Original Work

Student Pharmacist Integration in an Ambulatory Service at a Rural Veterans Affairs Clinic

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Abstract

Background: Proton pump inhibitors (PPIs) are commonly used for the management of gastroesophageal reflux disease (GERD) and heartburn; prophylaxis and treatment of gastrointestinal (GI) ulcers and bleeds; and in combination with antibiotics for treatment of *Helicobacter pylori*.[1-2] The Food and Drug Administration (FDA) and the American Gastroenterology Association (AGA) advise short-term length of therapy for these indications.[3] However, it has been found that PPI prescriptions are often renewed for long-term therapy without clear or appropriate indications. Risks of long-term PPI use have been described in the literature, such as bone fracture, infection (*Clostridium difficile* and community acquired pneumonia), and micronutrient deficiencies of calcium, vitamin B12, iron and magnesium, all of which have been shown to affect patient health outcomes; and yet these medications are often overprescribed.[1,2,4,7] Therefore, the opportunity exists to explore innovative models to ensure patients on PPIs are appropriately assessed for continued use. The primary objectives of this project were developed to reflect the integration of a student pharmacist into a PPI de-prescribing service. These objectives included (1) the development of tools and resources required to guide the student pharmacist, (2) processes completed by the student pharmacist to achieve service initiatives in a rural setting, and (3) evaluation of clinical pharmacist practitioner (CPP) time saved through incorporating the student pharmacist.

Methods: Tools were developed to pilot the PPI de-prescribing service in September 2019 by a third-year (P3) pharmacy student and reviewed by the CPP. Processes for chart review and phone call outreach were outlined by the CPP using a standardized decision support tool to determine appropriate PPI use. A chart review was performed by the student on 92 patients currently on long-term PPI therapy and receiving care at a rural outpatient clinic affiliated with the William S. Middleton Veterans Affairs (VA) Hospital. Patients were contacted by the P3 student between November 2019 and February 2020 under the supervision of the CPP. Project deliverables included the templates created by the student pharmacist, the use of these tools and other resources to complete service initiatives, and the time saved by the CPP per patient taper trial. The CPP time saved was determined by documenting student and CPP encounter time to complete service initiatives and taking the difference of the average time of these units.

Results: Note templates for this service were developed by the student and revised by the CPP. The student process of performing a baseline chart review demonstrated that 58% (53/92) of patients were on long-term PPI therapy for an inappropriate indication. Of the 9 patients that enrolled in the service, 2 patients completed a PPI taper, 4 patients were still in progress, and 3 patients stopped the taper trial due to return of GERD symptoms. The average time for patients who completed a PPI taper was 8-9 weeks (4-5 encounters). It is estimated that the integration of a student pharmacist in this service saved the pharmacist an average of 45 minutes per taper trial.

Conclusion: This project described and implemented the resources and processes needed to integrate a student pharmacist into the workflow of a PPI de-prescribing service. The project has demonstrated the potential benefit of using a student pharmacist to complete service initiatives in reaching rural patients. Student pharmacist outreach to eligible rural patients with pharmacist oversight provides a unique opportunity to achieve de-prescribing therapy in an effective and efficient manner in the ambulatory care setting. Future directions of this project are to package this service into other pharmacists' and clinics' workflows to help reach more patients through pharmacy services while also facilitating student learning.

Proton pump inhibitors (PPIs) are universally used agents to assist in acid suppression for a variety of gastrointestinal acid-related disease states. PPIs are best known for the management of gastroesophageal reflux disease (GERD), in the treatment of *Helicobacter pylori* (*H. pylori*) infections in combination with antibiotics, and in minimizing the risk for gastrointestinal (GI) bleeds.[1,2] Currently, the Food and Drug Administration (FDA) defines length of therapy of an over-the-counter (OTC) PPI for 14 days up to three times per year.[3] Many patients use PPIs for much longer than this period of time because of the readily available OTC agents and the symptomatic relief they experience. For certain disease states, such as Barrett's esophagus, Zollinger-Ellison syndrome, adenocarcinoma, and GI bleeding prophylaxis, PPIs are considered essential in order to prevent acid from causing progression of the disease and/or harm to the GI tract; therefore, patients with these conditions are recommended to be on life-long therapy at the lowest tolerated dose of PPI.[2] While for GERD management and treatment the practice guidelines suggest that PPI therapy should not exceed eight weeks, the literature has demonstrated that this practice is not commonly followed.[4]

