OPTIMIZING CARDIAC CARE: IMPLEMENTING AN OUTPATIENT CARDIOLOGY PHARMACIST TO ENHANCE PATIENT OUTCOMES AND MEDICATION MANAGEMENT FOR CARDIOVASCULAR PATIENTS

Jordan Hardrick, PharmD
PGY1 Pharmacy Resident
St. Peter's Health - Helena, MT
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DISCLOSURE STATEMENT

- IRB status: exempt
- Co-investigators:
  - Kaity Deaton, PharmD, BCPS
  - Pamela Melton, PharmD, BCACP, CPP
  - Julie Petre, PharmD, BCPS
- Conflicts of interest: none
- Project sponsorship: none

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ST. PETER'S HEALTH (SPH)

- Located in Helena, Montana
- SPH serves the medical needs of a 5 county region (97,000 residents)
  - St. Peter's Medical Group is the associated outpatient clinic and consists of multiple specialties
  - SPH Cardiology Clinic includes 2 board certified cardiologists and 1 nurse practitioner



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BACKGROUND

- Currently at the SPH Cardiology Clinic, the average time for a patient to be scheduled with a provider is ~ 2 months
- Interest has been expressed in establishing a pharmacist role in the SPH Cardiology Clinic to assist with the medication management of patients with cardiovascular diseases
- Primary literature has demonstrated the benefit of a pharmacist working in a cardiology clinic as evidenced by the PHARM-CHF study and several other randomized controlled trials[1-8]

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PURPOSE

- The purpose of this project is to implement a pharmacist in the SPH Cardiology Clinic and evaluate the impact on patient outcomes, medication management, patient education, patient access, and cardiology provider time savings

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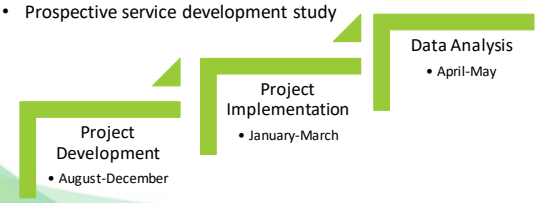
OBJECTIVES

- The primary objective of this study is to assess the effectiveness of pharmacist services targeting improved patient outcomes through medication titration, and patient education in the cardiology setting.
  - Secondary objectives include:
    - Identify the total number of medication related interventions made
    - Evaluate total time savings to cardiology providers
    - Assess any changes in the time to patient follow-up
  - Tertiary objective: Identifying next steps for permanent pharmacist implementation in the SPH Cardiology Clinic

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METHODS

Study Design:
- Prospective service development study



PROJECT DEVELOPMENT

- Key stakeholder identification
  - Conversations with active stakeholders
- Collaborative Practice Agreement (CPA)
  - A CPA was created in agreeance with the cardiology providers and pharmacists expected to staff the clinic
  - The CPA focused primarily on heart failure using guideline-directed medication therapy (GDMT)
    - Intentionally utilized broad verbiage to allow growth for the position

PROJECT IMPLEMENTATION

8 Week Pilot Phase	Implementing Pharmacists Roles	Prospective Data Collection
• Pharmacist staffed Monday-Friday • Majority staffed by the resident • Utilized telephone and in-person appointments • Warm hand-offs for patient introduction	• Initially, screened scheduled patients daily • Providers then identified patients for medication management and/or follow-up • Support staff learned how to utilize pharmacist	Microsoft Excel spreadsheets to document: • Intervention type • Medication management • Pharmacist time spent • Clinically relevant information

DATA ANALYSIS

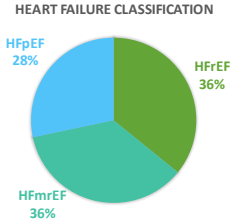
- Analyze and interpret trends in documented data
- Evaluate the effectiveness of the pharmacist position:
  - Number of patients with medication management provided by pharmacist to achieve GDMT
  - Time savings to cardiology providers
  - Patient access
  - Utilization of a pharmacist in the SPH Cardiology Clinic

RESULTS

113 total recorded interventions focused on:
- Medication Management
- Medication access
- Perioperative antithrombotic planning
- Patient education
- Drug-information questions

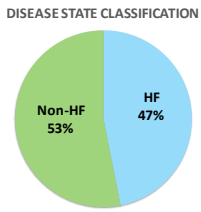
PATIENT CATEGORIZATION

53 of 113 (47%) of these interventions focused on CHF patients
- HFrEF (LVEF < 40%)
  - 19 interventions
- HFmrEF (LVEF 40-50%)
  - 19 interventions
- HFpEF (LVEF > 50%)
  - 15 interventions



PATIENT CATEGORIZATION

- Other interventions included a variety of other cardiovascular disease states including:
  - Atrial fibrillation
  - Coronary artery disease
  - Pericarditis
  - Essential hypertension
  - Unstable angina
  - Mixed hyperlipidemia



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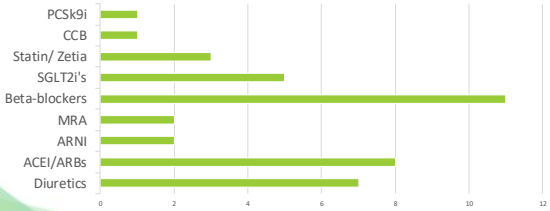
RESULTS: PRIMARY OBJECTIVE

