IMPACT OF PHARMACIST SERVICES TARGETING MEDICATION ADHERENCE OF PHOSPHATE BINDERS IN A DIALYSIS SETTING

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DISCLOSURES

- **IRB Status:** Not Required
- **Co-Investigators:**
  - Shayla Barraclough, PharmD, BCPS, BCPPS
  - Starla Blank, PharmD, BCPS
  - Chad Coulter, PharmD
  - Shea Fanning, PharmD, BCPS
- **Conflicts of Interest:** None
- **Project Sponsorship:** None

FACILITY: ST. PETER'S HOSPITAL

- 123-bed, non-profit, rural community hospital
  - Serves five counties (~97,000 people) in southwestern Montana
- Several unique services offered, including dialysis
  - Outpatient and inpatient hemodialysis
  - Peritoneal dialysis
  - Home hemodialysis
  - Post-transplant care



BACKGROUND

- Patients with kidney failure require extensive medication regimens, increasing their risk for medication-related problems and non-adherence
- Several studies have shown benefit of clinical pharmacists working with hemodialysis and CKD patients[1,2,4,6-7,9-10,12]
- The Nephrology and Ambulatory Care Practice and Research Networks of the American College of Pharmacy support dialysis pharmacists[5]

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

Enhance medication history process	Monitor relevant vitals and lab values	Assess medication fill history	Evaluate medication refills
Assess barriers to medication compliance	Improve medication education	Expand Meds-to-Beds services	Estimate prescription capture
	Evaluate polypharmacy	Optimize current Dialysis Bundle	

METHODS

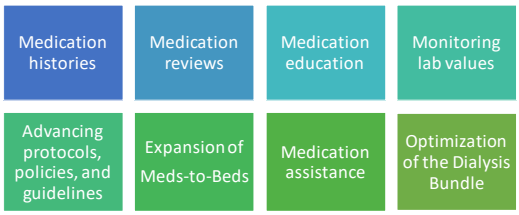
- Prospective, single-center study
- Duration: August 2024 to May 2025
- All dialysis patients were included
- Data for study objectives was tracked in Excel spreadsheet
- Interventions made by the pharmacist were tracked utilizing Sentri7



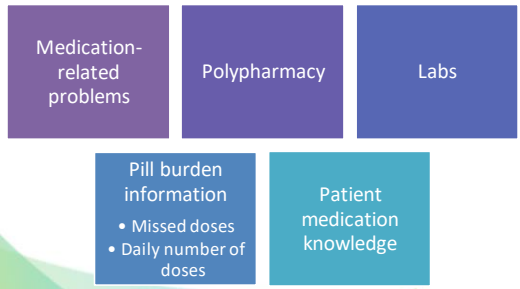
PHASE I: DEVELOPMENT

- Background research and meetings with key stakeholders
  - Registered nurses, social workers, nephrologist
- Develop data collection methods utilizing Sentri7 and a spreadsheet
- Develop standardized documentation for interventions
- Collect retrospective data

PROPOSED PHARMACIST ROLES

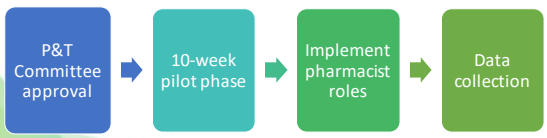


RETROSPECTIVE DATA COLLECTED



PHASE II: IMPLEMENTATION

- Implement dialysis pharmacist role
  - November 2024 – January 2025
- Utilize standard data collection spreadsheet for all interventions made in the dialysis setting



DATA COLLECTED

Sentri7 Interventions

- Lab monitoring
- Medication history
- Medication education
- Medication intervention
- Polypharmacy minimization
- Meds-to-Beds

Excel Spreadsheet Data

- Labs
- Initial medication history discrepancies
- Pharmacies utilized
- Allergy clarifications
- Patient-reported adherence and medication knowledge
- Miscellaneous interventions

