

**THE MOUNT SINAI HEALTH SYSTEM
PERMISSION FORM FOR AN INCAPACITATED ADULT
TO PARTICIPATE IN A RESEARCH STUDY
AND AUTHORIZATION FOR USE AND DISCLOSURE OF MEDICAL INFORMATION**
Icahn School of Medicine at Mount Sinai,
Mount Sinai Beth Israel, Mount Sinai St. Luke's, Mount Sinai West

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Study ID #: GCO 16-1731

Form Version Date: 8/18/2020

**Randomized Control Trial Phase: Main Study
Parents of cognitively impaired 18-21 year old child**

TITLE OF RESEARCH STUDY:

Title: NYCKidSeq: Incorporating Genomics into the Clinical Care of Diverse NYC Children

PRINCIPAL INVESTIGATOR (HEAD RESEARCHER) NAME AND CONTACT INFORMATION:

Name: Eimear Kenny, PhD

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WHAT IS A RESEARCH STUDY?

A research study is when scientists try to answer a question about something that we don't know enough about. Participating may not help you or others.

People volunteer to be in a research study. The decision about whether or not to take part is totally up to you. You can also agree to give permission for the research subject to take part now and later change your mind. Whatever you decide is okay. It will not affect your ability, or the research subject's ability, to get medical care within the Mount Sinai Health System or with your private practice doctor.

Someone will explain this research study to you. Feel free to ask all the questions you want before you decide. Any new information that develops during this research study which might make you change your mind about the research subject's participating will be given to you promptly.

Basic information about this study will appear on the website <http://www.ClinicalTrials.gov>. There are a few reasons for this: the National Institutes of Health (NIH) encourages all researchers to post their research; some medical journals only accept articles if the research was posted on the website; and, for research studies the U.S. Food and Drug Administration (FDA) calls "applicable clinical trials" a description of this clinical trial will be available on <http://www.ClinicalTrials.gov>, as required by U.S. Law. This Web site will not include information that can identify you. At most, the Web site will include a summary of the results. You can search this Web site at any time.

PURPOSE OF THIS RESEARCH STUDY:

The purpose of this study is to learn how genomic testing can help children and young adults with rare diseases. Genomic testing is a way for scientists to study the research subject's DNA (genetic material

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inherited from your parents that at least in part determines your features like eye color, height, and risk of many diseases). Sometimes, genes have changes, or “variants” that cause them not to function correctly, resulting in disease. These variants can be inherited from parents or can occur randomly. One type of genomic testing, whole genome sequencing (WGS) reads through all of a person’s DNA. A second type of genomic testing, targeted gene panels (TGP), looks at specific groups of genes. ***This consent form is focused only on the genomic testing.***

In this study, we will use WGS and TGP to try to learn the genetic cause of the research subject’s condition. We will perform these tests in a clinically certified laboratory, and the results will be shared with you and the research subject’s physician. *Your parent(s) will be asked to sign a consent form focused only on parental blood samples.*

A major goal of this study is to learn the best way to communicate these complicated genomic results back to families like yours, by having parents answer a series of surveys. Everyone in the study must have a least one parent available to answer these surveys. Additionally, we hope to help scientists and healthcare systems learn how to offer and perform genomic testing to more people from diverse backgrounds and cultures.

The research subject is being asked to participate in this study because they have epilepsy, developmental delays, heart disease, or a low immune system, and their physician at Mount Sinai or private practice doctor thinks there may be a genetic cause for this condition.

Funds for conducting this research are provided by National Human Genome Research Institute (NHGRI) of the National Institutes of Health (NIH).

LENGTH OF TIME AND NUMBER OF PEOPLE EXPECTED TO PARTICIPATE

The research subject’s participation in this research study is expected to last over the first nine months of this three-year study, which will involve three study visits each visit will last about 1 to 2 hours.

The first two visits will be for you and your child at the Mount Sinai Health System, your private doctor’s office or via telehealth about three months apart.

The third (last) visit will be either a phone call or a visit for you to answer a survey six months later.

After that, the study team will review the research subject’s genetic and clinical information every year until about June 2021, when the study ends. If we learn any new information that might be important for the research subject’s health, we will ask you to come in for another visit during that time.

