

## PERSONALIZED MEDICINE CORNER

## Landscape of Pharmacogenomic Testing

The UF Health Personalized Medicine Program recently conducted an analysis of services and facilities provided by commercial laboratories offering panel-based pharmacogenomic testing. Evaluation criteria were developed to identify companies that provide a comprehensive, evidence-based, and reasonably priced pharmacogenomic panel for use in a clinical setting. At minimum, such a panel should include testing for *CYP2C19*, *CYP2D6*, and *TPMT*. Ideally, *CYP2D6* testing should include copy number variant assessment to accurately identify *CYP2D6* ultra-rapid metabolizers. In addition, thresholds of cost <\$500 and turnaround time ≤7 days were set for reasonable cost and return of results, respectively, in a clinical environment.

Data on these criteria were available from 9 commercial laboratory companies. Of these, 7 labs tested the genes of interest, 5 companies were priced lower than \$500 per panel (range = \$250 to \$1500), and the turnaround time for test results was ≤7 days (range = 1 day to 21 days) for 4 of 9 laboratory companies. Six of 9 companies reported testing for copy number variation with *CYP2D6*. The remaining 7 companies stated their tests were for research purposes only or did not respond.

Four companies met all criteria listed above: Assurex, Genelex, PGXL, and Rxight (MD Labs). Notably, although not included in our original criteria, all of these laboratories offer test interpretation services for clinicians.

While this panel-based testing provides information about genes that affect response to multiple drugs over time, the downside is that there is not currently a means for reimbursement by most payors, requiring that the patient pay for the test out of pocket in some cases.

## References:

1. Johnson JA, Burkley BM, Langae TY, et al. Implementing personalized medicine: development of a cost-effective customized pharmacogenetics genotyping array. *Clin Pharmacol Ther.* 2012 Oct;92(4):437-9.

The Personalized Medicine Corner appears quarterly and is provided by the [UF Health Personalized Medicine Program](#). To find out more or submit a question, email [PMP-HELP@ctsi.ufl.edu](mailto:PMP-HELP@ctsi.ufl.edu).

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Published by the UF Family Practice Residency Program and the Departments of Community Health & Family Medicine and Pharmacotherapy & Translational Research

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