The overuse of PPI therapy is problematic, and negative consequences of prolonged PPI use are well described in the literature. PPI use has demonstrated a 44% significant increased risk of incident dementia in the aging population on PPI therapy compared to no PPI use.[5] In addition, a study of United States Veterans showed a 15% increase in mortality for patients taking a long-term PPI compared to alternative therapy and a 23% increase in mortality compared to patients on no acid suppression therapy.[6] The results of this study also showed a greater association between the duration of therapy and risk of death. Furthermore, long-term use has been associated with relative risk increases in bone fracture and infection (*Clostridium difficile* and community acquired pneumonia), and micronutrient deficiencies of calcium, vitamin B12, iron and magnesium while on long-term PPI therapy; all of which have been shown to affect patient health outcomes.[1,2,4,7] Concerns have been raised around the overprescribing of PPIs and the appropriateness of PPI therapy.[7,8]

In response to these consequences of inappropriate PPI use, innovative approaches have been considered to de-prescribe PPIs. One interdisciplinary group assessed the value of PPI therapy in older adults and stratified use based on short-term and long-term indications.[9] It was found that 1 in 8 older adults were prescribed a PPI, and over one-third of prescriptions lacked a guideline indication. Within a major academic medical center in Ohio, a pharmacist-led intervention identified older adults on PPI therapy through a population health management process, evaluated their appropriateness, and informed patients of the risks of inappropriate PPI use.[10] In this intervention, 81.6% of patients who started the taper process were successfully tapered off of PPI therapy.

While these services have been shown to be effective, barriers exist to implementing these programs on a large scale across health systems. Similar to other population management models, PPI de-prescribing requires additional staffing resources, documentation time, and patient outreach that may not be feasible in primary care clinics with limited resources available. Even with the integration of a pharmacist within the primary care setting, additional disease state management initiatives may limit available time for PPI de-prescribing initiatives.

This evaluation explores a novel approach to care delivery by incorporating students as integral components of the care delivery model. This evaluation primarily considers the approach taken to integrate the student within the primary care clinic, and the tools, resources, and processes required to effectively design this new model of care delivery. Specific metrics include (1) the development of tools and resources required to guide the student pharmacist, (2) processes completed by the student pharmacist to achieve service initiatives, and (3) evaluation of pharmacist time saved through incorporating the student pharmacist.

This service pairs a student pharmacist with a clinical pharmacist practitioner (CPP) to assess patient PPI therapy appropriateness and call patients who are eligible to begin de-prescribing. The student pharmacist specifically is engaged with patients from patient service enrollment through PPI discontinuation.

Methods

This project occurred within the Department of Veterans Affairs at a rural community-based outpatient clinic (CBOC) in Beaver Dam, Wisconsin. Resources required for integration of the student pharmacist within the service were developed in September 2019 through discussion with a CPP and the third-year pharmacy (P3) student, with the goal of designing resources that could be scalable to incorporate additional students within the service. The specific requirements of the program, including inputs, outputs, and service outcomes, were determined and integrated with a logic model designed by the student learner. Methods for each aim are included below.

Aim 1: Development of tools and resources required to guide the student pharmacist

Student training for the service was conducted by a PGY-2 pharmacy resident over a three-hour period in September 2019. The resident and the student designed the resources required for the program, including a series of templates. These tools were reviewed by the CPP and faculty mentor and then finalized before patient outreach began. The resident and the student reviewed the application of a PPI de-prescribing algorithm to guide the student learner in clinical decision making and de-prescribing based on indication and duration of PPI use. An additional resource used by the student was a PPI de-prescribing protocol developed by the local facilities' Pharmacy and Therapeutics committee (see Figure 1). This protocol incorporated the concerns for rebound acid hypersecretion, which could lead to more telephone encounters but may also improve PPI tapering attempts.[11] Patient outcomes were tracked through a patient de-identified tracking mechanism and outlined using Microsoft Excel. This spreadsheet included baseline characteristics and details relating to patient progress throughout the PPI taper trial. Materials were designed for the student to complete population management initiatives, patient telephone outreach, and staffing.

Aim 2: Determination of processes completed by the student pharmacist to achieve service initiatives in a rural setting

To support the student pharmacist in completing this project, the student was enrolled in a weekly project management course, Practice Innovations, from the project start to completion. In this course, the student received mentorship from faculty at the University of Wisconsin-Madison School of Pharmacy to guide them in developing project processes.