The number of people expected to take part in this research study at Mount Sinai Health System is approximately 500, with another 600 participating at the Montefiore Medical Center for a total of 1100 participants.

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DESCRIPTION OF WHAT'S INVOLVED:

If you agree to permit the research subject's participation in this research study, the following information describes what may be involved.

The research team will contact you within 24 hours of visit(s) to conduct pre-visit screening for COVID-related symptoms using the most up-to-date MSHS Infectious Diseases Screening Tool.

You and your child will be asked to come alone and to wear a mask to the study visit. If you do not have one, one will be provided to you upon arrival by study staff.

All hospital/departmental/clinic rules regarding COVID-19 prevention will be followed once you arrive on-site, including but not limited to pre-visit screening at an established ambulatory practice area, wearing a mask at all times, etc.

The study team has put in place several procedures to minimize exposure to Covid-19, including using masks, eye shields, and gloves and practicing social distancing. Study staff screen for Covid-related symptoms daily before their work shift begins to ensure they are fit to engage in person with study participants. The study staff will try to minimize the time you need to be on site to complete a study visit, and will complete as many study procedures as possible via telehealth.

Baseline Study visit: Initial genetic counseling and blood draw (1-2 hours)

At this first visit, you will meet with a genetic counselor, either in person or via telehealth, who will ask you a very detailed family medical history, including grandparents, parents, children, aunts, uncles, and cousins on both sides of the family.

At the same visit, the genetic counselor will ask about the research subject's medical history including the medicines they are taking. We will share the family history and medical history with the testing laboratories as it may help with the interpretation of the research subject's genomic results.

During this initial counseling session, the genetic counselor will also explain DNA and genes with you, and will go over the types of information we might learn from the research subject's genetic testing.

Since family members share genetic information, the information from these tests may apply to your family members, as well. The genetic counselor will talk you through this information and how the findings may affect you and your family.

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Your child will have two types of genomic testing, whole genome sequencing (WGS) and targeted gene panels (TGP). These two tests are being done at two different certified clinical laboratories. These tests will look for genetic changes that might be causing the research subject's epilepsy, developmental delays, heart disease, or low immune system.

The study researchers will compare the results of WGS with TGP, so we can learn if one test is better than the other for making genetic diagnoses in children and young adults with rare diseases.

Whole Genome Sequencing (testing done at the New York Genome Center's clinical laboratory, or NYGC)

Whole genome sequencing, or WGS, is a genetic test that involves sequencing, or reading through, all of a person's DNA. The research subject's genome will be sequenced and compared with the DNA from individual(s) that do not have any known disease. There are millions of differences, or variants, between people that cause us to each be unique. All of the differences will be studied by the laboratory scientists to see which, if any, are related to the research subject's condition. Besides the possible disease-causing variants and the "secondary findings" variants described below (if you chose to receive them), no other variants will be reported, even if there are variants that show that your child has or is at risk for an unrelated genetic disease. Because interpretation of the WGS is dependent on complete and accurate medical records, your physician and the genetic counselor will provide detailed medical information to the NYGC lab. Although WGS is the most thorough type of genetic testing currently available, it is a relatively new test. In addition, scientists are rapidly learning about the human genome, but there is still a lot that we do not currently understand. For those reasons, it is possible that disease-causing variants may be missed on the research subject's WGS. The types of possible results from WGS testing are listed below.

Targeted Gene Panel (testing done at Sema4 Lab)

The second test is a "gene panel," which is a carefully chosen subset of disease genes that have been associated with the research subject's condition. This test is more likely to be done by doctors in routine medical care. However, there is still much we do not understand about disease-causing variants, and it is possible that these might be missed on the research subject's TGP test.

