Impact of Pharmacist Services Targeting Medication Adherence of Phosphate Binders in a Dialysis Setting

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Background

The integration of clinical pharmacists into multidisciplinary teams has repeatedly shown benefit in varying settings, including the dialysis setting and in the management of chronic kidney disease (CKD).[1,2,4,6-7,9-10,12] Patients with kidney failure have extensive medication regimens, complicated comorbid disease states, and require thorough laboratory monitoring. CKD patients are at significant risk for medication-related problems (MRPs) and nonadherence secondary to these complications, among others; which can ultimately lead to further deterioration of the kidneys. Because clinical pharmacists are uniquely qualified to help manage the complex medication therapies associated with kidney disease, the Nephrology and Ambulatory Care Practice and Research Networks of the American College of Pharmacy (AACP) endorse pharmacist integration into the care teams for CKD patients.[5]

Study	Findings
Implementation of a Clinical Pharmacist in a Hemodialysis Facility: A Quality Improvement Report[3]	Analysis of the impact of clinical pharmacist performing medication reconciliation and reviews • >1400 medication-related problems (MRP) identified in 157 patients (9/patient) • Significant improvement in relevant lab values • Projected $447,355 saved
A Pharmacy-Based Medication Reconciliation and Review Program in Hemodialysis Patients: a Prospective Study[8]	Analysis of type and number of medication discrepancies and MRPs discovered during monthly pharmacy-based medication reconciliation and review program • 376 discrepancies (3.1/patient) and 64 MRPs (0.5/patient) identified in 93 patients
New Models of Chronic Kidney Disease Care including Pharmacists: Improving Medication Reconciliation and Medication Management[11]	Analyzed impact of pharmacy involvement in medication reconciliation and medication therapy management in CKD patients • Lower rates of decline in GFR • Reduced mortality • Fewer hospitalizations • Fewer hospital days

Proposed Pharmacist Roles

- Routine medication reconciliation
- Medication reviews with medication related clinical interventions
- Medication education emphasizing importance of adherence
- Monitoring lab values
- Advancing protocols, policies, and guidelines
- Expansion of bedside medication delivery service *(Meds-2-Beds)*
- Medication assistance for uninsured and underinsured patients
- Optimization of the Dialysis Bundle

Methods

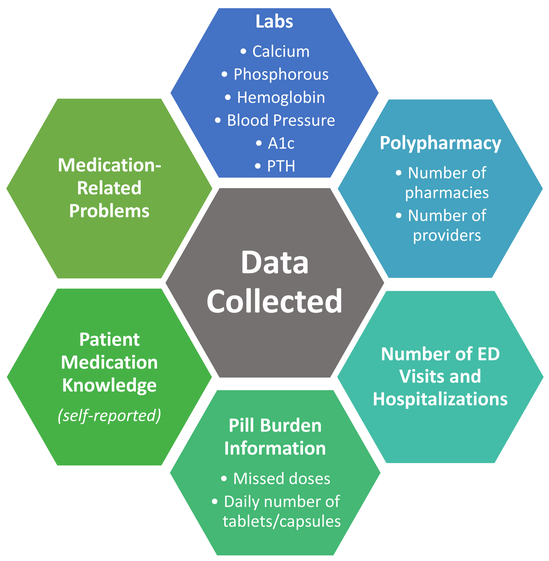
Phase I: Development *August - October*

Phase II: Implementation *November - January*

Phase III: Data Analysis *February - May*

Phase I: Development

- Background research and meetings with key stakeholders
- Develop data collection methods utilizing clinical support software spreadsheet
- Develop standardized documentation for interventions
- Collect retrospective data



Phase II: Implementation

- Utilize standard data collection spreadsheet for all interventions made in the dialysis setting
- Implement dialysis pharmacist role

Pharmacy and Therapeutics Committee approval → 8-Week Pilot Phase → Implement pharmacist roles targeting identified areas of impact → Data Collection
- Interventions
- Provider and nursing feedback

Phase III: Data Analysis

Assess
- Trends
- Overall feedback
- Utilization
- Cost effectiveness

Compile
- Finalize recommendations

Share
- Present findings to stakeholder groups

Objectives

Primary Objective: To evaluate the impact of pharmacist services in a dialysis setting targeting medication adherence of phosphate binders on serum phosphate levels

Secondary Objectives:

- Assess for appropriate medication reconciliation process
- Monitor clinically relevant vitals and lab values (blood pressure, calcium, phosphorous, parathyroid hormone)
- Assess medication fill history
- Identify areas of improvement for medication refills
- Identify potential barriers to medication compliance
- Assess for appropriate medication education
- Assess impact of expanding Meds-2-Beds service for dialysis patients
- Measure prescription capture through retail services
- Evaluate opportunities to simplify medication regimens and avoid polypharmacy
- Assess opportunity for optimization of the current Dialysis Bundle

Discussion

As extensively demonstrated in current literature, clinical pharmacists can have a substantial impact on the care of dialysis patients at St. Peter's Health. With the eventual relocation of the dialysis services nearer to the inpatient pharmacy, there will be increasing opportunities for pharmacist involvement in the dialysis setting. This is expected to positively affect patient care in a variety of ways. This prospective service development project will involve working collaboratively with registered nurses, social workers, and the nephrologist to identify areas of the greatest impact. Throughout the initial pilot phase, the pharmacist will collect supporting data to demonstrate improvements in medication adherence; promotion of medication optimization; and increased provider, nursing, and patient satisfaction. Investigating the feasibility of expanding the Meds-2-Beds service will also allow more patients to benefit from the convenience of prescription delivery and thorough medication education.

Author Disclosures

Authors of this presentation have the following to disclose concerning possible financial personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation: Astrid Trapp: Nothing to Disclose, Shayla Barraclough: Nothing to Disclose, Starla Blank: Nothing to Disclose, Chad Coulter: Nothing to Disclose, Shea Fanning: Nothing to Disclose.

References