To identify patients eligible for a PPI de-prescribing, the student pharmacist received a patient panel list of 92 patients to screen for eligibility, from the Beaver Dam VA clinic. These patients were identified in a report with inclusion criteria of patients who had an active prescription of a PPI for greater than 30 days with more than 2 refills, and patients living in a community defined as either rural or highly rural.

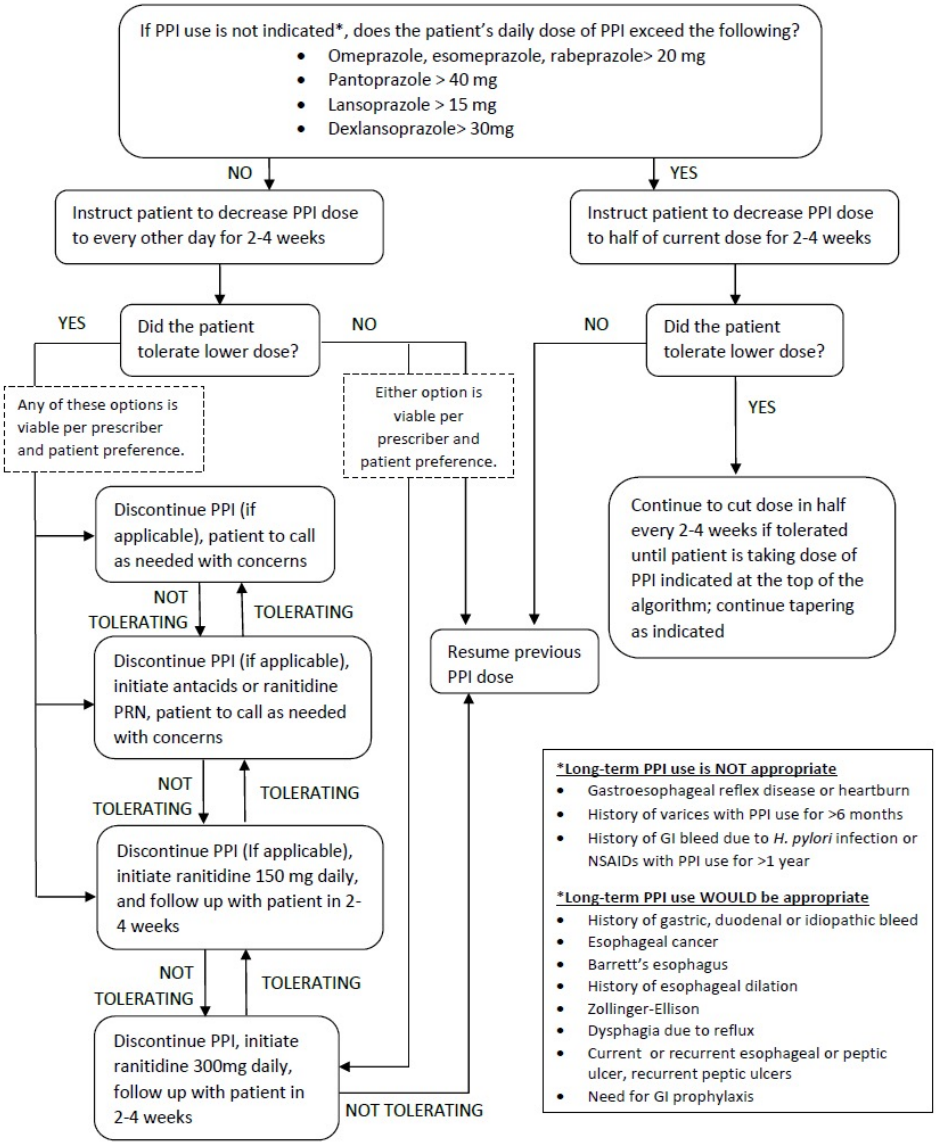
The VA stratifies rurality as urban, rural, and highly rural, using the Rural-Urban Commuting Area (RUCA) system based on information from the U.S. Census Bureau.[12] Determining potential eligibility for the taper process was completed by the student, who accessed the electronic health record (EHR) of each patient. The student went into clinic, once a week for three hours, for a total of four weeks to complete the baseline chart review assessing eligibility for PPI de-prescribing. The student used objective information from the EHR and primary care notes to determine if patients required long-term PPI therapy. The protocol's eligibility for long-term therapy was used for screening. Additional risk factors were documented for GERD and consequent labs associated with long-term PPI use for baseline characteristics; this included BMI, smoking status, and available labs (calcium, albumin, vitamin D, vitamin B12, magnesium, serum creatinine, and eGFR). Exclusion criteria indications were included in the de-prescribing protocol. Patients who received primary care outside of the VA clinic or were followed by a GI specialist outside of the VA were also excluded.