Types of results from genetic testing

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The types of changes that we *might* find in the research subject's DNA include (but are not limited to) the following:

1. Positive results: We might find abnormal changes (or "pathogenic variants") in a known disease gene that explains why your child has health problems. This will give us a diagnosis for the research subject's condition.
2. Likely positive results: We might find variants in a known disease gene that have NOT been seen in other people with the same disorder or have been observed in very few individuals, but that are *likely* causing the research subject's health problems.
3. Uncertain results: We might find genetic changes (or "variants of uncertain significance") that are inconclusive or uncertain. Sometimes we find a genetic variant that has not been seen before, and we do not know if it is disease-causing or just a difference that can exist without causing disease.
4. Negative results: We might have a negative result, where we do not find genetic variants related to the research subject's condition.
5. We might find "secondary findings," or variants in genes that are NOT related to the research subject's disorder, but that might be important for their health. These are a specific set of genes recommended by the American College of Medical Genetics and Genomics (ACMG). Many of these genes involve inherited forms of heart disease and cancer, and when a person has variants in these genes, it puts them at higher risk to develop the disease. If we find that your child has a disease-causing variant in one of these "secondary findings" genes, we will tell you about it and refer you for appropriate care. Importantly, if you are positive for disease-causing variants in a "secondary findings" gene, there are other relatives, including yourself and any other children, who may have the same disease-causing variant and who therefore may be at risk to have a disorder. If your child test positive, therefore, we will recommend testing family members. You have the option to choose whether you would like to receive information about secondary findings for your child.

You must initial your choice:

_____ (Initial) YES, I choose to receive secondary findings from my child's WGS.

_____ (Initial) NO, I choose **NOT** to receive secondary findings from my child's WGS.

Blood draw

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At the end of your genetic counseling session, we will take a sample of the research subject's blood. A trained medical professional will wipe the skin on the research subject's arm with alcohol to clean it. Then, he/she will insert a small needle into a vein and 2 tubes of blood will be drawn, about 10-40 ml of blood (1-3 Tablespoons). We will share the research subject's name, date of birth and medical record number on the laboratory test order that is sent along with the research subject's samples, as well as copy of this consent and the research subject's detailed medical and family history. The clinical laboratory needs this information in order to report the results of the research subject's tests and for it to be a part of the research subject's permanent medical record.

Parental blood draw

We would also like to take about 3 tablespoons of blood from each biological parent (if available). These parental blood samples will only be used to help us understand the research subject's DNA results. For example, if your child has a variant, we might use your blood to see if it was inherited from a parent. It is completely voluntary for parents to give samples. Your child may take part in this study without parental samples, but having them increases the chance of identifying the genetic cause of the research subject's condition and decreases the chance of uncertain or unclear results.

Because we are only analyzing parent samples to understand the research subject's results we will not look for or find genetic changes that cause other diseases for parents. Your names will not appear in the reports and you will not have separate results or reports. However, this test may suggest that biological relationships of family members are not as reported, such as non-paternity (the man identified as the father of the child is not the biological father). The lab report will not directly state that there is a question about paternity, but people reading the report may be able to figure it out nonetheless. These samples will be sent to the study lab along with the research subject's sample. If we are unable to take a blood sample from you (or the research subject's other biological parent), you can come back at a later date to have the sample taken, or we may provide you with a kit to collect saliva, which also contains DNA. We will give you a \$20 gift card for Study Visit 1.

Study Visit 2: Return of Results (ROR) with a genetic counselor (1-2 hours)

After the research subject's DNA is read and interpreted, it will be reported to the study's medical geneticist, the physician who ordered the test, and your genetic counselor. This will occur about three months after your first visit. You will be asked to attend a genetic counseling session, either in person or via telehealth, to review the results in detail.

If a diagnosis was made, it will be important for you to notify all of the research subject's doctors of the diagnosis. The research subject's genetic testing results will be stored in his/her permanent medical record. This report will be limited to genetic results related to the research subject's diagnosis, and secondary findings if you chose to learn about them.

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All participants will receive their genetic results using the usual care that is normally given at a return of results session. However, half of the study participants will *also* use the new Communication Tool. Your chance of being in either group is 50:50, like the flip of a coin; your random assignment to either group occurred before your first study visit. At the end of this visit, you will complete the return of results survey described above. This survey will help us see if the Communication Tool was effective at helping people understand their results compared with usual genetic counseling. We will give you \$20 gift card for this visit.

Study Visit 3: Assessing your understanding of your results by survey (1 hour)

About nine months after your first visit and six months after your return of results session, you will have another study visit. The point of this visit is to see how well you understood the research subject's results, a measure for us to see how well we communicated the results to you. This visit will involve completing the third and final survey, and can be done either in person or over the phone. We will give you a \$40 gift card once this last survey is completed.

