

Title: Examining the impact of pharmacy interns as clinical pharmacist extenders

Purpose: Pharmacy interns have advanced training and education which allows them to practice as clinical extensions of the pharmacists. Interns work along side a pharmacist to complete clinical interventions such as intravenous to oral (IV to PO) medication conversions, renal dosing adjustments, anticoagulation therapy monitoring, and parenteral nutrition management, which have all been shown to increase patient care. This study aims to demonstrate that utilizing interns in this role has increased the number of interventions made by the pharmacy.

Methods: This study is a retrospective chart review that will characterize the impact of pharmacy interns being utilized as pharmacist clinical extenders in an acute care program. Interventions placed by both pharmacists and pharmacy interns between March 1, 2019 and December 1st, 2019 will be reviewed. The primary objective is to compare the number of clinical interventions placed by a pharmacist or pharmacy intern each day that an intern staffs versus days that are not staffed by an intern during the study period. Secondary outcomes are the total number of interventions placed by interns, the number of intern placed interventions that led to a change in patient therapy, and the number of each type of intervention placed by an intern. The primary outcome will be evaluated using the independent T-Test at 80% power and an alpha of 0.05. Secondary outcomes will be explored using descriptive statistics.

Results: This study collected a total of 81 days, 55 of these days were staffed by interns. Days that were staffed by intern saw averaged a total of 203 interventions while days that were not staffed by an intern averaged 178 interventions ($P = 0.0046$). Interns placed 1403 interventions during the study. Interns recommended a change in therapy in 535 of the interventions, and 57% of these led to a change in therapy. Interns recommended against altering therapy in 868 interventions. The four most common interventions placed by interns were, in order of most common, intravenous to oral conversion, anticoagulation monitoring, renal medication adjustment, and parenteral nutrition management.

Conclusions: The utilization of interns as clinical pharmacist extenders increased the average number of pharmacy interventions, and the increase we saw was equivalent to the number of interventions placed by 2 pharmacists. Over 800 of the interventions that were placed were against a change in therapy, these interventions represent a large potential time savings for pharmacists as these are patients who can be triaged until after more pressing interventions. Interns are also successfully assessing and recommending appropriate changes in therapy which is seen by the over 50% agreement by pharmacists to change the patient's therapy.