



COMMUNITY PHARMACY FOUNDATION
COMPLETED GRANT SYNOPSIS

Collaborative Management of Pharmacogenomic Interactions in a Community Pharmacy

David Bright, PharmD, David Kisor, BS, PharmD, Jeff Talbot, PhD
Ohio Northern University, Ada, OH

Objectives	
<ol style="list-style-type: none"> 1) Provide education to local physicians to describe the need for genetic testing to identify drug-genome interactions 2) Determine if pharmacist-directed medication therapy management (MTM) can help to identify drug-gene interactions between clopidogrel and <i>CYP2C19</i> 3) Track physician receptiveness to a pharmacist’s recommendation 	
Methods	
Design	<ul style="list-style-type: none"> • Proof-of-concept pilot study of the ability of pharmacists to provide pharmacogenetic (PGt) testing in a community pharmacy and facilitate drug therapy adjustments following interpretation of PGt data through an MTM encounter
Study endpoints	<ul style="list-style-type: none"> • Number of patients who required pharmacist intervention for PGt-based antiplatelet therapy selection • Physician responsiveness to formal PGt-based medication adjustment requests by a pharmacist • Number of patients who received PGt-based antiplatelet optimization following an MTM encounter
Results	
<ul style="list-style-type: none"> • One physicians group, the primary cardiology group for two of the four locations of the study, was educated at baseline regarding PGt and clopidogrel use (described hereafter as “affiliated” physicians). • Thirty patients were seen by pharmacists for antiplatelet therapy optimization based on PGt testing. One patient provided a sample with too little DNA yield and was excluded from the study. • Five of 29 patients (17.2%) demonstrated PGt status that was appropriate for a switch from clopidogrel to an alternative antiplatelet drug (prasugrel/ticagrelor) based on current practice guidelines. Of the five patients, two were switched to a more optimal antiplatelet agent, while three were not. Affiliated physicians authorized one of the switches to a more optimal agent and refrained from switching one other patient. • Three patients, all from affiliated physicians, demonstrated PGt status that was appropriate for a switch from prasugrel/ticagrelor to clopidogrel based on current practice guidelines. Of the three patients, two had antiplatelet therapy discontinued, and one patient remained on prasugrel. 	
Conclusion	
<p>Pharmacists involved in the study were able to facilitate antiplatelet therapy adjustments based on PGt data. Additionally, antiplatelet therapy adjustments were made regardless of baseline antiplatelet drug selection (clopidogrel, prasugrel, or ticagrelor) based on clinical/PGt appropriateness. In some cases, the adjustment led to discontinuation of antiplatelet therapy, which may often be clinically appropriate following a sufficient time interval of antiplatelet use. In other cases, the adjustment in therapy led to optimization of antiplatelet use. Whereas prior literature largely revolved around PGt management in the inpatient setting, this project supports the involvement of the community pharmacist in making PGt-based recommendations through the MTM process. Further research may be warranted to investigate more specific opportunities where the community pharmacist may be helpful in promoting PGt-based interventions.</p>	

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