

Looking at My Genes:

WHAT CAN THEY TELL ME ABOUT MY MENTAL HEALTH?

From the **NATIONAL INSTITUTE of MENTAL HEALTH**

Overview

Mental disorders are health conditions that affect how a person thinks, feels, and acts. These disorders can impact a person's life in significant ways, including how they cope with life events, earn a living, and relate to others.

“Why did this happen?” That is a common question that patients and their families have following a psychotic episode, a suicide attempt, or the diagnosis of a mental disorder.

Research conducted and funded by the National Institute of Mental Health (NIMH) has found that many mental disorders are caused by a combination of biological, environmental, psychological, and genetic factors. In fact, a growing body of research has found that certain genes and gene variations are associated with mental disorders. **So, what is the best way to “look at your genes” and determine your personal risk?**

Your Family Health History

Your family health history may be one of your best clues for determining your risk of developing a mental disorder and many other common illnesses. Certain mental disorders tend to run in families, and having a close relative with a mental disorder could mean you are at a higher risk.



If a family member has a mental disorder, it does not necessarily mean you will develop one. Many other factors also play a role. But knowing your family's mental health history can help you determine whether you are at a higher risk for certain disorders, help your doctor to recommend actions for reducing your risk, and enable both you and your doctor to look for early warning signs.

To gain a better understanding of your family health history, it may help to talk to your blood relatives, keep a record of your family history, talk with a mental health professional, or visit a genetic counselor.

Talk to Your Blood Relatives

The first step in creating a family health history is to talk to your blood relatives. The most helpful information comes from “first-degree” relatives—parents, brothers, sisters, and children. Information from “second-degree” relatives—such as nieces, nephews, half-brothers, half-sisters, grandparents, aunts, and uncles—also can be helpful.

Don't worry if you cannot get complete information on every relative. Some people may not want to talk. Others may be unable to remember information accurately. That's okay. Whatever information you can collect will be helpful.

Keep a Record of Your Family History

Free print and online tools can help you create a family health history. One tool, created by the U.S. Surgeon General, is “My Family Health Portrait” (<https://phgkb.cdc.gov/FHH>). It helps organize the information in your family health history. You can download and print “My Family Health Portrait” and use it to record information about your family's health. Once you fill in the information, you can keep it for your records, share the completed form with your doctor or other health care provider, or share it with family members.



As a family grows or family members are diagnosed with health conditions, new or updated information can be added. It may take a little time and effort, but this legacy can improve the health of your family for generations to come.

Talk With a Mental Health Professional

If you have mental illness in your family, you may want to consult with a mental health professional who can help you understand risk factors and preventive factors. Asking questions and providing information to your health care provider can improve your care. Talking with your doctor can build trust and may lead to better results, safety, and satisfaction. For tips and information about speaking with your doctor, visit the NIMH Taking Control of Your Mental Health webpage (www.nimh.nih.gov/talkingtips) and the Agency for Healthcare Research and Quality webpage for patients and consumers (www.ahrq.gov/patients-consumers).

Visit a Genetic Counselor

Genetic counseling can give you information about how genetic conditions might affect you or your family. The genetic counselor or other health care professional will collect your personal and family health history. They can use this information to determine how likely it is that you or a family member has a genetic condition. Based on this information, the genetic counselor can help you decide whether a genetic test might be right for you or your relative. Genetic testing often is done before or during pregnancy and soon after the birth of children, or if your doctor suspects you may have a rare disease for which specific genes are known to be the cause.

To learn more about genetic counseling, visit the Genetic Counseling FAQ page of the National Human Genome Research Institute website (www.genome.gov/FAQ/Genetic-Counseling) and the Centers for Disease Control and Prevention's Genetic Counseling webpage (www.cdc.gov/genomics/gtesting/genetic_counseling.htm).

Your Genes

Genes are segments of DNA found in almost every cell and are passed down from parents to children. Some diseases are caused by genetic mutation(s) or by a permanent change in one or more specific genes.

In other diseases, including many mental disorders, gene variants play a role in increasing or decreasing a person's risk of developing a disease or condition. Research is advancing our understanding of the role of genetics in mental health. Although there are common genetic variants associated with rare disorders, no gene variant can predict with certainty that a person will develop a mental disorder. In many cases, even the most well-researched genetic variant may contribute to a person's risk only by very small amounts. Knowing that you have one of these gene variants won't tell you nearly as much about your risk as your family history can. For more information, visit the website of the National Human Genome Research Institute (www.genome.gov/health).

Can Genetic Testing Help Predict My Risk of Developing a Mental Disorder?

The short answer to this question is no. Currently, genetic tests cannot accurately predict your risk of developing a mental disorder. Although research is underway, scientists don't yet know all the gene variations that contribute to mental disorders, and those that are known, so far, raise the risk by very small amounts.

One day, genetic research may make it possible to provide a more complete picture of a person's risk of getting a particular mental disorder or to diagnose it, based on his or her genes. Although recent studies have begun to identify the genetic markers associated with certain mental disorders and eventually may lead to better screening and more personalized treatment, it is still too early to use genetic tests or genome scans to diagnose or treat mental disorders accurately.

