

Genetics and Medication

Facts Sheet

Have you ever wondered why your medications don't always work?

One of the reasons may be your genetics!

What is Pharmacogenomics?

Pharmacogenomics looks at how your genetic makeup affects your body's response to a medication. In some cases, your DNA can affect whether you have a bad reaction to a drug or whether a drug helps you or has no effect. Pharmacogenomics can improve your health by helping you know ahead of time whether a drug is likely to benefit you and safe for you to take. Knowing this information can help your doctor find medicine that will work best for you.

What are the benefits of Pharmacogenomics (PGx) testing?

Prediction: Can help predict if you are more likely to have a negative side effect to a medication before it is prescribed and can help predict the right dose for you.

Cost-efficient: Can help you save time and money by potentially reducing the number of doctor visits or hospitalizations due to adverse drug events. PGx testing can also provide insight for better utilization of generic drugs.

What kind of PGx testing is available and how much does it cost?

Some PGx testing can be ordered directly by a patient and others must be ordered by a licensed healthcare provider. Depending on your insurance plan and coverage, PGx testing may not be covered.

The cost of PGx testing can range from \$100 to \$1000.

When should you get tested?

PGx testing is typically done before or when a medication is prescribed. Getting PGx testing before a medication is prescribed will provide you with personalized PGx information for whenever you may need it in the future. PGx testing can also be ordered when a medication is prescribed if pre-medication testing is available or required.

Quick Facts

66% of American adults take a prescribed medication¹.

Americans spend about **\$1,200** a year on prescription drugs².

Adverse drug events (side effects) cause approximately **1.3 million** emergency department visits each year³.

Pharmacogenomics guidance is included in the FDA-approved labeling of more than **50 drugs**⁴.

PGx testing may be beneficial if you are or will be taking a medication for one of these common health conditions:



High Cholesterol



Chronic Pain



Depression



Arthritis

Talking to your healthcare provider about getting pharmacogenomics (PGx) testing.

- 1. Discuss all of your medications and goals for treatment.
 - Are there any immediate benefits of getting PGx testing done?
- 2. Are you currently adjusting doses, trying to minimize adverse effects?
- 3. Are there any past medication problems that might be explained by PGx?
- 4. Could PGx testing be relevant for future decisions in your own care, or your family?
- 5. Can PGx testing help you achieve your therapeutic goals?

Your Current Medications

Enter medications and their prescription instructions for your discussion

Resources

FDA’s Table of Phamacogenetic Associations
Clinical Pharmacogenetics Implementation Consortium (CPIC®)
NIH Medline Plus Genetics

1. "Prescription Drugs." Health Policy Institute, Georgetown University McCourt School of Public Policy, 13 Feb. 2019, hpi.georgetown.edu/rxdrugs/.
2. "Health Resources - Pharmaceutical Spending - OECD Data." TheOECD, data.oecd.org/healthres/pharmaceutical-spending.htm.
3. "Adverse Drug Events in Adults." Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, 11 Oct. 2017, www.cdc.gov/medicationsafety/adult_adversedrugs.html.
4. Center for Devices and Radiological Health. "Table of Pharmacogenetic Associations." U.S. Food and Drug Administration, FDA, www.fda.gov/medical-devices/precision-medicine/table-pharmacogenetic-associations.