

Table 1. Core pharmacist competencies in genomics

Foundational Genetics Concepts (FG)

- FG-1 Explain basic genetics concepts using appropriate nomenclature.
- FG-2 Recognize the combined impact of genetic, behavioral, social, and environmental factors in the manifestation of disease and drug response.
- FG-3 Identify drug- and disease-associated genetic variations that facilitate development of prevention, diagnostic, and treatment strategies.
- FG-4 Differentiate between the clinical diagnosis of disease informed by genetics and the identification of genetic predisposition to disease.
- FG-5 Assess differences in genetic testing technologies, including sequencing and genotyping.
- FG-6 Recognize the legal protections against discrimination based on genetic test results.

Clinical Pharmacogenomics (CP)

EPA Domain: Patient Care Provider

- CP-1 Identify pharmacogenomic test results that are relevant to a patient's care.
- CP-2 Interpret pharmacogenomic test results, including translating genotype to phenotype to drug therapy recommendation.
- CP-3 Determine the impact of genetic variation on pharmacokinetics and/or pharmacodynamics.
- CP-4 Identify medication-related problems that may be related to genetic variability, even when a pharmacogenomic test has not been done.
- CP-5 Recognize disease implications of pharmacogenomic test results and refer the patient to a genetics-trained healthcare provider when necessary.
- CP-6 Use family history to assess predisposition to disease and drug response.
- CP-7 Assess the quality and source of existing pharmacogenomic test results.
- CP-8 Distinguish between actionable and non-actionable pharmacogenomic test results using high-quality, evidence-based pharmacogenomics databases and clinical guidelines.
- CP-9 Integrate pharmacogenomic test results with other clinical variables to optimize medication therapy.
- CP-10 Recommend pharmacogenomic testing when appropriate.
- CP-11 Consider the cost, cost-effectiveness, and reimbursement issues relevant to pharmacogenomic tests and services.
- CP-12 Implement a pharmacogenomics-guided care plan in collaboration with the patient, caregivers, and other health professionals.
- CP-13 Document pharmacogenomic test results in the electronic health record.
- CP-14 Follow-up and monitor a pharmacogenomics-guided care plan.

EPA Domain: Interprofessional Team Member

- CP-15 Collaborate as a member of an interprofessional team as the pharmacogenomics expert.

EPA Domain: Population Health Promoter

- CP-16 Identify patient populations that may be most likely to benefit from pharmacogenomic testing.
- CP-17 Identify genetic variations that predispose patients to adverse drug reactions and modify therapy accordingly to mitigate the risk.
- CP-18 Recognize the differences in pharmacogenomic allele frequencies among ancestry groups to guide appropriate test selection and maximize the appropriate use of medications in a population.

EPA Domain: Information Master

- CP-19 Educate patients and professional colleagues on the benefits and limitations of pharmacogenomics to optimize drug therapy.
- CP-20 Use a culturally-sensitive approach that considers potential ethical concerns when counseling patients about pharmacogenomic test results.
- CP-21 Use evidence-based resources and pharmacogenomics information to advance patient care.

EPA Domain: Practice Manager

- CP-22 Oversee pharmacy operations that integrate pharmacogenomics for an assigned work shift.
- CP-23 Fulfill a medication order considering the clinical implications of pharmacogenomics.

EPA Domain: Self-Developer

- CP-24 Create a written plan for continuous professional development in clinical pharmacogenomics.
-