PHASE III: DATA ANALYSIS

Assess

- Trends
- Overall feedback
- Utilization
- Cost effectiveness

Compile

- Finalize recommendations

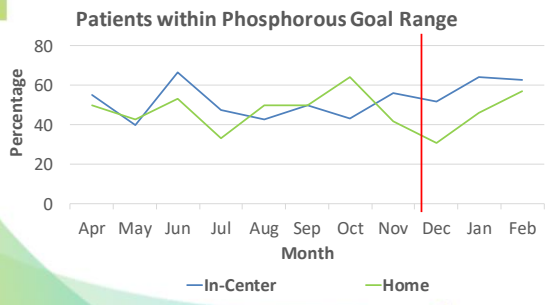
Share

- Present findings to stakeholder groups

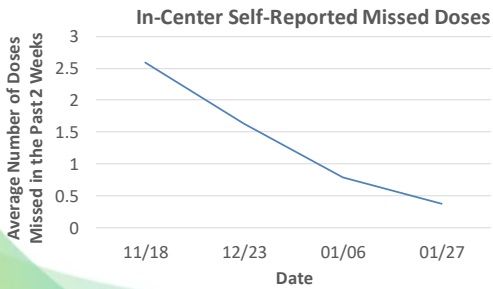
RESULTS: INTERVENTIONS

- Total interventions: 523
  - Sentri7: 432
    - Lab monitoring
    - Medication history
    - Medication education
    - Medication intervention
    - Polypharmacy minimization
    - Meds-to-Beds
  - Excel: 91 miscellaneous interventions

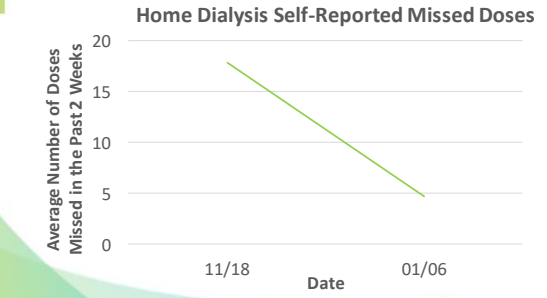
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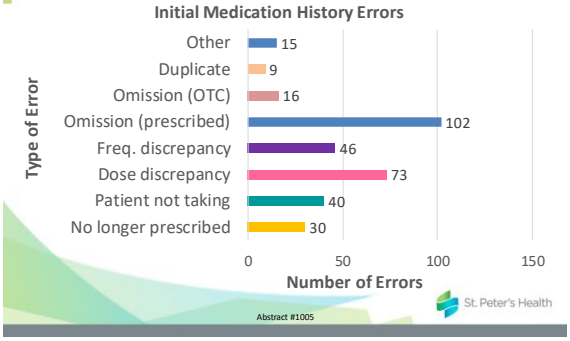
RESULTS: PRIMARY OBJECTIVE



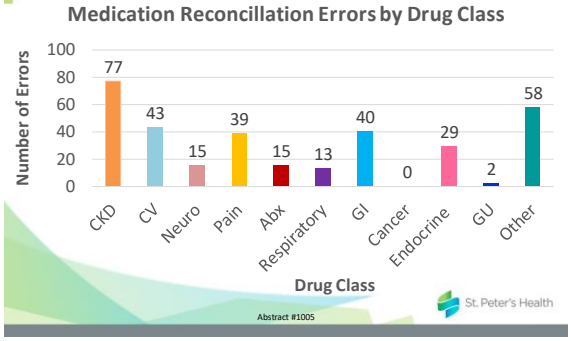
SECONDARY OBJECTIVES: MEDICATION HISTORY PROCESS

- 42 initial medication histories completed
  - 331 discrepancies corrected
    - 7.7 errors per patient medication list
  - 20 minutes per medication history
    - 840 minutes (14 hours)
- Updated routinely throughout rest of implementation period