After the Study Visits: Reviews of your DNA and medical records

We are constantly learning how to understand DNA changes, and we are likely to acquire new, possibly useful information during the course of the study. Because of this, we will review the research subject's genetic results once a year until 2021. The clinical laboratory will use any new knowledge to re-interpret the research subject's results. If we find something important, a study team member will call you and ask you to come back for another visit to review the new finding.

We will also review the research subject's medical record every year until 2021 to see if there are any changes in the research subject's health, diagnosis, medical treatments, or medication during the course of the study.

We will analyze the costs associated with any symptoms or events your child experiences through the follow-up period. The researchers may collect billing information from the research subject's hospitalization stays and treatments outside the hospital.

Information and Specimen Banking (Future Use and Storage)

Storage and use of your leftover blood sample and data within NYCKidSeq

By signing this consent form, you voluntarily agree that your and the research subject's blood and sequencing information can be stored indefinitely by the research study, including NYCKidSeq

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research teams at Sema4, New York Genome Center, Einstein Montefiore, and Mount Sinai. Samples may be used for either research or for clinical purposes if additional testing is needed. The research subject's identifiable data may be used by the NYCKidSeq research team for reasons related to, and for reasons unrelated to, the current research project. If you decide that you do not want the NYCKidSeq research teams to keep your or the research subject's biological samples, you may withdraw your consent to storage and to use of your samples at any time by contacting Dr. Eimear Kenny (contact information on first page of consent), in which case we will promptly destroy the sample(s) or the portions thereof that have not already been used. However, you or your child's sample may have already been distributed to other researchers within NYCKidSeq before you ask us to destroy it, so we may not be able to retrieve it and stop future research.

To protect your privacy, Mount Sinai has policies and procedures in place that are overseen and monitored by Institutional Review Board. Mount Sinai Health System requires its staff who may use or have access to your or the research subject's samples or data to receive training on its privacy and data security policies, and to follow those policies with care.

Sharing your leftover sample and data with researchers outside of NYCKidSeq

We would like to ask your permission to store and share your and your child's blood, saliva and DNA samples, and sequencing information (data), which will be stripped of identifiers to protect your confidentiality, with other researchers (i.e. those who are not associated with NYCKidSeq, Einstein Montefiore, NYGC, Mount Sinai). These biological samples and the sequencing data may be used in future research, including in future genetic testing, to learn about, prevent, or treat health problems.

You must initial your choice. By initialing you are consenting to the following: NYCKidSeq has my permission to store my leftover sample and to share my de-identified data and/or sample with researchers outside of NYCKidSeq.

_____ (Initial) Proband (child enrolled in the study)

_____ (Initial) Biological Mother

_____ (Initial) Biological Father

Public Sharing of your genome data

One purpose of this study is to help researchers around the world learn about the genomes of people from diverse populations. They do this by putting it into one or more scientific databases, where it is stored along with information from other studies. Researchers can then study the combined information to learn even more about health and disease.

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If you agree to share de-identified data in secure, public research databases, some of the research subject's genetic and related health information will be entered into one or more scientific databases available to other researchers inside and outside of Einstein-Montefiore, Mount Sinai, Sema4, and the New York Genome Center. For example, the National Institutes of Health (an agency of the federal government) maintains a database called The Database of Genes and Phenotypes ("dbGAP"). A researcher who wants to study the information must apply to the database. Different databases may have different ways of reviewing such requests. However, only researchers who apply and are approved can access restricted databases, like dbGAP, dbVar, and other databases. The NYCKidSeq program will limit individual sharing of data to only those restricted databases, which require approval to access.

Please note that identifying information about your child, such as your name, address, telephone number, or social security number, will NOT be put into these scientific databases. However, because your genetic information is unique to you, there is a chance that it could be traced back to you. The risk of this happening is very small and is explained in the *Risks* section of this consent form. Researchers will always have a duty to protect your privacy and to keep your information confidential.

You must initial your choice. By initialing you are consenting to the following: NYCKidSeq has my permission to store and deposit my de-identified clinical information and sequencing data in secure, public research databases.

_____ (Initial) Proband (child enrolled in study)

_____ (Initial) Biological Mother

_____ (Initial) Biological Father

Participating in future research studies

As new research opportunities are identified, or new research findings made, the researchers may wish to contact you to ask if you would be willing to donate fresh samples for additional testing, or to share information about research progress with you, or to invite you to enroll in new studies. However, this is not a requirement to take part in this study. A separate consent will be obtained if you wish to take part in future research.

