Hospital Initiated Proton Pump Inhibitors: Are we getting it right on discharge?

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INTRODUCTION

Proton pump inhibitor (PPI) medications are prescribed to reduce stomach acid secretion and gastric ulceration (1). Long-term use may be harmful, attributing to pneumonia, osteoporosis, low vitamin B12 and magnesium levels (2). Previous studies have illustrated that upon hospital discharge, patients may be unintentionally continued on PPIs that were prescribed short-term to treat an acute illness (3). However, they fail to specify when the PPI was initiated (4). This project adds to the literature by only including newly prescribed PPIs during admission.

The Therapeutic Guidelines (eTG) and Australian Medicines Handbook (AMH) state that PPI therapy after 4-8 weeks should be stepped-down or stopped if prescribed for gastro-oesophageal reflux disease (GORD) and other indications (5,6).

AIMS

Primary:

To identify if the indication and duration of PPI treatment post-discharge was documented, and to assess if the PPI was prescribed per guidelines (AMH & eTG).

Secondary:

To determine how many patients were discharged from hospital with a hospital initiated PPI.

METHODS & IMPLEMENTATION

A retrospective audit was conducted from January to March 2020.
Merlin dispensing software and BOSSNET (digital medical record) provided information to determine if the PPI was started in hospital, documented indication of therapy, dose and frequency of the PPI and post-discharge continuation.

The data collection process:

Merlin dispensing software identified patients prescribed PPI upon discharge → BOSSNET was accessed to analyse MMP, drug chart, progress notes and discharge summary → REDCap (Research Electronic Data Capture) used for data storage and analysis

Inclusion criteria:

- Patients dispensed a hospital initiated PPI on discharge
- Medication Management Plan (MMP) completed for episode of care
- Patients aged above 18 years

Exclusion criteria:

- Already prescribed PPI therapy pre-admission
- Hospital initiated PPI not continued upon discharge
- Patients prescribed triple therapy for H Pylori eradication
- Patients who did not have the medication dispensed at the hospital pharmacy upon discharge (e.g. DDA, nursing homes)

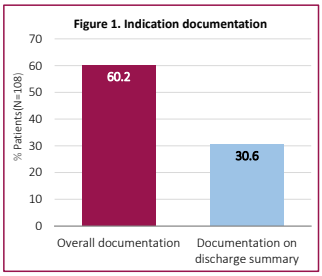
RESULTS

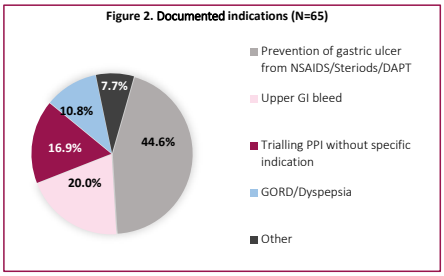
A total of 108 patients were discharged on a PPI that was initiated during hospital admission. Demographic and admission details are in table 1.

Table 1. Demographics & admission details.

Demographic detail	Patients (N=108)
Age (years); median [IQR]	61 [47;72.75]
Gender (Male); % (n)	55.6 (60)
Medical patient; % (n)	66.7% (72)
Length of Stay; median [IQR]	6 [4;10]

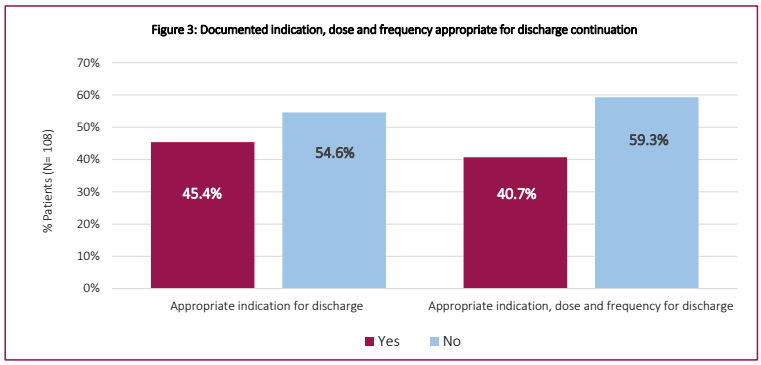
Pantoprazole was the most often prescribed PPI (94.4%, 102/108). Indication was documented for 60.2% (65/108) of initiated PPIs (Fig 1 and Fig 2).



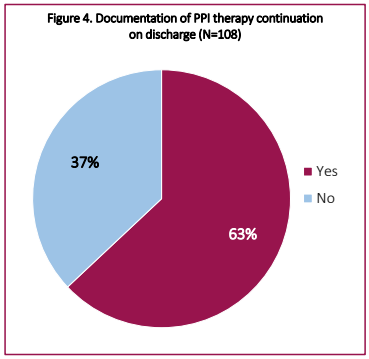


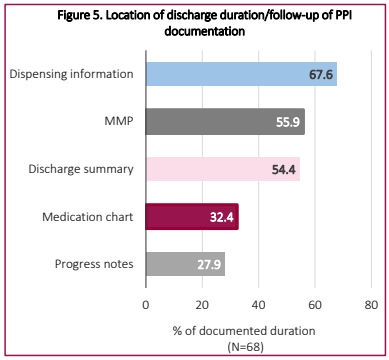
RESULTS CONT.

In 75.4% (49/65) of documented indications, continued treatment after discharge was appropriate. In these patients, 89.8% (44/49) of doses and frequencies were appropriate, with 80% (4/5) of total daily doses below recommendations. Overall, 45.4% (46/108) had appropriate discharge indications documented and 40.7% (44/108) had appropriately documented indications, doses and frequency (Fig 3).



Continuation of PPI therapy after hospital discharge was documented for 63% (68/108) of patients (Fig 4 and 5).





Overall, 89.8% (97/108) of patients were given a full box of PPI tablets on discharge, with 10.2% (11/108) receiving a partial box. The quantity of tablets was appropriate for 64.6% (42/65) of patients that had a known PPI indication of therapy.

DISCUSSION

This project showed that, while PPI indication is frequently documented, the discharge summaries often fail to communicate this information to GPs. Our study showed a large proportion of appropriate PPI doses and frequencies (87.8%), compared to a study where 68% of patients were prescribed a higher PPI dose than recommended (7). Overall, 37% of patients had no documentation regarding PPI continuation upon discharge, potentially leading to unintentional continuation of therapy. An Australian study showed PPI continuation is a significant issue, with 51% of elderly patients inappropriately taking a PPI prior to hospital admission (1). Positively, duration of therapy was communicated to the majority of patients via the dispensing information, which hopefully acts as a prompt for patients to ask further questions to their GP.

Previous studies and our project, illustrate the importance of PPI documentation upon hospital discharge to prevent possible harm from long-term PPI therapy (1,2).

Limitations:

This study does not determine if therapy was continued for the specified time frame, correctly stepped down or ceased post hospital discharge. It is assumed that the PPI documentation on MMP was accurate. We cannot assume PPIs were not appropriate where there was lack of documentation. Any PPIs not supplied from UHG upon discharge were not assessable for appropriateness.

CONCLUSION

This study showed that where there was adequate documentation, PPIs were typically prescribed as per guidelines upon hospital discharge. However, documentation of the continuation of therapy is inconsistent.

Education to prescribers and pharmacists about importance of discharge summary documentation may improve quality use of medicines and reduce polypharmacy.

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