

Prescribing Practices in a Regional Geriatric Evaluation and Management Unit

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INTRODUCTION

Polypharmacy — five or more concurrent medicines — is the norm rather than the exception in older inpatients, and it carries real harm: falls, delirium, adverse drug reactions, hospitalisation and death.

Around 40% of Australians over 75 take five or more medicines daily, and roughly one in five is prescribed a medicine considered potentially inappropriate.

GEM units should be the ideal place to interrupt this: comprehensive geriatric assessment builds in structured medication review, and an inpatient stay allows days of observation.

Whether that opportunity translates into safer prescribing has rarely been measured in regional Australian services.

OBJECTIVES

Primary

Determine the prevalence of polypharmacy (≥ 5 medicines) and hyperpolypharmacy (≥ 10 medicines) at admission and at discharge. Determine the prevalence of potentially inappropriate medicines (PIMs) at admission and discharge using the 2023 AGS Beers Criteria.

Secondary

To evaluate clinical predictors of medication burden and track longitudinal prescribing trajectories across subacute hospitalisation.

- Assess correlations between medication counts and age, frailty (CFS), and cognition (MoCA).
- Audit specific prescribing classes (e.g., long-term PPI rationale).
- Evaluate GEM medication review activity timelines.

METHODOLOGY

Design. Retrospective observational cohort audit (registered quality assurance activity).

Population. All patients admitted under the GEM team at Warrnambool Base Hospital, 1 July – 31 December 2024 with recorded admission medicines ($n = 46$); index admission only. Subgroup with available discharge medicines: $n = 33$.

Data sources. Pharmacist Medication Management Plan (admission); iPharmacy summary or discharge script (discharge); TrakCare (clinical data).

Counting rules. All regular medicines (prescription, OTC, complementary); PRN, one-off and short-course medicines with a cease date excluded.

PIM classification. AGS Beers Criteria 2023 — Table 2 (avoid), Table 3 (drug–disease/syndrome), Table 4 (caution); severe drug–drug interactions via MIMS.

Measures. Charlson index (MDCalc), CFS and MoCA as documented. Medication review counted only where documented in TrakCare; day 0 = transition to GEM.

KEY FINDINGS

Cohort. 46 patients; mean age 84 ± 7 years (67–96); median Charlson 6; median CFS 5.5; 96% living independently at home; median length of stay 20.5 days.

Medication burden on admission ($n = 46$)

	n (%)
Polypharmacy (≥ 5 medicines)	41 (89%)
Hyperpolypharmacy (≥ 10 medicines)	17 (37%)
≥ 1 Beers “avoid” medicine	39 (85%)
≥ 1 drug–disease/syndrome PIM	36 (78%)
≥ 1 “use with caution” medicine	34 (74%)
≥ 1 severe drug–drug interaction	15 (33%)

Admission vs discharge ($n = 33$)

	Admission	Discharge
Median number of medicines	8	10
Hyperpolypharmacy (≥ 10)	10 (30%)	19 (58%)
≥ 1 Beers “avoid” medicine	28 (85%)	28 (85%)
≥ 1 drug–disease/syndrome PIM	29 (88%)	28 (85%)
≥ 1 “use with caution” medicine	24 (73%)	25 (76%)
Total PIM events	134	134

ANALYSIS

Medication burden rose; PIM exposure did not fall.

PIM events were identical at admission and discharge (134), and the proportion carrying at least one Beers “avoid” medicine was unchanged at 85%. Hyperpolypharmacy nearly doubled (30% $\rightarrow$ 58%): the admission added medicines without subtracting risk.

Documented review is not deprescribing.

79% had a documented medication review, performed early (median day 2). The limiting factor is not access to review, but whether its decisions reach the discharge script.

PIM burden scales with medication count.

Moderate correlation between total medicines and number of PIMs ($r = 0.52$, $n = 46$, $p < 0.001$) — medication count is a usable, low-cost trigger for pharmacist-led review.

PPIs are the highest-yield single target.

Half the cohort was on a PPI, nearly half of those without a documented indication, and none were deprescribed.

Interpret with caution.

This phase counts Beers-listed medicines; it does not judge appropriateness for the individual patient. The discharge subgroup excludes patients transferred to step-down care, who were typically more complex.

CONCLUSION

Nine in ten older patients arrived on five or more medicines, and 85% on at least one potentially inappropriate medicine. Hospitalisation under a specialist geriatric service left PIM exposure unchanged and medication counts higher at discharge.

Documented medication review, on its own, did not translate into deprescribing. Long-term PPI use without a recorded indication is the clearest immediate target — common, low-risk to stop, and measurable.

Next steps: embed a structured deprescribing framework into GEM review; mandate a documented indication and review date for every PPI on the discharge script; re-audit with clinical outcomes (falls, delirium, electrolyte disturbance).