



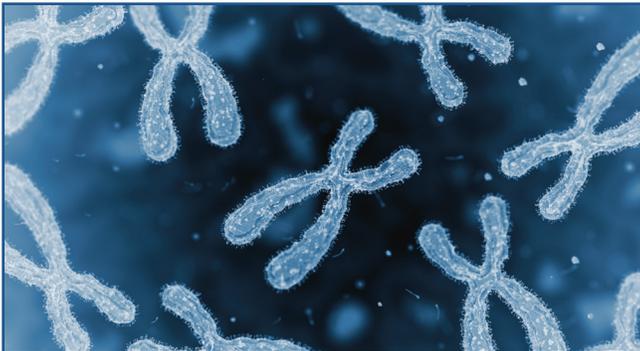
Looking at My Genes:

WHAT CAN THEY TELL ME ABOUT MY MENTAL HEALTH?

From the **NATIONAL INSTITUTE of MENTAL HEALTH**

What are genes?

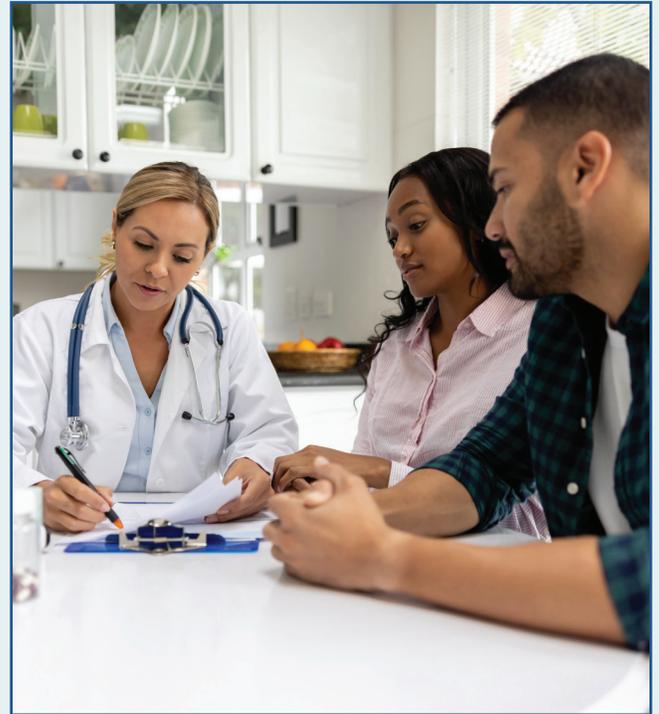
Genes are segments of deoxyribonucleic acid (DNA), the biological “blueprint” for proteins that form the building blocks of our cells. Your DNA is passed down from your biological parents and varies a little from person to person. These variations contribute to differences in appearance, personality, and health. Certain genes, along with biological and environmental factors, can be associated with mental disorders, which are health conditions that can affect how you think, feel, and cope with life.



How do genes affect your mental health?

Common mental disorders like depression and anxiety are likely the result of a combination of life experiences, environment, and genetic variation. These variations can impact how your genes are turned “on” and “off” throughout life and play a role in the onset of some diseases.

Most genetic variants don’t directly cause mental disorders. However, in rare cases, some uncommon gene variants can increase the risk of developing mental disorders. If you or a relative has one of these rare variants, it’s a good idea to talk to a health care provider about the risks.



Should I visit a genetic counselor?

Genetic counseling can give you information about how genetic conditions might affect you or your family. A geneticist or genetic counselor will collect your personal and family health history to determine how likely it is that you or a family member has a genetic condition. They can then help you decide whether a genetic test might be right for you or your relative. Genetic testing is often done before or during pregnancy, soon after birth, or if your health care provider suspects you may have a genetic disease.

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

Can genetic testing help predict my risk of developing a mental disorder?



Currently, genetic tests cannot accurately predict your risk of developing a mental disorder. Although research is underway, researchers are still learning about the ways genes can contribute to mental disorders—or protect against them. Of those genes that are linked to mental disorders, most raise the risk by tiny amounts.

While recent studies have begun to identify the genetic markers associated with certain mental disorders and eventually may lead to better screening and more individualized treatment, it is still too early to use genetic tests to diagnose or treat mental disorders.

What is the difference between clinical genetic testing and direct-to-consumer genetic reports?

Clinical or diagnostic genetic testing

Clinical genetic testing can help predict the risk of some diseases, such as cancer, but is not yet very useful for predicting the risk for mental disorders. Health care providers may order genetic testing for people who may have a high risk for rare genetic diseases. During testing, health care providers may search for a single gene or a few genes that are strongly associated with a specific disease.