The student pharmacist telephone outreach began in November of 2019 and finished in February 2020. The process for student outreach included: (1) initial enrollment phone call to the patient using a standardized script, (2) screening for exclusion criteria with the patient to double check eligibility, (3) design of a plan for PPI tapering regimen using the protocol, (4) consult with CPP to discuss findings and plan, (5) document and communicate plan to the patient, and (6) use of initial phone call template to document the encounter notes and (7) send to CPP for verification and final sign off.

In addition to documenting and communicating the plan, the student performed education on rebound hypersecretion and lifestyle modifications. Lifestyle modifications discussed included weight loss if warranted; elevating the head of the bed; and/or eating 2-3 hours before sleep.

A follow-up phone call was made by the student pharmacist 2-4 weeks later, to assess patient progress in the taper process. During the follow-up phone call, the student confirmed and documented current dose and adherence to taper trial; assessed if symptoms had shown improvement, stayed stable, or worsened; and asked for the patient to describe symptoms they had experienced within their taper trial. This information was collected and documented to help the student use the protocol for the patient. If prior issues regarding the taper process were discussed in previous

FIGURE 1. Madison Veterans Hospital Proton Pump Inhibitor (PPI) De-prescribing Algorithm



***famotidine used due to ranitidine recall of 2019*
GI= gastrointestinal; NSAIDs= non-steroidal anti-inflammatory drugs; PPI= proton pump inhibitor; PRN= as needed

visits, the student reviewed this with the patient as well. The student discussed the information with the CPP and together they developed a new plan based on the PPI de-prescribing protocol and the pharmacist's clinical judgment. Next, the student called the patient back and reported the updated plan and discussed the outreach for another unscheduled follow-up phone call in 2-4 weeks. This follow-up process continued until the patient had completely discontinued therapy or had achieved their lowest tolerated dose.

Aim 3: Evaluation of pharmacist time saved through incorporating the student pharmacist

Pharmacist time saved was determined by considering the activities performed by the student pharmacist that would have otherwise been conducted by the clinical pharmacist practitioner. In each note, the student documented how long each encounter took in minutes. Then, the CPP documented the amount of time each review took in minutes. The CPP time saved was determined by documenting student and CPP encounter time to complete service initiatives, and taking the difference of the average time of these units.

This project did not require IRB approval, because it was deemed quality improvement using the UW-Madison QI/Program Evaluation Self-Certification Tool.

Results

The tools developed by this project included a telephone call script template and three note documentation templates for initial outreach, follow-up, and no-answer encounters. The templates developed by the student and finalized with reviews by the CPP and faculty mentor for patient phone calls and documentation are included below.

The process of the baseline chart review conducted by the student found that 58% (53/92) of patients were on long-term PPI therapy for an inappropriate indication and were deemed eligible for outreach and enrollment in the PPI de-prescribing service. From the baseline chart review, it was identified that most patients in this panel were overweight (average BMI = 30.78 kg/m2), which is a risk factor for GERD/heartburn.[4] Additional baseline characteristics can be found in Table 1 and descriptions of appropriate PPI use can be found in Table 2. The most common inappropriate indication for long-term therapy PPI use was GERD/heartburn, which applied to 44 out of the 53 patients (83%). Additional inappropriate indications can be found in Table 3.

During the process of phone call outreach, the student pharmacist called 17 patients out of the total 53 patients eligible. Of those, 12 patients answered the phone calls, and of those, 9 patients opted in to trial PPI de-prescribing. Of the 9 patients who enrolled in the PPI de-prescribing service, 2 patients completely tapered off PPI therapy, 2 patients stopped the service due to rebound symptoms, and 5 patients were still in the taper trial process at the time of project completion.

