research opportunities.

If your child receives a diagnosis for his/her previously undiagnosed medical condition, either through a match made on PhenomeCentral, or other methods, this information will be added to PhenomeCentral.

Members of the SickKids study team may monitor the data in PhenomeCentral to track usage and for quality improvement. When discussing PhenomeCentral with other researchers, colleagues, at conferences or in publications, the SickKids study team will group together data such that no one individual is identifiable.

Potential harms, discomforts or inconveniences:

Given the nature of rare disorders, there is a possibility that other users will be able to link your child's PhenomeCentral data to your true identity based on the rare and unique pieces of information listed about you in the database.

Despite the mechanisms in place to keep all information secure and to protect your child's privacy, there remains a risk of privacy breach. If a privacy breach occurs, PhenomeCentral will contact your child's treating clinician/researcher to inform them of the breach and explain what data may have been compromised. It is the responsibility of your child's treating clinician/researcher to pass this information on to you.

We know of no other harm, discomfort or inconvenience that taking part in this study could cause your child.

Potential benefits:

To your child:

Placing your child's clinical and genetic information in PhenomeCentral may lead to the identification of a match between your child and another individual in the database with very similar symptoms or genetic

findings. Through consultation with your child's clinician/researcher, this may help establish a diagnosis for you. This may lead to improved management, therapy, and understanding of your child's condition.

To society:

PhenomeCentral's main aim is to benefit the individuals participating in the study to find a diagnosis for their rare genetic disorder. However, the information collected in PhenomeCentral also facilitates research into the study of genes that affect human development and health, may improve diagnosis, management and therapy of rare diseases, and provide insights on rare disease and rare disease research on an international scale.

Confidentiality:

How will your privacy be protected?

We will respect your child's privacy. The CIHR, NSERC, GenomeCanada and the Canada Care for Rare Fund is also committed to respecting your child's privacy. No information about who your child is will be given to anyone or be published without your permission, unless the law requires us to do this.

Your child's treating clinician/researcher will collect personal health information about your child. This includes things learned from the study procedures described in this consent form and/or information from your child's medical records. They will only collect the information they need for the study. The study may also collect personal information that could identify your child such as:

- Year of birth
- Existing medical records, that includes types, dates and results of medical tests or procedures or genetic testing

You have the right to access, review and request changes to your child's personal health information

All personal health information or personal information collected about your child will be "de-identified" by replacing your child's identifiable information with a "study number". Your child's treating clinician/researcher is in control of the study code key, which is needed to connect your child's personal health information. The link between the study number and your child's identity will be safeguarded by your child's treating clinician/researcher will not be available to SickKids study members (Primary Investigators, research coordinators, software developers, data analysts), CIHR, NSERC, GenomeCanada or the Canada Care for Rare fund. SickKids guidelines include the following:

- All information that identifies your child, both paper copy and electronic information, will be kept confidential and stored and locked in a secure place that only your child's treating clinician/researcher will be able to access.
- Electronic files will be stored securely on hospital or institutional networks or securely on any portable electronic devices.
- No information identifying your child will be allowed off site in any form. Examples include your child's hospital or clinic charts, copies of any part of your child's charts, or notes made from your child's charts.

Your child's treating clinician/researcher, the study staff and the other people listed above will keep the information they see or receive about your child confidential, to the extent permitted by applicable laws. Even though the risk of identifying your child from the study data is very small, it can never be completely eliminated.

The following people may come to the hospital to look at your child's personal health information to check that the information collected for the study is correct and to make sure the study followed the required laws and guidelines:

- CIHR, NSERC, GenomeCanada and the Canada Care for Rare Fund
- Representatives of the SickKids Research Ethics Board and/or Research Quality and Risk Management team;

Access to your child's personal health information will take place under the supervision of your treating clinician/researcher.

Your child's treating clinician/researcher will keep any personal health information about your child in a secure and confidential location for a duration in accordance with regulations of the institution for which your treating clinician researcher works.

