

Get on the Beers (criteria) – Assessing Patterns in High Falls Risk Prescribing Following Geriatric Evaluation and Management admissions

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Background

Unintentional falls are the most common cause of hospitalised injuries in Australia and is the leading cause of injury deaths.¹ The Australian Institute of Health and Welfare reported in 2018-2019, “43% of hospitalised injuries and 39% of injury deaths were due to falls”.¹ Anyone can have a fall at any time, but it is particularly a concern for people aged 65 years and over due to poorer health outcomes.² Falls in older people are associated with longer hospital admissions, increased costs to the healthcare system and higher rates of discharges to nursing homes.³

There are multiple contributing factors that increase the risk of falls, many of which increase due to the ageing process. It is common for older people to have multiple comorbidities by the age of 65 and as a result, they are often required to take multiple medications which is also a risk factor for falls. The American Geriatrics Society Beers Criteria defines medications which are potentially inappropriate in older people and can increase their risk of falls such as opioids, benzodiazepines, and anticholinergics.⁴

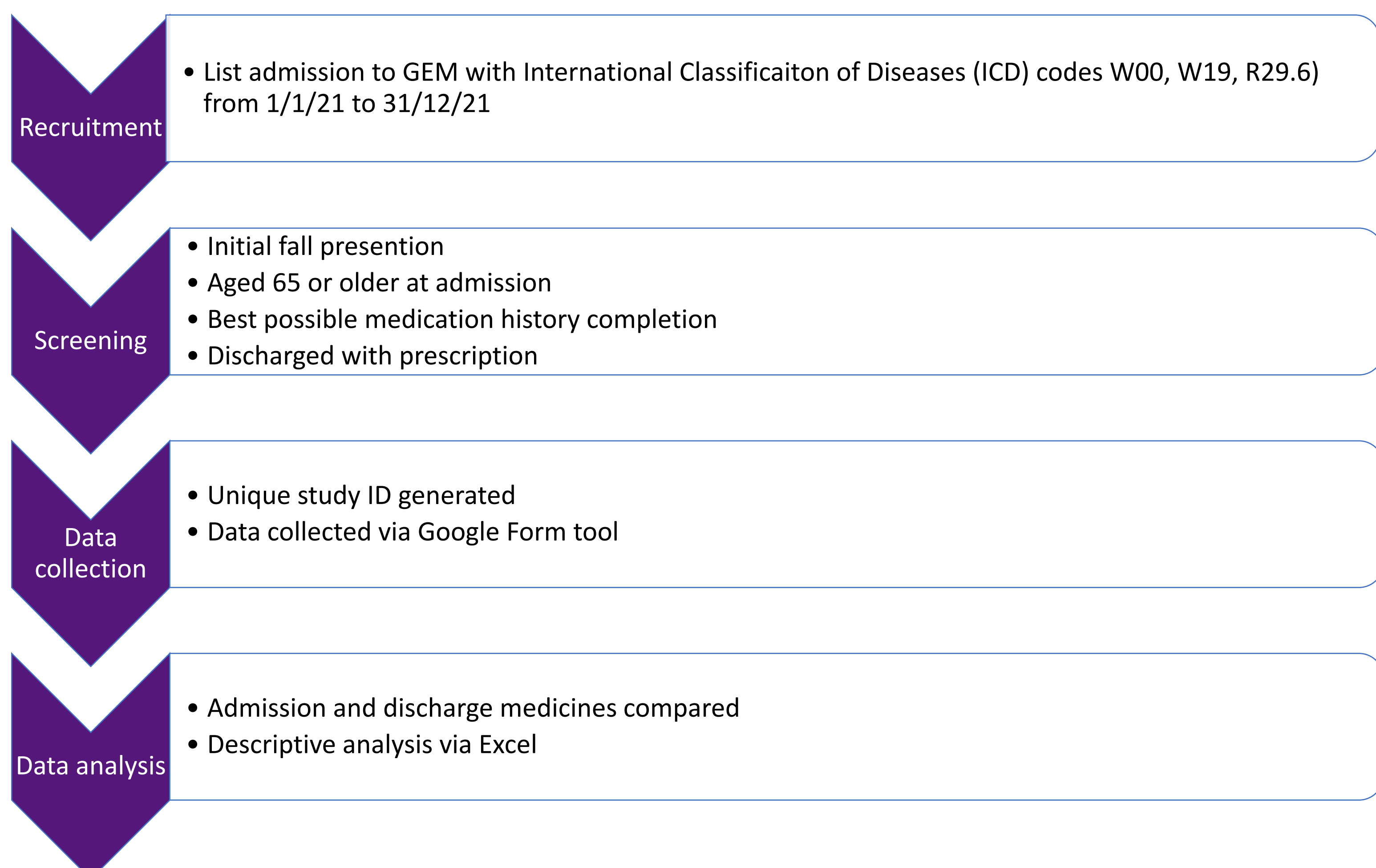
Evidence shows cessation of medicines meeting Beers criteria can reduce falls and subsequent falls.^{5,6}

