

How to dramatically reduce inappropriate ulcer-prevention prescriptions

March 9 2020, by Ellen Goldbaum

What do you know about Proton Pump Inhibitors ?

Omeprazole (Prilosec/Zegerid)
Pantoprazole (Protonix)
Esomeprazole (Nexium)
Rabeprazole (Aciphex)



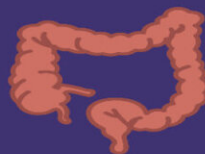
Adverse effects of long term PPI use:



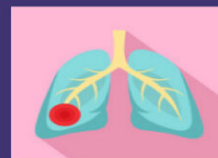
Osteoporosis



C.diff infection



Pneumonia



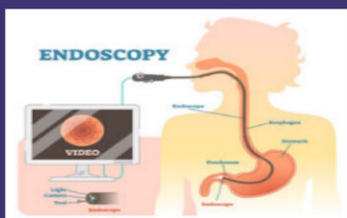
Vitamin
deficiencies



and more.....

If you are on the above
medications for >8weeks
you need to talk
to your doctor

Talk to your
doctor



You might need an
endoscopy and
assessed for the cause
of acid reflux

ECMC
IMC

This poster is one of the patient education materials developed by UB physicians in a project designed to reduce inappropriate prescribing of proton pump inhibitors. Credit: University at Buffalo

The inappropriate prescribing of proton pump inhibitors (PPIs) is well-documented, as are the harms they can cause to patients who don't need them, ranging from chronic kidney disease and pneumonia to hip fractures.

Yet despite evidence-based guidelines and deprescribing efforts at hospitals and clinics worldwide, these medications, commonly known as PPIs, are still often inappropriately prescribed.

Now, internal medicine residents at the University at Buffalo, along with their UB faculty mentors, have dramatically reduced from 80% to 30% inappropriate PPI prescriptions at an academic medicine clinic at Erie County Medical Center, a teaching hospital of the Jacobs School of Medicine and Biomedical Sciences at UB.

They did it by using the plan-do-study-act model that is widely utilized throughout [health care](#). Using a combination of educational interventions aimed at both providers and patients, as well as a customized electronic health record template, the clinic succeeded in reducing inappropriate PPI prescriptions to a level far below its original goal of 60%.

The research was published online in February in the *Journal of Clinical Gastroenterology*. Naren Nallapeta, MD, a UB resident in the Department of Medicine in the Jacobs School, is first author and Jessica Reynolds, Ph.D., research associate professor of medicine in the Jacobs

School, is a co-author. Smita Bakhai, MD, clinical associate professor of medicine in the Jacobs School and a physician with UBMD Internal Medicine, is senior author.

Under Bakhai's leadership, the medical residents working at the clinic determined that 80% of clinic patients had been inappropriately prescribed PPIs for an average of four to five years. The goal was to get that down to 60% within a year and then to continue to reduce the number of patients who had been inappropriately prescribed these drugs.

Many PPI prescriptions begin in the hospital

"Most patients who are on PPIs started while they were in-patients ," explained Bakhai. "Maybe they were critically ill, so the doctor prescribed it for prevention of stress ulcer. The problem is, these drugs continue to be prescribed for patients after hospital discharge and for a long time, sometimes years, without any medical evidence as to why they should take them."

She noted that there are criteria for keeping a patient on a long-term PPI, such as a diagnosis of an ulcer or other findings, which are best diagnosed with an endoscopy. "But we found patients on PPIs for many years who had never had an endoscopy," she said, "so how could it be known if they had an ulcer or other findings?"

Bakhai and her colleagues also discovered that many of the PPI prescriptions had been written for their psychiatric patients. "We are the primary care clinic for the area's group homes and we found that many patients with schizophrenia, bipolar disorder and other serious mental illnesses had been prescribed these medications while in-patients," she said.

Automatic renewals

While the hospital physician may have prescribed the drug for short-term use up to 12 weeks, the prescriptions often continue to be renewed, she said, sometimes for years, either because the patient demands it or because the physician automatically renews it, sometimes without even seeing the patient.

"Some patients didn't even know why they were still taking these drugs," she said. "It had been prescribed for a problem they'd experienced years before."

The multidisciplinary effort involved the preparation of materials, including pamphlets and pocket guides, to educate patients and providers about PPI use and their side effects. The clinic required that nurses ask patients about their PPI use. Providers were also required to review a patient's PPI use to determine whether or not it was warranted and, if it was discontinued, physicians were required to work with patients to monitor any symptoms.

"While some advanced electronic medical record systems include a clinical decision support tool, a reminder to physicians to check the medical evidence for each prescription a patient receives, it wasn't a feature in the clinic's system," Bakhai added.

"Since we couldn't use our [electronic medical records] to stop the problem, we created a user-friendly template which we used as a physician reminder," she said. The template features a checklist that includes queries to the physician designed to determine if there is [medical evidence](#) for continuing to prescribe the PPI.

Bakhai noted that most other successful efforts to reduce PPI use have involved pharmacy personnel. "Because we are a safety net clinic, no

pharmacy personnel were involved," she said. "Our study is unique because we were successful working with the limited resources that we had.

"The success of this quality improvement project was attributable to a highly engaged multidisciplinary team, including clinic front line staff, [patients](#) and hospital administrative leadership," Bakhai said. "We are also very grateful to ECMC leadership for providing resources and fostering a culture of patient safety and quality."

More information: Naren Nallapeta et al. Deprescribing Proton Pump Inhibitors in an Academic, Primary Care Clinic, *Journal of Clinical Gastroenterology* (2020). [DOI: 10.1097/MCG.0000000000001317](https://doi.org/10.1097/MCG.0000000000001317)

Provided by University at Buffalo

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