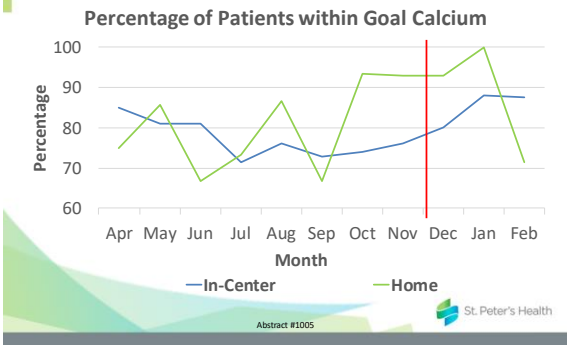
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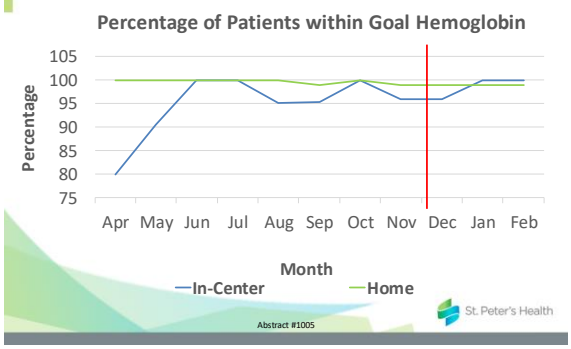
SECONDARY OBJECTIVES: MEDICATION HISTORY PROCESS



SECONDARY OBJECTIVES: CALCIUM LEVELS



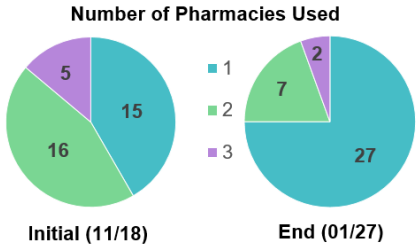
SECONDARY OBJECTIVES: HEMOGLOBIN LEVELS



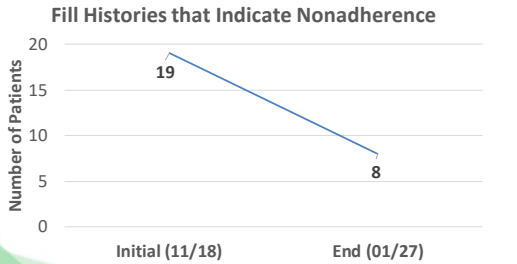
SECONDARY OBJECTIVES: MEDS-TO-BEDS SERVICES

- 97 instances of filling and delivering medications to patients
  - 25 minutes/script
    - 2425 minutes (40.4 hours)

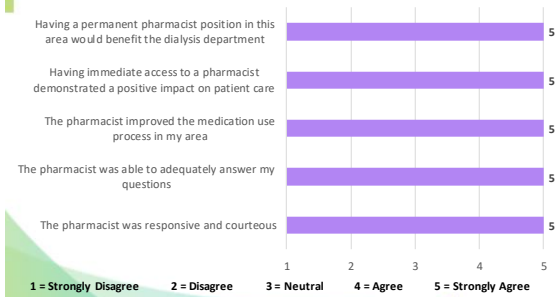
SECONDARY OBJECTIVES: POLYPHARMACY



SECONDARY OBJECTIVES: MEDICATION REFILLS



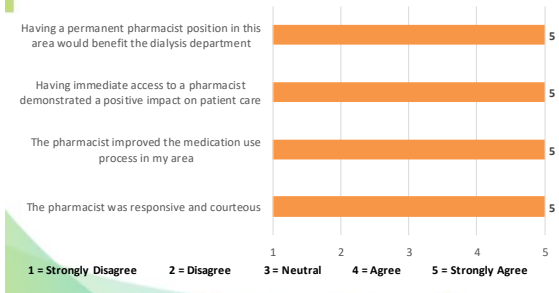
SECONDARY OBJECTIVES: NURSING SURVEY RESULTS



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- "I think it has been wonderful to have an onsite pharmacist to answer staff and, more importantly, patients' questions about their meds. The pharmacists have been helpful for our nephrologist in taking orders for medications and checking through patients' medications during rounds and as needed. They are very needed on dialysis!"
- "Education for the patients and ease of prescription refills was the best it's been."
- "Love having a pharmacist here!... They've been so good with really reconciling our patients' med lists - calling pharmacies and really getting the low down on what they are and aren't taking..."