In regard to pharmacist time saved, preliminarily, based on the 2 patients who completely tapered off therapy, this intervention took the patient 4-5 encounters (8-9 weeks) total. This took the student 20 minutes per patient telephone contact, which resulted in a range of 60-100 minutes total to completely de-prescribe per patient. As for the pharmacist time, it took the pharmacist 5-10 minutes per encounter to review and sign off on the student's note (20 to 50 minutes total to de-prescribe a patient). Therefore, by integrating a student pharmacist into the workflow, the preliminary results of the average pharmacist time saved was on average 45 minutes per de-prescribing intervention per patient.

TABLE 1. Baseline Characteristics (n=92)

Average Age	72
Sex % Male (number)	96% (88/92)
Average BMI (kg/m²)	30.78
% Rurality[A]	71.2%

BMI= body mass index
A = See Aim 2 for definition

TABLE 2. Stratification of Appropriate Proton Pump Inhibitor (PPI) Use Per Baseline Chart Review

Appropriate PPI Usage	*42% (39/92)*
History of gastric, duodenal, or idiopathic bleed	7% (6/92)
Esophageal cancer	1% (1/92)
Barrett's esophagus	8% (7/92)
History of esophageal dilation	2% (2/92)
Zollinger-Ellison syndrome	0% (0/92)
Dysphagia due to reflux	1% (1/92)
Current/recurrent esophageal or peptic ulcer(s)	4% (4/92)
Need for GI prophylaxis	13% (12/92)
Seen by GI specialist	2% (2/92)
Other appropriate documented indication A	4% (4/92)

GI= gastrointestinal; PPI= proton pump inhibitor
A= gastritis, duodenitis, erosive esophagitis, long-term use of anticoagulant

TABLE 3. Stratification of Inappropriate Proton Pump Inhibitor (PPI) Use Per Baseline Chart Review

Inappropriate PPI Usage	*58% (53/92)*
Disease	
GERD or heartburn	83% (44/53)
History of varices with PPI use for > 6 months	0% (0/53)
History of GI bleed due to H. pylori infection or NSAIDs with PPI use for > 1 year	2% (1/53)
Other inappropriate documented indication[B]	15% (8/53)
PPI Use	
PPI duration greater than 8 weeks (recommended duration for GERD)	91% (48/53)
Length of therapy	Average DOT = 2,038 days Average years = 5.58 years

DOT= duration of therapy; GERD= gastroesophageal reflux disease; GI= gastrointestinal; NSAIDs= non-steroidal anti-inflammatory drugs; PPI= proton pump inhibitor
B = patient off NSAID and still on PPI for prophylaxis, no indication documented, history esophageal, duodenal or peptic ulcer > 1 year ago, intermittent dysphagia not due to reflux, esophageal stricture, history of bariatric surgery, ulcerative colitis, hiatal hernia

Discussion

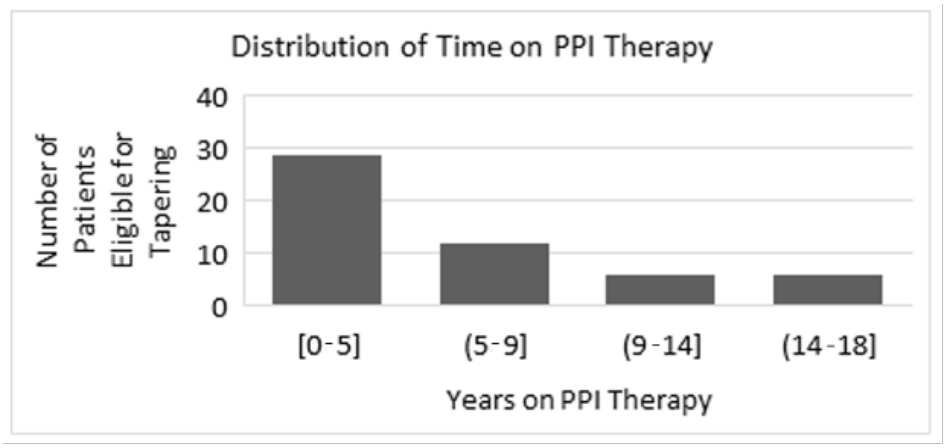
Within the VA primary care model, clinical pharmacist practitioners are integrated within primary care teams and have a scope of practice to independently prescribe medications and directly adjust medication therapy. This project described the feasibility of integrating a student pharmacist into a PPI de-prescribing service and the impact it could potentially have on expanding patient services. The tools developed were innovative in their ability to guide a student pharmacist in the primary ambulatory care setting. These tools and additional resources were utilized during the processes of baseline chart review and patient outreach. The tools and processes proved helpful in guiding the student pharmacist; the CPP rarely had to intervene to make corrections to the student's assessment and recommendations to complete service initiatives. The addition of a student pharmacist to this service shows the potential of having students assist the CPP to reach more patients and offer appropriate interventions. Furthermore, this project specifically increases the experience and competence of a student pharmacist in the ambulatory care clinic setting for future practice.