There are many different types of genetic tests that may help to:

- ▶ Identify genetic variants that may increase the risk of developing a disease
- ▶ Diagnose disease
- ▶ Guide health care providers in deciding on the best medicine or treatment for certain people

If a disease runs in your family, your health care provider can tell you if it's detectable with genetic testing. For more information about clinical or genetic testing, visit www.genome.gov/FAQ/Genetic-Testing.

Direct-to-consumer genetic reports

The purpose and audiences of direct-to-consumer genetic reports differ from clinical or diagnostic genetic testing.

For a fee, anyone can mail a saliva sample to companies that sell a direct-to-consumer genetic report. While advertisements may say that the company can provide information based on a person's genetic variation about their risks of developing specific diseases, these reports typically cannot help predict one's risk for developing mental disorders.

Because direct-to-consumer genetic reports for mental disorders are not accompanied by a health care provider's guidance, their results should be interpreted cautiously. These reports have varying levels of scientific support, may or may not be approved by the U.S. Food and Drug Administration, and can be misleading. If you decide to undergo direct-to-consumer genetic testing, the results should be discussed with your health care provider or genetic counselor before taking any action, such as changing your medications. For more information about direct-to-consumer tests, visit www.fda.gov/medical-devices/in-vitro-diagnostics/direct-consumer-tests.



How can my family health history help me understand my health risks?

Some mental disorders run in families, and your family's mental health history may be an important clue for determining your risk of developing a mental disorder. Having a close relative with a mental disorder could mean you are at a higher risk, but it doesn't necessarily mean you will develop that disorder. Many other factors play a role.

Knowing your family's mental health history can help you and your health care provider look for early warning signs and help your health care provider recommend ways to reduce your risk.

Talk to your relatives

The first step in creating a family health history is to talk to your relatives. The most helpful information comes from "first-degree" relatives—parents, brothers, sisters, and children. Health histories from "second-degree" relatives—such as nieces, nephews, half-brothers, half-sisters, grandparents, aunts, and uncles—also can be helpful but are less informative for your own risk.

Don't worry if you can't get complete information for every relative. Some people may not want to talk, and 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 programs like the Surgeon General's "My Family Health Portrait" can help you create a family health history. You can use the program to record information



about your family's health and share it with your health care provider or family members. You can find the program at <https://cbiit.github.io/FHH/html>.

New or updated information can be added as a family grows or family members are diagnosed with health conditions. It may take a little time and effort, but this record can improve your family's health for generations.

Talk with a mental health professional

If mental disorders run in your family, consider talking with a mental health professional who can help you understand the illness' risk and ways to prevent or treat it. Asking questions and providing information to your health care provider can improve your care and results and increase safety and satisfaction. For tips and information about speaking with your health care provider, visit www.nimh.nih.gov/talkingtips and the Agency for Healthcare Research Quality at www.ahrq.gov/questions.

What research is NIMH doing on genetics?

The National Institute of Mental Health (NIMH) funds and conducts research to help answer important scientific questions about mental disorders. NIMH is currently studying and supporting research on the human genetic variations that contribute to the risk of different mental disorders. These include but are not limited to the following:

- ▶ Eating disorders, such as anorexia nervosa, binge eating disorders, and bulimia nervosa
- ▶ Mood disorders, such as anxiety disorders, bipolar disorder, and depression
- ▶ Neurodevelopmental disorders, such as autism spectrum disorder and intellectual disability

- ▶ Obsessive-compulsive disorder
- ▶ Post-traumatic stress disorder
- ▶ Psychosis and schizophrenia

Research investigating these topics will help the field take steps toward better screening and personalized treatment. Basic research efforts enhance our understanding of the underlying causes of disease and might result in improved clinical treatments. You can learn more about ongoing research efforts by visiting www.nimh.nih.gov/news/science-news/science-news-about-genetics.

Where can I find more information about genetics?

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: Genetics: <https://medlineplus.gov/genetics>

How can I find help for mental disorders?

NIMH has information on ways to get help and find a health care provider or access treatment at www.nimh.nih.gov/findhelp. In addition, the Substance Abuse and Mental Health Services Administration has an online tool at <https://findtreatment.gov> to help you find mental health services in your area.

What are clinical trials and why are they important?

Clinical trials are research studies that look at new ways to prevent, detect, or treat diseases and conditions. These studies help researchers determine if a new treatment is safe and effective in people. The main purpose of a clinical trial is to gain new scientific knowledge so that others may be better helped in the future.

People volunteer for clinical trials for many reasons. Some people join clinical trials to help doctors and researchers learn more about a disease and improve health care. Other people, such as those with health conditions, join to try new or advanced treatments that aren't widely available.

NIMH supports clinical trials at the National Institutes of Health campus in Bethesda, Maryland, and across the United States. Talk to a 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.



For more information

Learn more at www.nimh.nih.gov/health. For information about various health topics, visit the National Library of Medicine's MedlinePlus resource at <https://medlineplus.gov>.

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