**Pharmacogenomics Certificate Program: Clinical Application of Pharmacogenomics Part II**

Release Date: September 20, 2018

Expiration Date: September 20, 2021

Activity Type: Application-based

**Accreditation for Pharmacists**

The American Society of Health-System Pharmacists is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education.

**Target Audience**

This continuing pharmacy education activity is intended for pharmacists seeking to expand their knowledge and skills in using and implementing pharmacogenomics in their practice to ultimately improve medication use.

**Learning Objectives and Schedule of Activities**

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| CE Information | Title, Description, and Learning Objectives |
| ACPE #: 0204-0000-18-747-H01-PCredit Hours: 2.0Activity Type: Application-based | **Title: Clinical Application of Pharmacogenomics Part II**This activity covers the clinical application of pharmacogenomics in psychiatry, neurology, infectious disease, transplant, cystic fibrosis, and in allopurinol therapy.**Faculty:** * **Gillian Bell, Pharm.D.,** Mission Health, UNC Eshelman School of Pharmacy, Asheville, North Carolina
* **Cyrine-Eliana Haidar, Pharm.D., BCOP, BCPS,** St. Jude Children’s Research Hospital, Memphis, Tennessee
* **Laura B. Ramsey, Ph.D.,** Cincinnati Children’s Hospital Medical Center, University of Cincinnati, Ohio
* **Dyson T. Wake, Pharm.D., BCPS,** NorthShore University HealthSystem, Evanston, Illinois

**Learning Objectives:** * Describe the utility and considerations for pharmacogenomic testing in the selection and management of neuropsychiatric medications.
* Interpret evidence-based guidelines for C*YP2D6* and *CYP2C19* to guide antidepressant therapy, including selective serotonin reuptake inhibitors and tricyclic antidepressants.
* Apply *CYP2D6* and *CYP2C19* genotyping to individualize antidepressant dosing and selection.
* Describe patient populations where testing for *HLA-B\*15:02, HLA-A\*31:01*, or *CYP2C9* may be best used to guide therapeutic decision making.
* Recognize how the results for *HLA-B\*15:02* and *HLA-A\*31:01* may differ in presentation from those of *CYP2C9*.
* Propose evidence-based recommendations for patients with *HLA-B\*15:02, HLA-A\*31:01*, or *CYP2C9* genetic results considering antiepileptic therapy.
* Describe the utility of and considerations for pharmacogenomic testing in the selection and dosing of select antimicrobial agents.
* Interpret evidence-based guidelines to guide voriconazole therapy.
* Apply evidence-based guidelines to guide HIV drug selection.
* Interpret evidence-based guidelines for *CYP3A5* to guide tacrolimus dosing.
* Recommend dosing adjustments for azathioprine in solid organ transplant recipients based on *TPMT* and *NUDT15* polymorphisms.
* Describe the utility and considerations for pharmacogenomics testing in the treatment selection for cystic fibrosis patients.
* Discuss evidence-based recommendations for patients with *HLA-B\*58:01* genetic results considering allopurinol therapy.
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**Disclosure of Relevant Financial Relationships**

In accordance with the ACPE's and ACCME's Standards for Commercial Support, anyone in a position to control the content of an educational activity is required to disclose to the accredited provider their relevant financial relationships. In accordance with these Standards, all potential conflicts of interest have been resolved. *An individual has a* ***relevant financial relationship*** *if he or she (or spouse/domestic partner) has a financial relationship in any amount occurring in the last 12 months with a commercial interest whose products or services are discussed in the activity content over which the individual has control.*

As defined by ACCME, a **commercial interest** is any entity producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients. The Standards for Commercial Support do not consider providers of clinical service directly to patients to be commercial interests.

* **Henry “Mark” Dunnenberger,** Consultant:Veritas Genetics
* **All other planners, presenters, reviewers, and ASHP staff report no financial relationships relevant to this activity.**

**Methods and CE Requirements**

This online activity consists of a combined total of 8 learning modules. Pharmacists are eligible to receive a total of 18.25 hours of continuing education credit by completing all 8 modules within this certificate program.

Participants must participate in the entire activity and complete the evaluation to earn continuing pharmacy education credit. Follow the prompts online at the ASHP eLearning portal (<http://elearning.ashp.org>) to claim credit and view statements of credit within 60 days of completing the activity. Credits will be reported directly to CPE Monitor. To verify that you have completed the required steps and to ensure your credits hours have been reported to CPE Monitor, we encourage you to check your NABP eProfile account to validate your credits were transferred successfully before the ACPE 60-day deadline. After the 60 day deadline, ASHP will no longer be able to award credit for this activity.

**System Technical Requirements**

Courses and learning activities are delivered via your Web browser and Acrobat PDF. Users should have a basic comfort level using a computer and navigating websites.

View the [minimum technical and system requirements](http://elearning.ashp.org/get-started) for learning activities.

**Acknowledgements of Support**

This activity was planned and developed by The American Society of Health-System Pharmacists.