

## POSTER ABSTRACTS

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### Evaluating Care Delivery 25

#### **Improving Laboratory Monitoring at Initiation of High Risk Drug Therapy: A Randomized Practical Clinical Trial**

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**Background:** Monitoring laboratory parameters is indicated before and during therapy for drugs with adverse events related to lack of monitoring, but medical literature suggests that monitoring of these drugs is performed less often than recommended. We hypothesized that a computerized tool that alerts pharmacists to missing laboratory orders would be effective in increasing the proportion of patients receiving laboratory monitoring at initiation of high-risk drug therapy.

**Methods:** We conducted a controlled trial in which we randomized the 375,000 members of Kaiser Permanente of Colorado to either have prescribing and laboratory test information sent electronically to the Kaiser Permanente of Colorado Clinical Pharmacy Call Center (CPCC) (intervention) or to receive usual care (control). For 18 high-risk drugs, CPCC pharmacists received reports of drug dispensings plus drug-specific laboratory tests for which either the test was not a) ordered or b) had not been completed by the patient. The CPCC pharmacists contacted patients to remind them about laboratory tests their providers had ordered and/or they ordered the appropriate test(s). Laboratory results ordered by the CPCC pharmacists were returned to them for evaluation. A guideline for managing abnormal laboratory results was developed and approved. Standardized scripts were used to notify patients' providers about recommended actions.

**Results:** Results from the first six months document 1854 (76.7%) drug dispensings with laboratory monitoring in the intervention group compared to 1630 (67.8%) dispensings with laboratory monitoring in the control group ( $p < 0.01$ ). Abnormal results were documented in 10% of laboratory tests performed in the intervention group. Allopurinol (15.7%) and amiodarone (12.8%) had the highest percentages of abnormal patient test results.

**Conclusions:** This study demonstrates that coupling research, information systems and physicians' and pharmacists' clinical knowledge and skills is effective in improving laboratory monitoring of high-risk drugs.