Did you know your genes may affect your outcomes with certain mental health medications?
Genes are Unique

No two people have identical genetic profiles. This could be why a medication that worked for a friend or family member may not be effective for you.
Understanding Genetics

There are more than 20,000 genes in your body. Mostly found in the liver, the Cytochrome P450 system is a family of about 60 genes\(^1\) that produce enzymes that metabolize antidepressants and other mental health medications.

6 of those enzymes metabolize about 90% of medications.\(^2\)

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Two Kinds of Genes that May Impact Your Outcomes with Mental Health Medications

Pharmacokinetic Genes tell us what the body does to the medication, which provides information on how a patient may metabolize or “break down” certain medications.

Pharmacodynamic Genes tell us what the medication does to the body, which provides information on likelihood of response and/or risk of side effects for certain medications.
How the Body Processes Medication

Your body processes medication in four steps:

- Absorption
- Distribution
- Metabolism
- Excretion

Other factors may impact the way your body processes medications within these four steps. Not all medications undergo these four steps in the same fashion.
ADME: a 4-Step Process

**ABSORPTION**
After a medication is administered, the process in which the drug enters the bloodstream is called absorption.

**DISTRIBUTION**
After a drug is absorbed into the bloodstream, it is carried throughout the body. This process is called distribution. Typically, this is when medications are delivered to the site of action.

**METABOLISM**
The process by which a medication undergoes chemical changes is metabolism. This primarily takes place in the liver, which contains metabolizing enzymes. These enzymes determine the rate at which medications are metabolized or "broken down".

**EXCRETION**
The removal of the medication from the body.

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Genetics is One Part of the Puzzle

Genetics is just one factor that may impact your outcomes with certain medication.
Why Your Genetic Profile Matters

Your unique genetic profile determines the rate at which your body metabolizes certain psychiatric medications.

**Too Little Medication**

If a medication is broken down at a faster rate than normal, you may not have enough in your body, which may be ineffective for treatment.

**Too Much Medication**

If a medication is broken down at a slower rate than normal, you may have too much in your body, which may lead to side effects.
Four Metabolizer Types

**POOR METABOLIZER**
Medication is broken down very slowly. May experience side effects at standard doses.

**INTERMEDIATE METABOLIZER**
Slow rate of metabolism. May have too much medication at standard doses, potentially causing side effects.

**EXTENSIVE (NORMAL) METABOLIZER**
Normal rate of metabolism. Has normal amount of medication at standard doses.

**ULTRARAPID METABOLIZER**
Medication is rapidly broken down. Medication may be removed from system too quickly to provide symptom relief.
Based on your genetic profile, you may break down one medication more slowly than normal but another medication more quickly than normal. This means a different dosage or medication may work better for you.
Genetic Testing

...can give your clinician information unique to you to determine how your body may metabolize or respond to certain medications.
GeneSight is a genetic test that provides insight to clinicians on how you may metabolize or respond to certain medications for depression, anxiety, ADHD and other psychiatric conditions. This information may improve your chances of finally feeling like yourself again.