If the researchers are aware of a research project that might be relevant to your child, do you give them permission to contact you in the future to collect additional information about your child, share information with you, or to discuss possible participation in another research project?

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_____ (Initial) I consent to be contacted in the future to learn about new research studies that my child may wish to join or new research findings.

_____ (Initial) I consent to be contacted in the future if the researchers would like additional samples from me or my child.

_____ (Initial) I do NOT want to be contacted by researchers seeking to collect or share additional information or to discuss another research project.

RESPONSIBILITIES FOR PARTICIPATING IN THIS RESEARCH:

If you decide to permit the research subject to take part in this research study you will be responsible for the following things:

- Return for your follow-up visits and complete your study surveys.
- If you think you or your child is pregnant or fathering a child, please let your research study team know. If we find that your child has a genetic variant that is causing his/her disease, there is a chance that the same variant may affect another pregnancy. If you tell us that you or your child is pregnant or fathering a child, our genetic counselors will discuss this with you in detail.

COSTS OR PAYMENTS THAT MAY RESULT FROM PARTICIPATION:

If your family agrees to take part in this research study, we will pay you a total of **\$80** for completing all three study visits outlined above. Your family will receive the amounts described above (\$20, \$20 and \$40) after each study visit is complete. If you choose to withdraw from the study before all visits are completed, you will be paid for the visits you completed.

Some researchers may develop tests, treatments or products that are worth money. You will not receive payment of any kind for your specimens and information or for any tests, treatments, products or other things of value that may result from the research.

Taking part in this study will not involve added costs to you. The genetic counseling sessions, WGS, and TGP will be provided to you at no cost. If other tests (such as blood tests, radiology tests, seeing other doctors) are clinically because of findings from this study, your insurance will be billed for it. Depending on your insurance, there may be some additional costs to you. If you does not have insurance, we will direct you to resources that can help you get insurance for him/her.

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Tax law may require the Mount Sinai Finance Department to report the amount of payment you receive from Mount Sinai to the Internal Revenue Service (IRS) or other agencies, as applicable. Generally this reporting would take place if you receive payments that equal \$600 or more from Mount Sinai in a calendar year. You would be responsible for the payment of any tax that may be due.

POSSIBLE BENEFITS:

It is important to know that the research subject may not get any benefit from taking part in this research. Others may not benefit either. There are possible benefits from learning about your secondary findings, such as identifying future conditions that can be treated by your physician. Understanding genetic diversity can help all people benefit from genomic medicine. Helping us learn how we can best communicate information about WGS may help individuals who might choose to have WGS in the future.

REASONABLY FORESEEABLE RISKS AND DISCOMFORTS:

There are risks, discomforts, and inconveniences associated with any research study. These deserve careful thought. In addition to what is described below, there may be unforeseeable risks that occur as a result of genome sequencing and its clinical interpretation.

- **Risks of a blood draw:** include pain, bruising, and the slight possibility of infection at the place where the needle goes in. Some people feel dizzy or may faint during or after a blood draw.
- **Risks related to learning genetic information:** There is a chance that you may learn that your child carries a genetic change that may increase the risk for a specific medical condition.

If that is the case, we may suggest that other members of the family get tested for the same genetic change, and you may learn that a family member is at risk to develop certain medical conditions or diseases. This knowledge might be upsetting and may cause you to have anxiety or psychological distress. As described above, some of these conditions may have treatment or screening options available, while others may not. You will be asked to think about if you want this information long before the data is available. However, even if you decide you would like this information, it can be upsetting. You may also learn that the research subject's ancestry or parentage is different than you thought. This may also cause some psychological distress. If your child is found to carry a pathogenic variant in a gene, this may affect the research subject's reproductive decisions. You will have the opportunity to discuss this with the study's genetic counselor, and will be offered additional genetic counseling resources for your future use.

- **Risks associated with genomic testing:** These tests may not generate accurate results in instances that cannot be predicted. Such instances include but are not limited to: incomplete

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medical and/or family history, unavailability of critical family members for help with interpretation, inaccurate reporting of family relationships, or technical problems. The results of this test may have significant medical, psychological, and social implications for you and your family. You and your family members may experience anxiety before, during, and after testing.