- Pharmacist provided medication management targeting GDMT to improve patient outcomes
  - 43 medication management interventions
    - Both in-person and via telephone
  - 34/43 (79%) medication adjustments were on HF patients
  - 28 medication adjustments targeting GDMT + diuretics

ACEi/ARB/ ARNI	Beta-Blocker	MRA	SGLT2i	Diuretics
8	7	1	5	7

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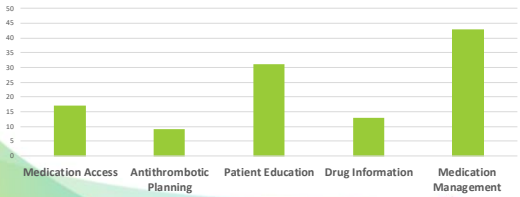
MEDICATION MANAGEMENT BREAKDOWN



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RESULTS: MEDICATION-RELATED INTERVENTIONS

- 113 interventions: average of 26 minutes per intervention



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RESULTS: PROVIDER TIME SAVINGS

- Average provider time spent on interventions

Medication Management	Perioperative Planning	Patient Education	Drug Information
20 minutes	10 minutes	5 minutes	10 minutes

- Provider time saved by pharmacist

Medication Management	Perioperative Planning	Patient Education	Drug Information
860 min (14.3hr)	90 min (1.5hr)	155 min (2.5hr)	130 min (2.1hr)

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RESULTS: PROVIDER TIME SAVINGS

- 20.4 hours were saved for the providers over 8 weeks which averages to 2.6 hours per week
- 2.6 hours per week correlates to opening up 6 standard follow-up appointments with a provider

	Cardiologist 1	Cardiologist 2	Nurse Practitioner
New Patient	40 minutes	90 minutes	
Patient Follow-up	20 minutes	30 minutes	30 minutes

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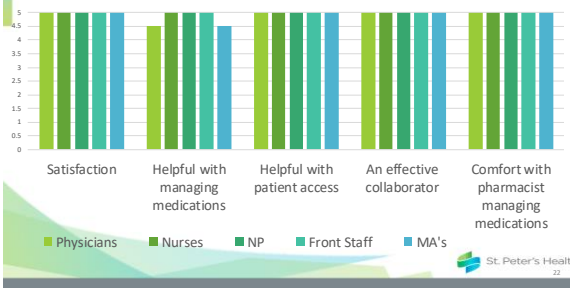
RESULTS: TIME TO FOLLOW-UP

- Average reduction of ~ 76 days for patient follow-up in the SPH Cardiology Clinic
- Normal follow-up appointment 3-12 months
  - Limited availability for timely follow-up appointments with a provider
  - Cardiologist schedules are booked out 6+ months
- Primary care often defers to cardiology on management

OTHER RESULTS

- Medication Access
  - 17 Medication Access interventions included pharmacy time spent orchestrating medication access for high cost medications
  - Counseled patient and orchestrated transfer of prescriptions to our affiliated pharmacy for 13 prescriptions through our 340b program
    - SGLT2i's and DOACs
  - Also assisted with obtaining Entresto samples, and prior authorization for specialty medications

SURVEY RESULTS POST-IMPLEMENTATION



OPEN ENDED SURVEY RESULTS

- **What aspects of the pharmacists role was most beneficial?**
  - "Medication titration, access, and counseling"
  - "Follow-up"
  - "The availability to talk with a medication expert and receive real time feedback and follow through was so impactful and allowed staff to focus on other patient related issues"
  - "Excellent resource for providers, patients, and staff"
  - "Helped patients access critical care quickly, patients needs were addressed 3-6 weeks sooner than they would without them"
  - "Continuity of care, clinic is more balanced with quicker turnaround"

OPEN ENDED SURVEY RESULTS

- Other comments and feedback:
  - "If we want to be the gold standard in Montana, then hiring a full-time pharmacist is the right move"
  - "I know our patients appreciate having a pharmacist resource"
  - "Having a pharmacist was an amazing addition"
  - "It is extremely helpful having a pharmacist on-site"
  - "We should continue to move forward and start a CHF clinic and amiodarone monitoring service to maximize our pharmacist"

HURDLES AND LIMITATIONS

- Short time-frame (8 weeks)
- Identifying and optimizing the role of the pharmacist
  - Staff comfort
  - Ancillary staff utilizing pharmacist instead of cardiologist
- Pharmacist scheduling and referral process
- Patient introduction
- Complex patient population
- Relying on patient monitoring

FUTURE DIRECTIONS

- Permanent pharmacist position in SPH Cardiology Clinic
- Plan for doubling the cardiology providers at SPH
- New service ideas:
  - HF clinic
  - Amiodarone monitoring
  - Referral process for hospital discharge patients
  - Remote monitoring

CONCLUSIONS

- Pharmacist involvement in the cardiology clinic improves patient access to allow for optimization of medication management
- Pharmacists can positively impact patient outcomes through close-patient follow-up, medication management, education, and medication access
- Vast opportunity for continued growth of cardiology pharmacist services

ACKNOWLEDGEMENTS

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QUESTIONS?

Jordan Hardrick, PharmD, PGY1 Resident
jhardrick@sphealth.org