Your child's de-identified data will remain in PhenomeCentral indefinitely but you have the choice to have your child's information taken out of the study. You will need to contact the Principal Investigator or study team member to let them know. Any information that has already been shared with researchers outside of SickKids cannot be withdrawn.

When the results of this study are published, your child's identity will not be disclosed. You have the right to be informed of the results of this study once the entire study is complete.

Your child's health information from this research project study will be sent to other countries but your child's identifiers will be removed. They will not be able to identify your child.

Your child's participation in this study may be noted in his/her hospital or clinic chart. This is recommended to ensure your safety so that any treating physician will know that your child is participating in a research study.

It is possible that a commercial product (i.e. device, pharmaceutical) may be developed as a result of this study. Your child will have no right to any products that may be created as a result of this study or any future research studies. Your child will not receive royalties from any products that may be created as a result of this study or any future research studies.

Medical photography confidentiality:

If your child has had medical photographs taken during one of your standard clinical appointments, your child's treating clinician/researcher may upload them to PhenomeCentral on with your consent and your child's assent. They will remain on PhenomeCentral indefinitely unless you (or your child when he/she attains capacity) withdraw consent for the study or specifically choose to take out your child's pictures from the database. Only members of the research team (and maybe the SickKids monitor, or employees of the companies sponsoring the study or the regulator eg., CIHR) will have access to them.

Reimbursement:

You and your child will not be paid to be part of this study.

Participation:

If you choose to let your child take part in this study you can take your child out of the study at any time. The care your child gets at Sick Kids will not be affected in any way by whether your child takes part in this study.

Please indicate the types of information pertaining to your child that you permit the clinician/research to enter into PhenomeCentral.

Yes No

- ☐ ☐ Year and month of birth
- ☐ ☐ Clinical symptoms and medical history
- ☐ ☐ Measurements such as height, weight, head circumference, etc.
- ☐ ☐ Family history
- ☐ ☐ Data from any available genetic tests done including whole-exome sequencing or whole-genome sequencing
- ☐ ☐ Medical photographs, which may include unique (and therefore potentially identifying) features of your child's condition. If you consent to have photographs of your child's face included in PhenomeCentral, please write your initials and date. After the image is shared on PhenomeCentral, it cannot be withdrawn from the clinician/researcher. ☐ ☐ Diagnosis (if one is discovered in the future), including genetic mutation/variant and name of disorder
- _____ Initials _____ Date

Permission to Re-contact:

If a potential match is found, the clinician/scientist enrolling your child in this study may wish to re-contact you to notify you of the match, obtain more information about your condition, and/or notify you about possible research opportunities. Please indicate your preferences for re-contact.

- ☐ I give permission to be re-contacted if a potential match is found for my child.
- _____ Initials _____ Date
- ☐ I **do not** give permission to be re-contacted to discuss a potential match for my child.
- _____ Initials _____ Date

New information that we get while we are doing this study may affect your decision to take part in this study. If this happens, we will tell you about this new information. And we will ask you again if you still want your child to be in the study.

During this study we may create new tests, new medicines, or other things that may be worth some money. Although we may make money from these findings, we cannot give your child any of this money now or in the future because your child took part in this study.

Your signing this consent form does not interfere with your child's legal rights in any way. The staff of the study, any people who gave money for the study, or the hospital are still responsible, legally and professionally, for what they do.

Reconsent:

As a child attains capacity, the decision for his/her information to remain in the database and possibly be re-contacted for research purposes by other users will need to be revisited.

Study Consent:

By signing this form, I agree that:

- 1) You have explained this study to me. You have answered all my questions.
- 2) You have explained the possible harms and benefits (if any) of this study.
- 3) I know what I could do instead of having my child take part in this study. I understand that I have the right to refuse to let my child take part in the study. I also have the right to take my child out of the study at any time. My decision about my child taking part in the study will not affect my child's health care at Sick Kids.