- **Risks related to privacy:** The research subject's privacy is very important to us, and we will use many safety measures to protect it. However, in spite of all of these protections, there is the possibility that the genome sequence data derived may, even when presented without other identifying factors, allow your child to be re-identified. Therefore, this research study cannot promise anonymity, particularly if you choose to publish or share your genome sequence data. The risk of this happening is very small, but may grow in the future. If there is a break in security with the dbGaP database, it may also pose a potential risk to blood relatives. Specific illnesses and known genetic problems may be found by examining DNA. In the future, insurance companies may use this information to determine if someone is able to be insured by their company. The genetic results from this study will become part of the research subject's medical record. Insurance companies routinely have access to such records.

There is a Federal law called the Genetic Information Nondiscrimination Act (GINA). In general, this law makes it illegal for health insurance companies, group health plans, and most employers of over 15 people to discriminate against you based on your genetic information. However, it does not protect you against discrimination by companies that sell life insurance, disability insurance, or long-term care insurance.

OTHER POSSIBLE OPTIONS TO CONSIDER:

You may decide not to permit the research subject to take part in this research study without any penalty. The choice is totally up to you.

IN CASE OF INJURY DURING THIS RESEARCH STUDY:

If you believe that the research subject has suffered an injury related to this research as a participant in this study, you should contact the Principal Investigator, Dr. Eimear Kenny.

ENDING PARTICIPATION IN THE RESEARCH STUDY:

You or the research subject may decide to stop participation in this research study at any time without any penalty. This will not affect your, or the research subject's, ability to receive medical care at any of the Mount Sinai Health System hospitals or at your private practice doctor, or to receive any benefits to which you or the research subject are otherwise entitled.

If you or the research subject decide to stop participation in the research study, please contact the Principal Investigator or the research staff.

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PERMISSION FORM FOR AN INCAPACITATED ADULT
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You may also withdraw your permission for the use and disclosure of any of the research subject's protected information for research, but you must do so in writing to the Principal Investigator at the address on the first page. Even if you withdraw your authorization, the Principal Investigator for the research study may still use the information that was already collected if that information is necessary to complete the research study. The research subject's health information may still be used or shared after you withdraw your authorization if the research subject has an adverse event (a bad effect) from participating in the research study.

Withdrawal without your permission: The study doctor, the sponsor or the institution may stop the research subject's involvement in this research study at any time without your permission. This may be because the research study is being stopped, the instructions of the study team have not been followed, the investigator believes it is in the research subject's best interest, or for any other reason. If specimens or data have been stored as part of the research study, they too can be destroyed without your permission.

CONTACT PERSON(S):

If you have any questions, concerns, or complaints at any time about this research, or you think the research has hurt the research subject, please contact the office of the research team and/or the Principal Investigator at phone number (212) 659-9571.

This research has been reviewed and approved by an Institutional Review Board. You may reach a representative of the Program for the Protection of Human Subjects at Icahn School of Medicine at Mount Sinai at telephone number (212) 824-8200 during standard work hours for any of the reasons listed below. This office will direct your call to the right person within the Mount Sinai Health System:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You are not comfortable talking to the research team.
- You are not comfortable talking to the research team.
- You have questions about rights of research subjects.
- You want to get information or provide input about this research.

DISCLOSURE OF FINANCIAL INTERESTS:

Sometimes, physicians/researchers receive payments for consulting or similar work performed for industry. Effective September 2014 Mount Sinai reviews only payments to an individual totaling more than \$5,000 a year per entity when determining potential conflicts of interest. If you have questions regarding industry relationships, we encourage you to talk your physician/researcher or visit our website at <http://icahn.mssm.edu/> where Mount Sinai publicly discloses the industry relationships of our faculty.

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Dr. George Diaz and Randi Zinberg (Co-Investigators in this study) receive financial compensation as consultants for Sema4 (Some of the genetic testing that will be done for subjects as part of this study will be done by Sema4).

Sema4 is a company that is currently majority owned by the Icahn School of Medicine at Mount Sinai; many of Sema4's employees also have an equity interest in the company; the company integrates genetic testing and data analytics to improve diagnosis, treatment and prevention of disease. Sema4, Sema4 employees and the Icahn School of Medicine at Mount Sinai could benefit from the operation of the research repository.

