Implementation of a Pharmacist-Managed Anemia Clinic

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Disclosures

- IRB status: not required
- Co-Investigators:
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  - Megan Murphy, PharmD, BCPS, CPP
  - Brett Amestoy, PharmD, BCPS
  - Thomas Richardson, PharmD, BCIDP
  - Robert LaClair, MD
- Conflicts of Interest: None
- Project sponsorship: None

Learning Objectives

- At the end of this presentation, you will be able to
  - Identify pharmacist interventions that increase adherence to guidelines in the management of anemia
  - Identify pharmacist interventions that provide time-savings to primary care and specialty providers

Background

- St. Peter's Health (SPH)
  - Serves a five-county region
  - Service population ~90,000
  - Located in western Montana
- St. Peter's Health Medical Group
  - Associated outpatient clinic
  - Two locations with both primary care and specialty providers
  - 170 employed providers

Background

- Recent service changes to SPH Oncology and Hematology services left the burden of anemia management on primary care providers
- SPH physician leaders reached out to pharmacy to help fill the gap
- Studies have shown improvement in patient care with the addition of pharmacists in clinic settings

*SPH = St. Peter's Health

Purpose

- Implementation of a clinical pharmacist-managed anemia clinic to increase adherence to dosing and monitoring guidelines resulting in optimized patient care while maintaining patient safety
  - Kidney Disease Outcomes Quality Initiative (KDOQI)
  - Kidney Disease Improving Global Outcomes (KDIGO)
  - American Society of Hematology (ASH)

Methods

- Single center, quasi-experimental, cohort study completed at a rural community outpatient clinic
- All patients referred to the Anemia Clinic by a SPH primary care or specialty provider were included in this study
- Exclusion criteria:
  - Receiving any type of dialysis
  - Currently receiving chemotherapy
  - Myelodysplastic Syndrome
  - Pregnant

*SPH = St. Peter's Health

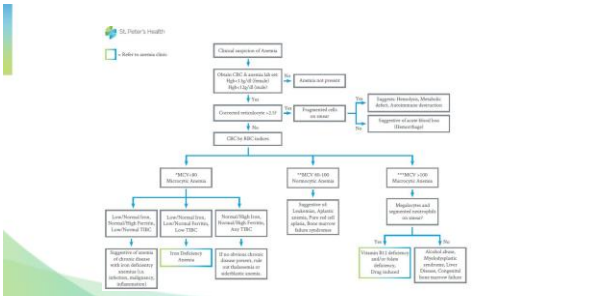
Outcomes

- Primary Outcome:
  - Adherence to dosing and monitoring guidelines for the management of anemia
- Secondary Outcomes:
  - Cost-savings
  - Provider time-savings
  - Provider satisfaction

Implementation

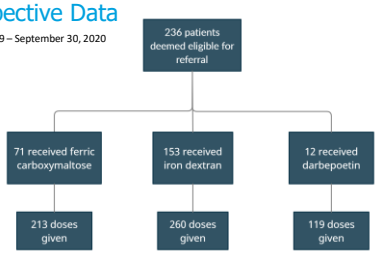
- Developed a collaborative practice agreement
  - Allows pharmacists to manage therapies after initial diagnosis
- Constructed "Diagnosis of Anemia" pathway to guide diagnosis for various types of anemia and if referral is applicable
- Created dosing and monitoring protocols for therapy management
- Developed and implemented the referral process in the EHR

*EHR = Electronic Health Record

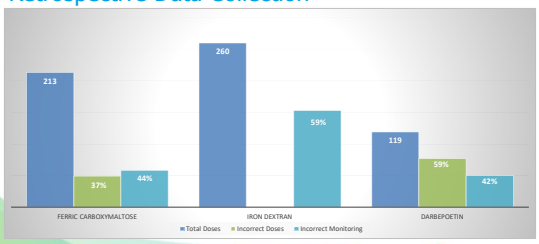


Retrospective Data

October 1, 2019 – September 30, 2020



Retrospective Data Collection



Referral and Management

Diagnosis	• Anemia status evaluated via diagnosis pathway • If applicable, electronic referral sent to Anemia Clinic Pharmacist
Referral	• Patient is contacted by pharmacist for initial consult • Pharmacist ensures all baseline labs have been drawn • Referral is valid for 1 year
Initiation of therapy	• Patient is scheduled and receives first dose • Pharmacist available for questions at infusion appointment • Follow-up labs scheduled at time of infusion
Continued Follow-up	• Follow-up labs reviewed by pharmacist • If dose adjustments are needed, pharmacist to notify patient and make changes to infusion order

Prospective Data Collection

- Adherence tracking tool in patient notes:
  - Were labs drawn according to protocol? Y/N
  - Was the medication dosed according to protocol? Y/N
- Time spent for each encounter also tracked in patient notes to reflect provider time-savings
- Each incorrect dose will be assessed to determine cost-savings
- Provider satisfaction will be assessed via survey 3 months after implementation

Expected Outcomes: Primary

- Increased adherence to dosing and monitoring guidelines for the management of anemia

Pharmacist Interventions:	
Guideline based protocol	Collaborate with infusion center
Patient tracking tool	Prior authorizations
Disease state and medication counseling	Ordering and reviewing labs

Expected Outcomes: Secondary

Secondary Outcomes	
Cost-Savings	• Fewer missed lab appointments • Fewer inappropriate doses • Timely prior authorizations • Provider time-saved
Provider time-savings	• Laboratory ordering • Laboratory results review • Dose changes • Infusion orders • Prior authorizations • Fewer patient appointments
Provider satisfaction	• Closer monitoring of anemic patients • Optimized patient care • More time to devote elsewhere • Increased productivity

Cost-Savings Example:

- Patient receives darbepoetin 100mcg and completes laboratory follow-up 9 days later
- Patient receives next 100 mcg darbepoetin dose prior to the provider reviewing labs
- Upon review, patient's hemoglobin was 11.6
- ➢ Per protocol, for a Hgb ≥ 11.5 patient's next dose should be held and labs redrawn in 2 weeks

Cost of inappropriate dose: $1,396.19
- Darbepoetin 100mcg: $1,072.19
- Infusion appointment: $324.00

Event could significantly increase Hgb resulting in the following potential risks:
- Precipitation of cardiovascular events
- Stroke
- VTE
- Increased mortality

Strengths

- Multidisciplinary and administrative support
- Willingness of pharmacists to take on a new role
- Pharmacists' involvement with the SPH Infusion Center
- Protocol-based therapeutic dosing and monitoring

Limitations

- Anemia Clinic pharmacist also has responsibilities in the Rheumatology Clinic and Infusion Center
- SPH providers only
- Infusion center appointment availability
- Billing for pharmacist services
  - Clinical Pharmacist Practitioner
  - Payer credentialing

Moving Forward

- Collection of prospective data
  - Through May 1, 2021
- Development of CPA for outside providers
- Identify areas where pharmacists' time can be maximized
- Determine billing opportunities and other revenue generating activities

*CPA = collaborative practice agreement

Conclusion

- The addition of a pharmacist-managed anemia clinic is expected to provide a better quality of patient care while maintaining patient safety
  - Increased adherence to dosing and monitoring guidelines for the treatment of anemia
- Many secondary benefits are also expected:
  - Provider time-savings
  - Cost-savings
  - Improved provider satisfaction

Acknowledgements

- SPH Anemia Clinic pharmacists
  - Megan Murphy, PharmD, BCPS, CPP
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Thank you for your time and attention!

Questions?

Email: crpeters@sphealth.org

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