

The Impact of Adverse Drug Reactions

Even FDA-approved drugs are not always safe for everyone. Adverse drug reactions (ADR) are unintended harmful side effects of medication. They often result from a genetic variant that changes the way an individual responds to the drug.

WHY PGx TESTING?

Pharmacogenetic (PGx) Testing is one of our greatest assets in preventing ADRs. These tests analyze genetic information to predict how someone will respond to specific medications. This leads to more personalized medication plans, less risk from “trial and error” prescriptions, and reduced costs for patients and providers.

OUR PANEL OFFERINGS

Fulgent offers two panels available with a physician’s order:

- **PGx Focus Panel:**

Includes genes associated with drug metabolism with high-level evidence and clinically actionable guidelines.

- **PGx Comprehensive Panel:**

Includes genes associated with drug metabolism with high-level evidence and clinically actionable guidelines, in addition to genes with PharmGKB evidence of 2 or higher.



WHY LEARN ABOUT ADVERSE DRUG REACTIONS (ADR)?

- ADRs are a leading cause of morbidity and mortality in healthcare, causing approximately 100,000 deaths annually
- More than 2 million serious ADRs occur every year
- Nursing homes experience approximately 350,000 ADRs per year
- ADRs cause 1 out of 5 injuries or deaths per year to hospitalized patients



WHY ARE THERE SO MANY ADRs?

- Two-thirds of patients who visit a physician receive a prescription
- The risk of ADRs increases exponentially when a patient is on three or four medications



FINANCIAL COST OF ADRs

- ADRs cost approximately \$136 billion annually in the U.S.



DRUG INTERACTIONS & PREVENTABLE ADRs

- Drug interactions represent 3-5% of preventable in-hospital ADRs
- Drug interactions is the term used to describe two drugs interacting with each other



HOW WE CAN PREVENT ADRs

- Patients who take medications that cannot be easily monitored or don’t produce mild symptoms right away may benefit most from PGx testing. ¹
- Computerized prescription entry, bar coding systems, and digital record keeping have proven beneficial in reducing ADRs. ²

¹ ncbi.nlm.nih.gov/pmc/articles/PMC7355597

² fda.gov/drugs/drug-interactions-labeling/preventable-adverse-drug-reactions-focus-drug-interactions