- 4) I am free now, and in the future, to ask questions about the study.
- 5) I have been told that my child's medical records will be kept private except as described to me.
- 6) I understand that no information about my child will be given to anyone or be published without first asking my permission.
- 7) I agree, or consent, that my child_____ may take part in this study.”

Printed Name of Parent/Legal Guardian
date

Parent/Legal Guardian's signature &

Printed Name of person who explained consent
consent & date

Signature of Person who explained

Printed Witness' name (if the parent/legal guardian
does not read English) Witness' signature & date

Photography consent

1. I am aware that the use of medical pictures from my child's file is voluntary.
2. I am aware that agreeing for my child to be photographed during this study is also optional.
3. If I consent to the use of my child's new or stored pictures, these will be uploaded to PhenomeCentral at <http://phenomecentral.org> in my child's password protected record. The pictures will only be made visible to other scientists and clinicians using PhenomeCentral to identify potential matches for my child's condition.
4. I understand that I have the right to refuse for my child to take part in this study. I also have the right to withdraw my child from this part of the study at any time. eg., before or even after the photographs are made. My decision will not affect my child's health care at SickKids.
5. In agreeing to the use of the photograph(s) for other purposes, my child and I will be offered a chance to look at the pictures which will be included in PhenomeCentral..
6. I have the right to withdraw my permission for other uses of my child's pictures at any time.
7. I am aware that if I decide to withdraw my child from the study, I can withdraw all my child's existing pictures from PhenomeCentral, except those pictures which have already been shared with other researchers.
8. I am free now, and in the future, to ask questions about the sharing pictures and picture taking.
9. I have been told that my child's medical records will be kept private. You will give no one information about my child, unless the law requires you to.
10. I understand that no information about my child (including these pictures) will be given to anyone or be published without first asking my permission.”

Consent to Use Pictures in my Child's Medical File for PhenomeCentral (please check your choice)

- ☐ I allow the use of any photos which are part of my child's medical file, **including any photos of my child's face**
- ☐ I allow the use of any photos which are part of my child's medical file, **excluding any photos of my child's face**
- ☐ **I do not allow** the use of any photos which are part of my child's medical file to be uploaded to PhenomeCentral.

_____Initials _____Date

Consent for New Pictures to be taken and uploaded to Phenome Central (please check your choice)

- ☐ I allow the study team to take pictures of my child for the database, **including any photos of my child's face**
- ☐ I allow the study team to take pictures of my child for the database, **excluding any photos of my child's face .**
- ☐ **I do not allow** the study team to take pictures of my child for the database.

_____Initials _____Date

Printed Name of Parent/Legal Guardian

Parent/Legal Guardian's signature & date

Printed Name of person who explained consent

Signature & date

Printed Witness' name (if the parent/legal guardianWitness' signature & date does not read English)

If you have any questions about this study, please call Courtney Hum at 416-813-7654 ext. 414028
If you have questions about your rights as a subject in a study, please call
the Research Ethics Manager at 416-813-5718.

Re-consent

You are being asked to re-consent to continue to be part of this study. Your parent previously provided consent for your participation, but now that you have attained capacity to consent for your care, you are being asked to provide consent for yourself to continue to be part of this study.

- ☐ I wish to stay in the PhenomeCentral study. My data will remain in the PhenomeCentral database and I may be re-contacted in the future if a potential match is found.
- ☐ I wish to stay in the PhenomeCentral study. My data will remain in the PhenomeCentral database and but I do **not give permission** to be re-contacted in the future if a potential match is found.
- ☐ I wish to **leave** the PhenomeCentral study. My data will be removed from the PhenomeCentral database.

Printed Name of Subject & Age

Subject's signature & date

Printed Name of person who explained consent
& date

Signature of Person who explained

Printed Witness' name (if the subject/legal guardianWitness' signature & date
does not read English)

If you have any questions about this study, please call Courtney Hum at 416-813-7654 ext. 414028

If you have questions about your rights as a subject in a study or injuries during a study, please call the Research Ethics Manager at 416-813-5718.