

A young woman with dark hair pulled back, wearing a white lab coat, is smiling warmly at the camera. She is standing in a laboratory setting with shelves of bottles visible in the background. The image is partially overlaid by large, curved, abstract shapes in blue and orange.

The right drug.
The right dose.
The first time.

Improving the health
of patients and businesses
with personalized medicine.

What is personalized medicine?

Personalized medicine, also referred to as pharmacogenetics, is the study of genetic variability that impacts a person's ability to safely and effectively metabolize medications based on the individual's unique DNA. Despite sharing the same diagnosis, individuals suffering from the same illness may respond differently to the same prescribed treatment.

How does it work?

Personalized medicine takes the guesswork out of prescription drug choices and dosing, reduces adverse drug reactions, improves efficacy, and eliminates the cost of drug therapies that simply do not work due to the patient's individual makeup. It is a simple, non-invasive test using an oral rinse, and it can assist patients and providers in developing an optimal healthcare plan to ensure long-term wellness.

Who benefits?

With the implementation of personalized medicine, employees and their families can enjoy access to the latest advances in healthcare by understanding what medications are best suited for them. They can experience improved treatment and overall better long-term health. They no longer have to waste time and money experimenting with ineffective and potentially unsafe medications, and therefore possibly avoid recurring, harmful episodes or secondary risks like a heart attack or stroke.

Additionally, employers may realize potential savings on pharmaceutical benefit costs while offering their employees new options in healthcare and treatment. At times testing reveals that prescription costs can be lowered, but even when a more expensive medication is identified as a better match, they are rewarded by knowing that prescription dollars are being spent wisely on more effective medications. Overall, they benefit by having healthier, more productive employees.

Startling Stats on Healthcare Costs

131% Specialty drug costs are expected to increase 131% by 2018. The average cost of specialty therapy is \$3,000/month and on the high end can be \$15,000-\$30,000 a month.¹

Chronic diseases account for \$5 of every \$6 spent on healthcare.²

In 2014, 75% of employers report that pharmacy benefit costs are at least 1/5 of their overall health care costs.³

Productivity losses due to chronic diseases cost U.S. employers \$1,685 per employee per year, or \$225.8 billion annually.⁴

In the last 30 days 48.7% of the population used at least one prescription drug, 21.8% used three or more (2009–2012).⁵

Personalized medicine meets a critical need to manage the skyrocketing cost of specialty drugs. Implementing pharmacogenetics benefits employers, employees, and their families. It helps identify the right drug, the correct dose, the first time; increasing safety and efficacy, and may reduce costs.

Testing Triggers

- Black Box warning on medications
- Comorbidity of chronic conditions
- Dollar threshold for prescription cost
- Specialty drugs, e.g., statins/PCSK9
- History of substance abuse
- Mental health
- Age
- Chronic disease

These conditions are typical indicators of who would benefit from personalized medicine. A customized protocol for testing will be developed for your specific needs.

Case Study of Pharma Phil

60 year-old male

Previous myocardial infarction

Suffers from uncontrolled hypercholesterolemia, rheumatoid arthritis, and depression

Due to uncontrolled hypercholesterolemia, doctor wants to add PCSK9 drug (\$15,000 cost)

What can be done

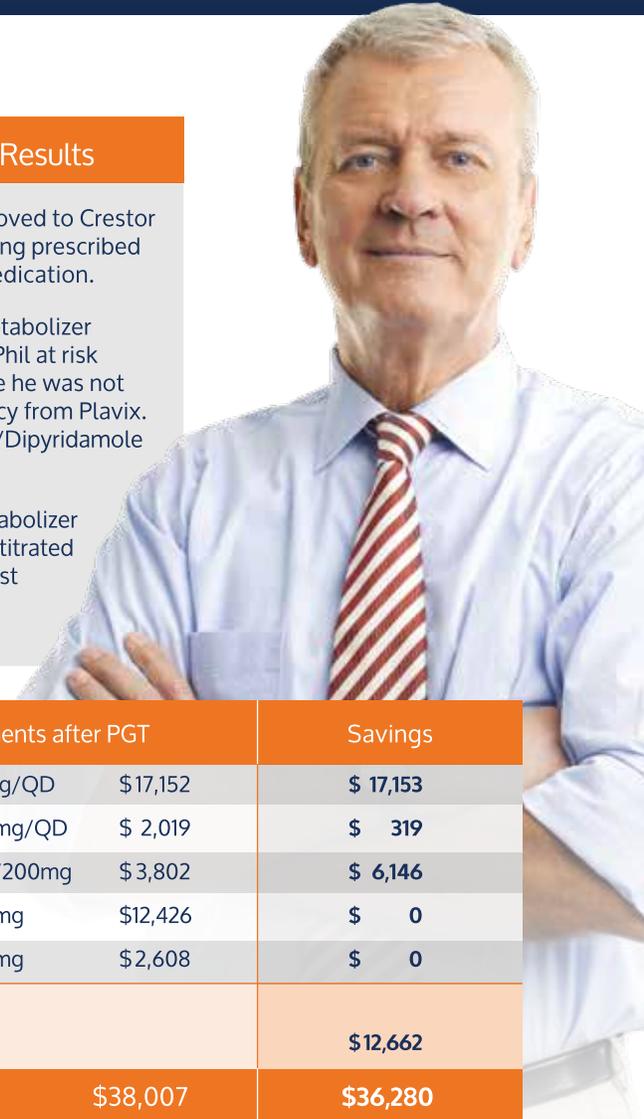
PGT, an affordable pharmacogenetic test, identifies how Phil metabolizes drugs, resulting in a personalized, effective medication plan as well as a **48% decrease in pharmaceutical costs.**

