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Proton pump inhibitor prescribing at hospital discharge: a real-world analysis from two Italian internal medicine units

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To the Editor,

Proton pump inhibitors (PPIs) are highly effective for acid-related disorders and for gastrointestinal protection in selected high-risk patients. However, treatment initiated or continued during an acute-care episode may persist without periodic reassessment, adding to polypharmacy, avoidable expenditure, and potential adverse effects.[1-5] Hospital discharge is therefore a clinically relevant transition at which the indication, dose, duration, and reimbursement eligibility of PPI therapy should be explicitly reviewed.[6]

We performed a retrospective descriptive analysis of all discharges from two Internal Medicine units of Local Health Authority ASL2 Liguria, Italy, between 1 January 2024 and 30 June 2026. A PPI prescription at discharge was defined as the presence of at least one PPI—omeprazole, lansoprazole, pantoprazole, or rabeprazole—in the electronic medication list issued at discharge; each discharge constituted one observation. The primary outcome was the proportion of discharges including a PPI. Secondary descriptive outcomes were the temporal pattern across 2024, 2025, and the first semester of 2026 and the distribution of individual agents. Categorical data were summarized as counts and percentages. No prespecified between-unit or temporal hypothesis was tested; consequently, no inferential comparisons or p-values were calculated.

Among 10,573 discharges, 4226 (40.0%) included at least one PPI. In Unit 1, the proportions were 39.1% in 2024, 36.8% in 2025, and 40.6% in the first semester of 2026; in Unit 2, they were 42.1%, 42.5%, and 35.8%, respectively. The period estimates therefore fluctuated between 35.8% and 42.5%, without an evident monotonic increase or decrease. Annual denominators for each unit-period were unavailable in the aggregate extraction, preventing presentation of unit-period counts and formal temporal comparisons. Pantoprazole accounted for 3,656 prescriptions (86.5%); lansoprazole, omeprazole, and rabeprazole accounted for 9.6%, 2.1%, and 2.0%, respectively, with the small discrepancy from 100% attributable to rounding.

These findings describe frequent PPI inclusion in discharge medication lists, but they do not demonstrate overprescribing. The database did not contain pre-admission treatment, patient-level indications, dose, intended duration, contraindications to deprescribing, post-discharge dispensing, or documentation of eligibility for National Health Service reimbursement. We could therefore not distinguish new prescriptions from continuation of, or reversion to, previous therapy, quantify prescribing inertia, determine appropriateness, or estimate expenditure attributable to the studied prescriptions. The potential clinical and economic benefits of deprescribing remain theoretical in relation to this dataset.

The predominance of pantoprazole should likewise not be interpreted as discretionary preference or inappropriate molecule selection. It may reflect hospital-pharmacy availability, local formulary policy, or continuation of the agent administered during hospitalization, whereas other PPIs may represent reversion to pre-admission treatment. Medication stewardship should therefore focus on confirming and documenting the indication, intended duration, dose, and reimbursement eligibility rather than merely switching between agents. Regular review is consistent with current expert guidance, which recommends considering deprescribing when no definitive long-term indication exists while maintaining therapy in patients with complicated gastro-oesophageal reflux disease, Barrett's oesophagus, eosinophilic oesophagitis, or high risk of upper gastrointestinal bleeding.[7,8]

The Italian regulatory framework has also changed. Italian Medicines Agency Note N01, effective from 22 March 2026, unified and replaced former Notes 1 and 48 and now defines the conditions for PPI reimbursement by the National Health Service.[9] Most observations in our study preceded its implementation, and reimbursement documentation was not captured; adherence to the new Note and its effect on prescribing patterns could therefore not be evaluated. Contextually, the 2024 National Observatory on Medicines report documented PPI consumption and expenditure in Liguria above the national average.[10] These ecological figures were not linked to the discharge prescriptions and cannot be causally attributed to them.

The clinical value of medication review at discharge extends beyond PPIs. Recent evidence has highlighted the need to assess prescribing appropriateness in commonly used drug classes, particularly in older patients, and the importance of structured continuity after hospitalization.[11,12] These principles are directly relevant to Internal Medicine, where multimorbidity and polypharmacy are common. They support prospective studies linking pre-admission therapy, documented indication, Note N01 eligibility, discharge treatment, and subsequent community dispensing. Only patient-level linkage can establish whether treatment was initiated in hospital, persisted after discharge, or was appropriately deprescribed.

In conclusion, four out of ten discharge medication lists from the participating units included a PPI, most often pantoprazole. This finding identifies discharge as an opportunity for medication reconciliation, not as proof of inappropriate prescribing. A structured discharge record specifying indication, dose, intended duration, reimbursement eligibility, and a plan for reassessment may improve continuity and permit future evaluation of clinical and economic outcomes.

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