The incorporation of a student pharmacist within this service provides a rich learning environment for students to engage with rural patients through telephone communications, and to serve patients with direct oversight and mentorship by a CPP. Furthermore, the program provides students with the opportunity to apply clinical guidance on PPI de-prescribing directly to patient care opportunities for rural patients. Rural Veterans are good candidates for this service, given the prevalence of inappropriate PPI use in previous assessments, the increased risk factors among this under-resourced population, and the distance from access to healthcare.[13]

This layered approach to care delivery was intentional, to increase access to this service for a rural patient population. Telephonic appointments are used for rural patients who are, on average, older, who have more chronic conditions, and who have limited access to healthcare resources compared to their urban counterparts.[14]

Integrating student pharmacists in this process can be considered an innovative approach to expanding patient services, improving health outcomes, and providing a unique opportunity for student learning. This evaluation is a case study example of academically, non-experientially, integrating a student into an ambulatory clinic workflow through a PPI de-prescribing initiative.

FIGURE 2. Patients Eligible for PPI De-prescribing by Years on Therapy (n=53)



This project adds to the literature about the process of transitioning from student pharmacist to professional pharmacist. A study organized with students from St. John's University in New York measured the acceptance rates of APPE pharmacy students' recommendations to primary care providers in a family medicine clinic.[15] The study reported that 77% of recommended interventions were accepted by providers. This project is similar to other literature about involving pharmacy students in educating patients as part of the clinic workflow. A study completed by faculty from the University of Minnesota College of Pharmacy and the University of Utah College of Pharmacy evaluated the roles of pharmacy students in student-run free clinics across the United States.[16] The surveys they conducted found that the two most defined and practiced roles by pharmacy students were within medication education and administration/leadership. The current project's structured approach of developing tools and processes to assist the student in completing service initiatives helped the workflow for the PPI de-prescribing service. This project provides a framework for student pharmacists to become more engaged in patient care outreach activities in the ambulatory care setting.

Factors that contributed to the success of this project included access to an integrated system and the clinical scope of the CPP. The VA EHR is a closed system that encompasses nearly all medical information for each patient. A CPP practicing within the VA healthcare system is uniquely empowered to start, change, or stop pharmacologic treatment and provide follow-up care to patients to assess safety and efficacy of pharmacotherapy.

Opportunities exist across the private sector to similarly consider drafting collaborative practice agreements with local primary care providers and develop communication strategies with clinicians to make assessments and recommendations for therapy changes. An additional support for the student in this project included enrollment in a weekly project management course, Practice Innovations, throughout the project, which provided the student pharmacist with mentorship from faculty from the UW-Madison School of Pharmacy. Practice sites could consider forming partnerships with schools and colleges of pharmacy to expose students to real-world applicable work through experiential and didactic course work.

Additionally, this project echoes the benefits of having PPI de-prescribing services led by pharmacists. A Canadian interdisciplinary group published an evidence-based clinical practice PPI de-prescribing algorithm and specified that having a pharmacist on the team reduced the inappropriate use of PPIs.[17] The results of this project mirror the prevalence of inappropriate use found in similar studies. An assessment completed at a VA health system in Michigan found that 48.6% of a group of patients were on long-term

PPI therapy and lacked reassessment of symptom management.[18] Of that same group, a majority of patients did not have a documented indication for PPI therapy. At a VA clinic in New York, pharmacists identified that 68.4% of patients were not indicated for PPI use and a majority of these patients were able to taper off therapy.[19]

While this project demonstrated the potential for pharmacists and student pharmacists to serve as key members of the healthcare team in PPI de-prescribing, there were limitations to this project. All interventions for patients were made over telephone encounters, and while this form of communication was effective, not all patients could be reached. Phone contact and interaction may not be feasible for all patients for a variety of reasons, and may even lead to suboptimal care if, for example, a patient has difficulty understanding instructions delivered by phone. In the future, opportunities exist to conduct "plan, do, study, act" (PDSA) cycles of this project to consider the effectiveness of the PPI de-prescribing algorithm itself. This PDSA process would be completed by documenting when deviations were made from the de-prescribing protocol and considering modifications to better tailor the algorithm to the VA patient population.