Based on Phil's Results

KIF6 mutation • Moved to Crestor 20 mg, avoided being prescribed \$15,000 PCSK9 medication.

CYP2C19 • Poor metabolizer for Plavix, this put Phil at risk for another MI since he was not receiving the efficacy from Plavix. Changed to Aspirin/Dipyridamole 25mg/200mg.

CYP3A4 • Poor metabolizer for Xeljanz, dosage titrated down, cutting its cost in half.



Additional Medication Cost Per Year			Medication Adjustments after PGT			Savings
Xeljanz	5mg/BID	\$34,305	Xeljanz	5mg/QD	\$17,152	\$ 17,153
Lipitor	40mg/QD	\$ 2,338	Crestor	20mg/QD	\$ 2,019	\$ 319
Plavix	300mg/QD	\$ 9,948	Aspirin/ Dipyridamole	25/200mg	\$3,802	\$ 6,146
Abilify	20mg	\$12,426	Abilify	20mg	\$12,426	\$ 0
Cymbalta	30mg	\$ 2,608	Cymbalta	30mg	\$2,608	\$ 0
Current Yearly Cost		\$ 61,625				
PCSK9 additional		\$ 12,662				\$12,662
New Yearly Cost		\$74,287	Revised Yearly Cost		\$38,007	\$36,280

Annual savings of \$36,280 = 9,300% ROI for \$385, the cost of testing one person

Contact MyGenetx and we will prepare a custom cost analysis with specific recommendations so you can select the most suitable pharmacogenetic protocol for your members, and develop a customized implementation strategy that optimizes the dollars spent on prescription drugs.

FAQs

How is a specimen collected for personalized medicine?

It's an easy, non-invasive, oral saline-solution rinse that takes less than a minute to complete.

How long does it take to receive the results?

Results are ready 10-14 days after the lab receives the order.

What if the member's medication changes once the test is resultted? Does the test have to be administered again?

The test is a one-time test and it can be updated at any time if there is a change in medications including the addition of new prescriptions. The only reason a test would need to be readministered is if a new gene is added to the panel included in the current test.

Does personalized medicine conform to the Genetic Information Nondiscrimination Act (GINA)?

The exception under Title II, Sec. 202 (b)(2) allows an employer to acquire genetic information when genetic services are offered by the employer. The employee must provide written authorization. In addition, only the employee and the licensed health care professional providing the genetic services receive individually identifiable information concerning the results of the services. The employer may only receive the information in aggregate terms that do not disclose the identity of specific employees.

Here are the most common drug classes that can be optimized for safety and efficacy from the results of a genetic test. MyGenetx is currently testing more than 400 drugs that could benefit from the use of pharmacogenetics and is continuously adding more.

Specialty Drugs including Gleevec [®] , Enbrel [®] , Humira [®] , Sovaldi [®] , Harvoni [®] , Suboxone [®]	Angiotensin II Blockers Proton Pump Inhibitors Antiepileptics Pain Antidepressants Antipsychotics Opioids	NSAIDs Macrolide Antibiotics Antiarrhythmics Benzodiazepines Immune Modulators HIV Antivirals Prokinetics	Antihistamines CalciumChannel Blockers HMG CoA Reductase Inhibitors PDE-5 Inhibitors Oral Hypoglycemics
Black Box Drugs Statins Antiplatelets Beta Blockers			



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¹<http://www2.deloitte.com/content/dam/Deloitte/us/Documents/life-sciences-health-care/us-lshc-the-rising-tide-of-pharmacy-benefit-cost-and-complexity-final-122314.pdf> ²<http://www.cdc.gov/chronicdisease/overview/>

³<http://news.xerox.com/news/5th-Annual-Buck-Consultants-at-Xerox-Prescription-Drug-Benefit-Survey>

⁴<http://www.cdc.gov/workplacehealthpromotion/businesscase/reasons/productivity.html>

⁵<http://www.cdc.gov/nchs/fastats/drug-use-therapeutic.htm>