Genetic Testing Versus Genome Scans

Clinical or Diagnostic Genetic Testing

Doctors order clinical or diagnostic genetic testing for people they think are at high risk of one of the rare diseases for which specific genes are known to be the cause. In clinical or diagnostic testing, doctors search for a single gene or a few genes that research has strongly associated with a specific disease. The results enable patients and their doctors to make informed health care decisions together. There are many different types of genetic tests. Genetic tests may help to:

- ▶ Identify gene changes that may increase the risk of developing a disease.
- ▶ Diagnose disease.
- ▶ Identify gene changes that are implicated in an already diagnosed disease.
- ▶ Determine the severity of a disease.
- ▶ Guide doctors in deciding on the best medicine or treatment to use for certain individuals, such as during cancer treatment.

If a disease runs in your family, your health care professional can tell you if it's the kind of illness that can be detected through genetic testing. Your health care professional can help you make decisions about whether to be tested and can help you understand test results and their implications.

Direct-to-Consumer Genome Scans

Direct-to-consumer genome scans are different from clinical or diagnostic genetic testing. For a fee, anyone can mail a saliva sample to companies that sell the scan—without a prescription or a health care provider's advice. Advertisements say that the company then can provide information, based on gene variations, about a person's risks of developing specific diseases.

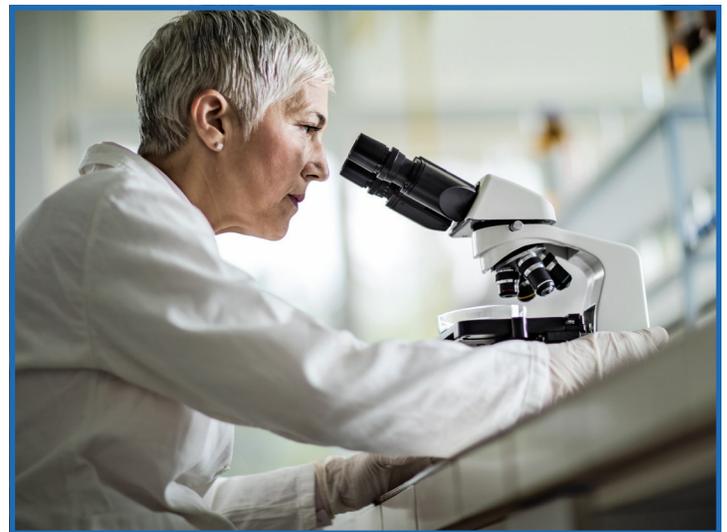
You can learn about the various types of genetic tests and genetic counseling by visiting the National Human Genome Research Institute website (www.genome.gov).

NIMH Research on Genetics

NIMH, a part of the National Institutes of Health (NIH), funds and conducts research to help answer important scientific questions about mental illnesses. Through research, NIMH works to determine what is promising, what helps and why, what doesn't work, and what is safe.

For example, the Genomics Research Branch in the NIMH Division of Neuroscience and Basic Behavioral Science (www.nimh.nih.gov/dnbbs) and the Human Genetics Branch in the NIMH Intramural Research Program (www.nimh.nih.gov/hgb) are currently studying and supporting research on the human genetic variations that contribute to the risk for mood and anxiety disorders, such as bipolar disorder and panic disorder, so that better ways to diagnose and treat these disorders can be developed.

Research investigating these topics will help the field take steps toward better screening and personalized treatment. You can learn more about ongoing research efforts by visiting the NIMH website at www.nimh.nih.gov (search term: Genetics).



Federal Resources

For information about how genes affect your risk for developing a disease or disorder, visit:

**Centers for Disease Control and Prevention:
Family Health History**
www.cdc.gov/genomics/famhistory

National Human Genome Research Institute
www.genome.gov/health

MedlinePlus: Genetic Disorders
<https://medlineplus.gov/geneticdisorders.html>

Participating in Clinical Research

Clinical trials are research studies that look at new ways to prevent, detect, or treat diseases and conditions. Although individuals may benefit from being part of a clinical trial, participants should be aware that the primary purpose of a clinical trial is to gain new scientific knowledge so that others may be better helped in the future.

Researchers at NIMH and around the country conduct clinical trials with patients and healthy volunteers. Talk to your health care provider about clinical trials, their benefits and risks, and whether one is right for you. For more information, visit www.nimh.nih.gov/clinicaltrials.

Finding Help

Behavioral Health Treatment Services Locator

The Substance Abuse and Mental Health Services Administration (SAMHSA) provides this online resource for locating mental health treatment facilities and programs. Find a facility in your state at <https://findtreatment.samhsa.gov>. For additional resources, visit www.nimh.nih.gov/findhelp.

Talking to Your Health Care Provider About Your Mental Health

Communicating well with your doctor or health care provider can improve your care and help you both make good choices about your health. Find tips to help prepare for and get the most out of your visit at www.nimh.nih.gov/talkingtips. For additional resources, including questions to ask your doctor, visit the Agency for Healthcare Research and Quality website at www.ahrq.gov/patients-consumers.

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