Impact of Provider Education on High Risk Clinic Patient Utilization of Outpatient Pharmacy Services within a Community Teaching Hospital

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Background
New Hanover Regional Medical Center (NHRMC) has implemented an algorithm to identify high risk inpatients who are offered use of the hospital's outpatient pharmacy services upon discharge. Use of these pharmacy services has been shown to reduce readmissions by approximately 50 percent. The Centers for Medicare & Medicaid Services (CMS) is currently working to implement a process for targeting high risk patients in primary care clinics in an effort to optimize healthcare in this setting.

Research Objective
The objective of this study is to develop a provider algorithm for identifying primary care clinic patients who meet criteria indicating high risk for admission. Patients identified will be referred to NHRMC outpatient pharmacy services to improve continuity of care and maximize patient benefit from pharmacy services. Impact of provider utilization of high risk algorithm to refer patients to outpatient pharmacy services will be determined.

Methodology
High risk patients were defined as meeting at least one of the following criteria: hospital admission or emergency department visits at least two times in the past year or currently prescribed selected high risk medications (including insulin or any anticoagulant). Outpatient clinic providers, nurses and support staff were educated over a 2 month period on identification of high risk patients to refer to the NHRMC outpatient pharmacy services. Outpatient pharmacy services include: prescription processing, medication therapy management (MTM), medication review by the transitions of care pharmacist following hospital discharge, and medication assistance including discount cards, vouchers, and 340B pricing.

High risk and any Coastal Family Medicine (CFM) clinic patient who utilized the NHRMC outpatient pharmacy services over a baseline two month period, September 1 - October 31, 2015, were determined. Primary outcome was the change in number of high risk CFM clinic patients who utilized outpatient pharmacy services over 2 month time periods, September 1 to October 31, 2015 compared to January 1 to February 29, 2016. Secondary outcomes included utilization of pharmacy services by all clinic patients, barriers to use of pharmacy services, and patient demographics including age, insurance type and acute/chronic medications.

Results
Over the 2 month study periods, number of high risk patients who utilized outpatient pharmacy services increased from 46 to 55 patients. Number of both high and low risk CFM patients who utilized outpatient pharmacy services increased from 70 to 94 patients. The number of prescriptions from the total amount of CFM patients increased from 244 to 326 prescriptions. Use of medication assistance resources for prescription payment increased from 149 to 206 prescriptions. Providers reported referral of patients for prescription processing (100%) and medication assistance (75%) most often. The most common barriers for patients utilization of outpatient pharmacy services were comfort with home pharmacy and transportation.

Conclusion
This study demonstrated the successful implementation of a provider based algorithm to identify high risk patients within a clinic setting. Both high and low risk patients increased utilization of outpatient pharmacy services. This improved both patient and provider access to NHRMC outpatient pharmacy resources and improved continuity of care.