Addressing Over Prescription of PPI in an Outpatient Underserved Population

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Background

The American College of Gastroenterology (ACG) recommends appropriate use of PPI for patients with symptomatic gastroesophageal reflux (GERD), Barrett's esophagus, peptic ulcer disease (PUD), H. Pylori infection and eosinophilic esophagitis. The inappropriate prescription of PPI has risen over the last decade with an estimated 25-70% of PPI prescriptions without an appropriate indication. Long term use of proton pump inhibitors (PPI) has been associated with increased risk of mineral and vitamin deficiencies, chronic kidney disease, and bone disease.The goal of this study is to proactively provide good PPI stewardship by identifying inaccurate PPI prescriptions in a resident outpatient clinic.

Aim:

The aim of this study was to discontinue at least 10% of the patients on PPIs who do not have an appropriate indication for therapy over the course of 6-weeks.

Methods

Location:

Medically underserved resident clinic in Hartford Connecticut.

Timeframe:

Patients scheduled over a 6 week period between 09/16/21–10/28/21

Pre-Encounter Screening:

Any patient with a PPI on their EMR medication list was included in the data set.
Patients stratified based on clinical need for PPI using ACG Clinical Guidelines.

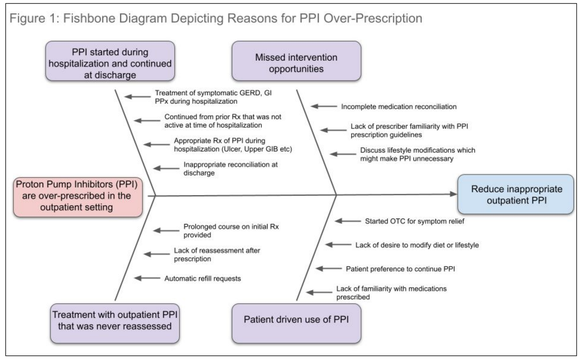
Pre-Encounter Intervention:

Pre-intervention questionnaire to identify patients eligible for discontinuation
One hour education session scheduled with all resident providers
Providers were sent EMR messages recommending PPI taper

Encounter Interventions:

Patients eligible for discontinuation of PPI were advised to dose reduce by 50% for two weeks and prescribed as needed H2 blocker for possible rebound symptoms.
Patients were called two weeks later for follow up. If symptoms tolerated, PPI was discontinued.

Figure 1: Fishbone Diagram Depicting Reasons for PPI Over-Prescription

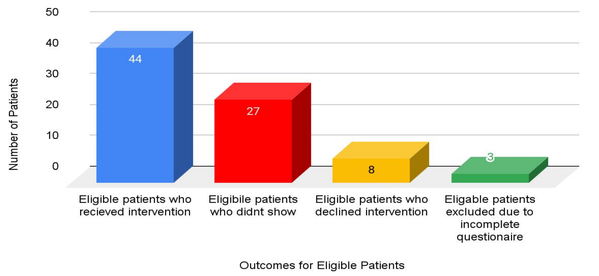


Pre-Encounter EMR Review	
Total number of patients screened	684
Patients accurately listed on PPI in EMR	114

Outpatient PPI Use	Percent	Patients	Total
Total Patients on PPI	17%	114	684
Patients on PPI appropriately	28%	32	114
Patients on PPI inappropriately	71.93%	82	114

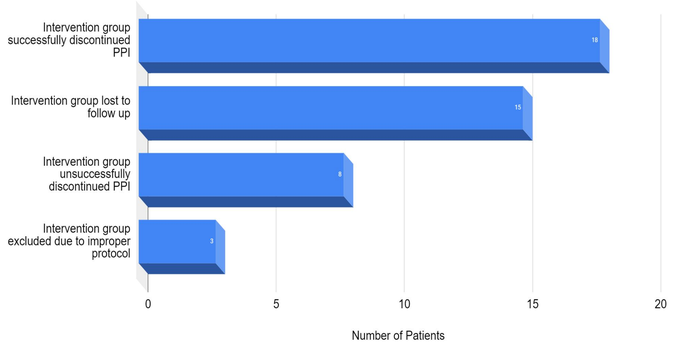
Inappropriate PPI Use Eligible for Intervention	Percent	Patients	Total
Eligible patients who received intervention	53.66%	44	82
Eligible patients who didn't show	33%	27	82
Eligible patients who declined intervention	10%	8	82
Excluded Due to Provider error	4%	3	82

Figure 2: Number of Patients Eligible for Intervention



Outcomes

Figure 3: Outcomes for Intervention Group



Discussion

The aim of this study to achieve 10% population reduction in inappropriate PPI use was exceeded with roughly 22% discontinuation.

Frequent medication reconciliation, patient education on proper PPI use and physician education with ACG Clinical Guidelines were simple changes to successfully improve clinically indicated PPI therapy. Many patients are aware of their triggers and use PPIs as a means of avoiding lifestyle and dietary change. When prescribing PPI, placing a "stop" time on the prescription may further reduce PPI burden.

References:

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