MAINTAINING CONFIDENTIALITY – HIPAA AUTHORIZATION:

As you take part in this research project it will be necessary for the research team and others to use and share some of the research subject's private protected health information. Consistent with the federal Health Insurance Portability and Accountability Act (HIPAA), we are asking your permission to receive, use and share that information.

What protected health information is collected and used in this study, and might also be disclosed (shared) with others?

As part of this research project, the research team at the hospital(s) involved in the research will collect the research subject's name and telephone numbers, and date of birth, and medical record number.

The researchers will also get information from the research subject's medical record.

During the study the researchers will gather information by:

- taking a medical history (includes current and past medications or therapies, illnesses, conditions or symptoms, family medical history, allergies, etc.)
- completing the tests, procedures, questionnaires and interviews explained in the description section of this consent.
- reviewing genetic tests

Why is the research subject's protected health information being used?

Your personal contact information, and that of the research subject, is important to be able to contact you during the study. The research subject's health information and the results of any tests and procedures being collected as part of this research study will be used for the purpose of this study as explained earlier in this consent form. The results of this study could be published or presented at scientific meetings, lectures, or other events, but would not include any information that would let others know who the research subject is, unless you give separate permission to do so.

The research team and other authorized members of The Mount Sinai Health System ("Mount Sinai") workforce may use and share the research subject's information to ensure that the research meets legal, institutional or accreditation requirements. For example, the School's Program for the Protection

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of Human Subjects is responsible for overseeing research on human subjects, and may need to see the research subject's information. If any payments for taking part in this study, the Mount Sinai Finance Department may need names, addresses, social security numbers, payment amounts, and related information for tax reporting purposes. If the research team uncovers abuse, neglect, or reportable diseases, this information may be disclosed to appropriate authorities.

Who, outside Mount Sinai, might receive your protected health information?

As part of the study, the Principal Investigator, study team and others in the Mount Sinai workforce may disclose the research subject's protected health information, including the results of the research study tests and procedures, to the following people or organizations: (It is possible that there may be changes to the list during this research study; you may request an up-to-date list at any time by contacting the Principal Investigator.)

- Other collaborating research center(s) and their associated research/clinical staff who are working with the investigators on this project: The National Institutes of Health, the Clinical Sequencing Evidence-Generating Research Consortium, Albert Einstein College of Medicine/Montefiore Medical Center, Sema4, and the New York Genome Center
- Researchers and other individuals who work with the researchers
- The sponsoring government agency and/or their representative who need to confirm the accuracy of the results submitted to the government or the use of government funds: National Human Genome Research Institute (NHGRI) and the National Institutes of Health (NIH).
- The United States Department of Health and Human Services and the Office of Human Research Protection.

In almost all disclosures outside of Mount Sinai, the research subject will not be identified by name, social security number, address, telephone number, or any other direct personal identifier unless disclosure of the direct identifier is required by law. Some records and information disclosed may be identified with a unique code number. The Principal Investigator will ensure that the key to the code will be kept in a locked file, or will be securely stored electronically. The code will not be used to link the information back to the research subject without your permission, unless the law requires it, or rarely if the Institutional Review Board allows it after determining that there would be minimal risk to the research subject's privacy. It is possible that a sponsor or their representatives, a data coordinating office, a contract research organization, may come to inspect the research subject's records. Even if those records are identifiable when inspected, the information leaving the institution will be stripped of direct identifiers. Additionally, when applicable, the monitors, auditors, the IRB, the Office for Human Research Protections (OHRP), and the Food and Drug Administration will be granted direct access to the research subject's medical records for verification of the research procedures and data. OHRP and FDA are authorized to remove information with identifiers if necessary to complete their tasks. By signing this document you are authorizing this access. We may publish the results of this research. However, we will keep the research subject's name and other identifying information confidential.

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For how long will Mount Sinai be able to use or disclose the research subject's protected health information? Your authorization for use of the research subject's protected health information for this specific study does not expire.

Will you be able to access the research subject's records?

During participation in this study, you and the research subject will have access to the research subject's medical record and any study information that is part of that record. The investigator is not required to release research information that is not part of the medical record to you or the research subject.