Ultimately, the tools and processes outlined and developed by the student and CPP suggest that this service can be expanded to other sites across the VA and other interested healthcare settings interested in running a similar program. This service could be expanded to include other populations as well, including both female and urban patients. Other potential areas of investigation include assessing prescribing habits of PPIs prospectively by placing end dates in prescriptions and routine follow-up with pharmacists..

Conclusion

This project described and implemented the resources and processes needed to integrate a student pharmacist into the workflow of a PPI de-prescribing service. The project has demonstrated the potential benefit of using a student pharmacist to complete service initiatives in reaching rural patients. Student pharmacist outreach to eligible rural patients with pharmacist oversight provides a unique opportunity to achieve de-prescribing therapy in an effective and efficient manner in the ambulatory care setting. Future directions of this project are to package and integrate this service into other pharmacists' and clinics' workflows to create a widespread awareness of retrospectively being able to assess need and implement PPI de-prescribing for improved patient outcomes. Furthermore, the opportunity presents itself to identify and educate on the appropriate use of PPI therapy prospectively and assess prescribing habits. Finally, this project contributes to the literature of increasing student pharmacist experience to increase their patient interaction and documentation skillset.

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PR *This article has been peer-reviewed. The contribution in reviewing is greatly appreciated!*

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Initial Phone Call Script

"Good Morning! My name is _____ (student name) and I'm a pharmacy intern calling from the VA. I work with your primary care pharmacist, Dr. _____ (pharmacist name) who works with your primary care provider, Dr. _____ (primary care provider name). How are you doing this morning?"

[Patient response]

"Currently we are evaluating _____ (whichever PPI they use). Research over the past 10 years has identified several possible, harmful side effects if _____ (PPI name) is used for longer than it should be; especially when you may not need the medication. Deficiencies of vitamin B12 (brain/memory function), magnesium (energy), vitamin D and calcium (bone health/fracture risk) have been associated with long-term PPI use. Also, the risk of infection has been found to be associated with long-term PPI use. This is why I am reaching out to patients, like yourself, who may qualify for potential decreases of their ___ (PPI name). Before I talk further, I want to emphasize that I am not forcing you to stop your ___ (PPI name) if you do not want to. I am here to make patients aware of the potential harms and help with lifestyle modifications to help you succeed in your overall health. And, if you are interested in decreasing the medication or switching to another medication for the stomach acid, then as a pharmacy intern in partnership with your pharmacist and doctor, I can help you do that. Let me pause here. I have talked for quite a bit, what are your thoughts on this?"

[Patient response] – student documents

If patient is interested, student is to go through the exclusion criteria with the patient.

"Before we can start to lower or change acid suppression therapy, I have to make sure you do not have any medical conditions that would make it unsafe to decrease your ____ (PPI name). Therefore, I am going to through a list of conditions and you will answer yes or no if you have them, okay?"

[Patient agrees]

"Do you have a history of gastric, duodenal or idiopathic (GI or other) bleeds? Do you have a history of esophageal cancer? Do you have a history of esophageal dilation? Have you ever been diagnosed with Zollinger-Ellison syndrome or Barrett's esophagus? Do you have trouble swallowing due to stomach acid reflux? Do you currently have or do you have a history of recurrent esophageal or peptic ulcers? Finally, has a doctor or other provider ever told you that you need your ____(PPI name) for GI prophylaxis (stomach lining/gastrointestinal protection)?"

[Patient answers question – if all no's, patient is eligible for PPI dose reduction]

"You qualify for a dose reduction of your ____ (PPI name). I am going to talk with the pharmacist to come up with a plan to reduce your medication and call you back in a few minutes. Thank you for your time."

