**Implementation of a Pharmacogenomics Best Practice Advisory for Clopidogrel and CYP2C19
through a Community Pharmacy within an Integrated Healthcare System**

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**Background:** Best practice advisories (BPAs) are electronic alerts that help guide clinicians with evidence-based decision making. BPAs focused on pharmacogenomics are important to implement because patients with a documented polymorphism may require optimization of medication therapy to avoid predicted toxicity or to ensure an adequate response to therapy. Community pharmacists are equipped and knowledgeable to assist the healthcare system in improving quality of care with related to medication therapy.

**Objective:** The primary objective of this project is to implement a BPA in the community pharmacy setting for CYP2C19 intermediate and poor metabolizers who have been prescribed clopidogrel. The secondary objective is to quantify the frequency of BPA visibility and to characterize community pharmacists’ interventions in response to the information contained within the BPA.

**Methods:** This project was conducted at four community pharmacies within an integrated health system. For the first objective, community pharmacists were trained regarding the BPA prior to launch. Tools were created to support BPA implementation, including an overview of clopidogrel pharmacogenomics, a workflow process and documentation instructions. For the secondary objective, data was extracted from EPIC – UNC’s electronic health record – if it was part of the BPA for clopidogrel and CYP2C19 from December 1, 2021 to February 28, 2022. The inclusion criteria were patients aged 18 years or older who had a new prescription for clopidogrel, had undergone a percutaneous coronary intervention (PCI) placement after an acute coronary syndrome (ACS), and CYP2C19 testing with a genomic indicator documenting an intermediate or poor metabolizer status. Patients were excluded if they are aged 18 years or younger, prisoners or pregnant. Documentation was evaluated to include number of times the best practice advisory fired (triggered an alert), recommendations made to prescribers or members of the patient care team and number of recommendations accepted. Descriptive statistics was used to analyze data.

**Preliminary Results:** The best practice advisory pharmacists’ acknowledgement reasons included: *ADE ruled out, Rationale for use documented in chart, Spoke with provider/rationale documented, unable to speak with provider and Other (see comments).* Data was extracted via EPIC @UNC Reporting system onto a password-protected spreadsheet and was auto-populated into pharmacy location, user (pharmacist), prescription number and two BPA identifiers – “Acknowledge/Override Warning” and “Cancel BPA”. The BPA fired a total of 35 times across the community pharmacies – 51% in the “Acknowledge/Override Warning” column and 49% in the “Cancel BPA” column. This did include multiple firings one prescription. Four recommendations from pharmacists’ was made with no change in the clopidogrel prescription.

**Conclusion:** This pilot project analyzed the visibility of a best practice advisory alert and pharmacists’ intervention. There were limitations within the secondary objective that included: multiple pharmacists intervening on the same prescription, challenges with the ability to gather medical information, and loss of EPIC chat details to the providers. Our next steps will be to work with the IT and analytics teams to utilize a more concise data extraction tool (Slicer Dicer), focus on one community pharmacy, and updating the pharmacists training workflow processes.