Do you need to give us permission to obtain, use or share to you or the research subject health information?

NO! If you decide not to let us obtain, use or share the research subject's health information you should not sign this form, and the research subject will not be allowed to volunteer in the research study. If you do not sign, it will not affect treatment, payment or enrollment in any health plans or affect eligibility for benefits.

Can you change your mind?

You may withdraw your permission for the use and disclosure of any of the research subject's protected information for research, but you must do so in writing to the Principal Investigator at the address on the first page. Even if you withdraw your permission, the Principal Investigator for the research study may still use the research subject's protected information that was already collected if that information is necessary to complete the study. The research subject's health information may still be used or shared after you withdraw your authorization should the research subject have an adverse event (a bad effect) from being in the study. If you withdraw your permission to use the research subject's protected health information for research that means the research subject will also be withdrawn from the research study, but standard medical care and any other benefits to which the research subject is entitled will not be affected. You can also tell us you want to withdraw the research subject from the research study at any time without canceling the Authorization to use the research subject's data.

It is important for you to understand that once information is disclosed to others outside Mount Sinai, the information may be re-disclosed and will no longer be covered by the federal privacy protection regulations. However, even if information will no longer be protected by federal regulations, where possible, Mount Sinai has entered into agreements with those who will receive the information to continue to protect confidentiality.

If as part of this research project the research subject's medical records are being reviewed, or the research subject's medical history is being taken, it is possible that HIV-related information may be revealed to the researchers. If that is the case, the following information concerns you. If this research does not involve any review of medical records or questions about the research subject's medical history or conditions, then the following section may be ignored.

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Notice Concerning HIV-Related Information

If you are authorizing the release of HIV-related information, you should be aware that the recipient(s) is (are) prohibited from re-disclosing any HIV-related information without your authorization unless permitted to do so under federal or state law. You also have a right to request a list of people who may receive or use the research subject's HIV-related information without authorization. If you or the research subject experience discrimination because of the release or disclosure of HIV-related information, you may contact the New York State Division of Human Rights at (888) 392-3644 or the New York City Commission on Human Rights at (212) 306-5070. These agencies are responsible for protecting your rights.

Certificate of Confidentiality: To further protect the research subject's privacy, the researchers have obtained a Certificate of Confidentiality from the Department of Health and Human Services. This Certificate does not mean that the Department of Health and Human Services approves of this research. Rather, it is intended to ensure that the research subject's identity as a participant in this research study will not have to be disclosed as a result from a subpoena, for the purpose of identifying the research subject in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings other than to the FDA or OHRP as identified above.

The research staff will not share any of the research subject's research information with anyone who is not a member of the research team, including any family members or friends, other than to those identified above. However, you should know that if we learn that the research subject or someone else is threatened with serious harm, such as a child or an elderly person being abused, the investigators may notify the appropriate authorities if necessary to protect the research subject or others. A Certificate of Confidentiality does not prevent you, the research subject, or a member of the research subject's family from voluntarily releasing information about the research subject or his/her involvement in this research. This means that you, the research subject, and the research subject's family must also actively protect your and the research subject's privacy. If an insurer or employer learns about the research subject's research participation, and you agree that they can have the research subject's research information, then the researchers may not use the Certificate of Confidentiality to keep this information from them.

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Signature Block for Adult Unable to Consent

Your signature below documents your permission for the subject named below to take part in this research and to the use and disclosure of the research subject's protected health information. A signed and dated copy will be given to you.

Printed name of subject

Signature of authorized representative

Date

Printed name of authorized representative

Time [required if used for FDA documentation purposes]

Person Explaining Study and Obtaining Consent

Signature of person obtaining consent

Date

Printed name of person obtaining consent

Time

Witness Section: For use when a witness is required to observe the consent process. Document below (for example, surrogate is illiterate, visually impaired, or this accompanies a short form consent):

My signature below documents that the information in the consent document and any other written information was accurately explained to, and apparently understood by, the subject's authorized representative, and that permission was freely given by the subject's authorized representative.

Signature of witness to consent process

Date

Printed name of person witnessing consent process

Time

Assent

- Obtained
- Not obtained because the capability of the subject is so limited that he or she cannot reasonably be consulted.

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