[discuss findings and plan with pharmacist, come up with a finalized plan for the patient and document this. Call patient back and communicate the plan, address lifestyle modifications and discuss rebound hypersecretion]

Initial Phone Call Documentation Template

|PATIENT NAME| is a |PATIENT AGE| y.o. |PATIENT SEX| contacted by phone for a pharmacy intern PPI tapering project to optimize patient safety through pharmacy and therapeutics approved protocol.
S:
TODAY, patient called to discuss PPI tapering. Patient states ____ (insert what patient told writer about their thoughts on PPI risks and tapering or switching to a different acid suppressing agent)
PMH:
|ACTIVE PROBLEMS|
|ACTIVE MEDICATIONS|
1. PPI USE
Medication:
PPI dose:
PPI duration:
Indication for PPI use:
Adherence: Last fill:
Dosing frequency (per patient):
Reviewed the following with the patient: (if patient reports any of these indications, change denies to reports and patient is indicated for long-term use)

- denies history of gastric, duodenal or idiopathic bleed
- denies history of esophageal cancer
- denies history of esophageal dilation
- denies Zollinger-Ellison syndrome diagnosis
- denies Barrett's esophagus diagnosis
- denies dysphagia due to reflux
- denies current/recurrent esophageal or peptic ulcer(s)
- denies need for GI prophylaxis

O:
LABS:
|CREATININE|
|eGFR|
|ALBUMIN|
|CALCIUM|
|MAGNESIUM|
|VITAMIN D|
|VITAMIN B12|
ASSESSMENT:
1. PPI Use

- Patient currently on inappropriate therapy for PPI use. The recommended length of therapy for ___ (indication) treatment is ____ (length). Based on VA de-prescribing protocol, patient is eligible to trial PPI dose reduction. After discussion with patient, shared-decision was made to ___. (plan that was agreed upon). Patient agreeable to this plan and was informed to call with questions/concerns.

PLAN:
- Med Changes

DECREASE/CHANGE/DISCONTINUE:
F/U:

- Any referrals
- Phone pharmacy intern: unscheduled phone call in 2-4 weeks

Pt Education:

- call with questions/concerns as needed
- discussed harmful SEs of chronic PPI use (B12, D, and Magnesium deficiency, increased fracture/infection/memory challenge risks)
- lifestyle changes: avoid meals 2-3 hours before bedtime, elevating the head of the bed, regular exercise to achieve weight loss, and the possibility of rebound symptoms

Time ~ __ min

Follow-up Phone Call Documentation Template

|PATIENT NAME| is a |PATIENT AGE| y.o. |PATIENT SEX| contacted by phone for a pharmacy intern PPI tapering project to optimize patient safety. Previously identified as eligible for PPI tapering through pharmacy and therapeutics approved protocol.
HPI: Patient last assessed by PACT PharmD on ___ (date), where ___ (shortly describe what happened with patient's acid suppression therapy).
S: TODAY, patient called to follow-up on PPI dose reduction. Patient reported ___ (write what was discussed – How is it going? Have they been adherent? What symptoms are they experiencing? Have symptoms improved, worsened or remained stable? What lifestyle modifications have they been able to try? Did they help? Did they experience rebound acid hypersecretion? Did antacids help with this? Etc."
PMH:
|ACTIVE PROBLEMS|
|ACTIVE MEDICATIONS|
O:
1. PPI Use
Current PPI regimen: (dose and directions) – patient confirms dose and adherence
Rate of symptoms: (improved, worsened or stable)
Lifestyle modifications attained since last encounter:
LABS:
|CREATININE|
|eGFR|
|ALBUMIN|
|CALCIUM|
|MAGNESIUM|
|VITAMIN D|
|VITAMIN B12|
ASSESSMENT:
1. PPI Use
-Patient currently tolerating/or not PPI dose reduction. Patient previously identified eligible for PPI dose reduction. After discussion with patient, shared-decision was made to ___. (plan that was agreed upon). Patient agreeable to this plan and was informed to call with questions/concerns.
PLAN:
- - Med Changes

DECREASE/CHANGE/DISCONTINUE:
F/U:
- Any referrals
- Phone pharmacy intern: unscheduled phone call in 2-4 weeks

Pt Education:
- call with questions/concerns as needed
- discussed harmful SEs of chronic PPI use (B12, D, and Magnesium deficiency, increased fracture/infection/memory challenge risks)
- lifestyle changes: avoid meals 2-3 hours before bedtime, elevating the head of the bed, regular exercise to achieve weight loss, and the possibility of rebound symptoms

Time ~ __ min

No Answer Documentation Template

|PATIENT NAME| is a |PATIENT AGE| y.o. |PATIENT SEX| contacted by phone for a pharmacy intern PPI tapering project to optimize patient safety. Previously identified as eligible for PPI tapering. Unable to reach patient today, will attempt in ~___ week(s).