SECONDARY OBJECTIVES: NEPHROLOGIST SURVEY RESULTS



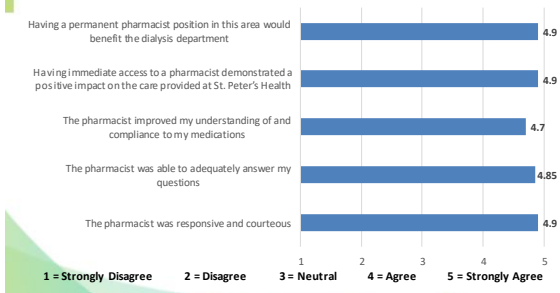
SECONDARY OBJECTIVES: NEPHROLOGIST SURVEY RESULTS

"Pharmacist impact on dialysis center:

- Improved patient medication compliance
- Improved medication reconciliation reducing drug errors
- Reduced medication costs
- Proactive in starting/designing improvement initiatives
- Provided education for staff and patients concerning medications
- Seamlessly have become part of the dialysis team
- Respectful and caring for the patients

Chad and Astrid have been an amazing addition to the dialysis unit."

SECONDARY OBJECTIVES: PATIENT SURVEY RESULTS



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- "Being in dialysis is sometimes very difficult in trying to balance all the different drugs we take and the effect they have on one another. Since this seems to be always changing, having access to a pharmacist on a regular basis would be a benefit to all."
- "I felt confident in receiving and managing my medication because of the pharmacist interactions. They were able to clear up and help with several issues I was having with my medications…"
- "They have been so helpful and caring. This has made my life so much better and never has a pharmacist gone over and above like them. So grateful for them!! They are the best around."

DISCUSSION

- Limitations
  - Duration of implementation phase
  - Home dialysis schedule
  - Secondary objectives
    - BP, A1c, PTH
    - Pill burden
  - Insurance contracts
  - Patient-reported adherence

DISCUSSION

Intervention	Number of Interventions	Soft Cost Savings/ Intervention	Total Soft Cost Savings/ 10-week period	Total Soft Cost Savings/ Year
Lab Monitoring	10	$153	$1,530	$7,956
Medication History	88	$153	$13,464	$70,013
Medication Education	20	$153	$3,060	$15,912
Medication Intervention	217	$153	$33,201	$172,645
Polypharmacy Minimization	9	$153	$1,377	$7,160
Total	**344**		**$52,632**	**$273,686**

DISCUSSION

- $273,686 saved/year based on 40hr/week
  - Pharmacist salary: $65/hr
  - ROI for FTE:
    - ($273,686 - $135,200)/($135,200) x 100% = 102.4%
- $52,632 saved/10-week period = $52,632/400 hours
  - Pharmacist salary: $65/hr
  - ROI for 16 hours/week (832 hr/year):
    - ($109,475 - $54,080)/($54,080) x 100% = 102.4%

DISCUSSION

- Nursing Time Saved: ~52 minutes/day
  - Medication histories: 35.2 minutes/day
    - 1760 minutes (29.3 hours) total
  - Medication deliveries: 11.6 minutes/day
    - 116 deliveries x 5 minutes each = 580 minutes (9.7 hours) total
  - Miscellaneous interventions: 5.1 minutes/day
    - 255 minutes (4.3 hours) total

CONCLUSION

- Implementation of a pharmacist in the dialysis unit improved care provided at SPH
- Significant impacts on medication history accuracy, medication compliance, and polypharmacy minimization

NEXT STEPS

- Present results to stakeholder groups
- Evaluate permanent pharmacist position on dialysis unit
  - Full-time versus part-time
- Consider more expansive role
  - Pharmacist-managed anemia

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Abstract #1005

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QUESTIONS?

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Abstract #1005

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