Aim

To investigate the medication changes on discharge for patients aged over 65, who were admitted with a primary diagnosis of falls to the geriatric evaluation and management (GEM) unit, as per the Beers Criteria.

Methods

This retrospective observational cohort study was conducted at Grampians Health Ballarat GEM unit. The primary outcome was changes made to high falls risk medications on discharge. The secondary outcome was an in-depth analysis of opioid management.



Results

60 patients were admitted with primary diagnosis of a fall in 2021. Among these 60 patients, there were two deaths and so the final sample size was 58.

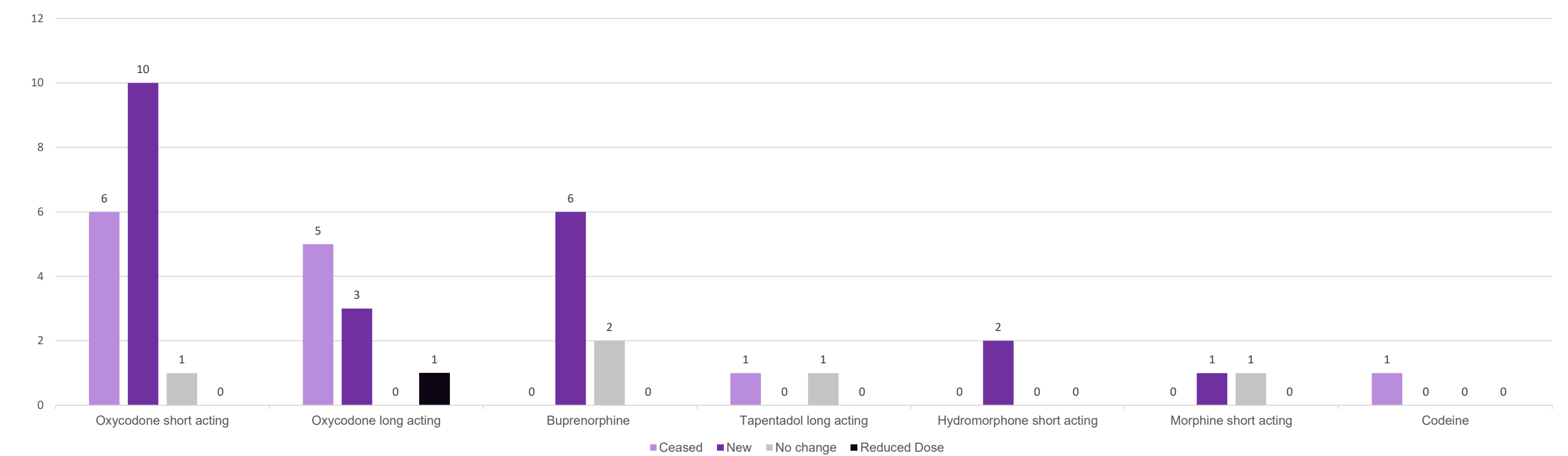
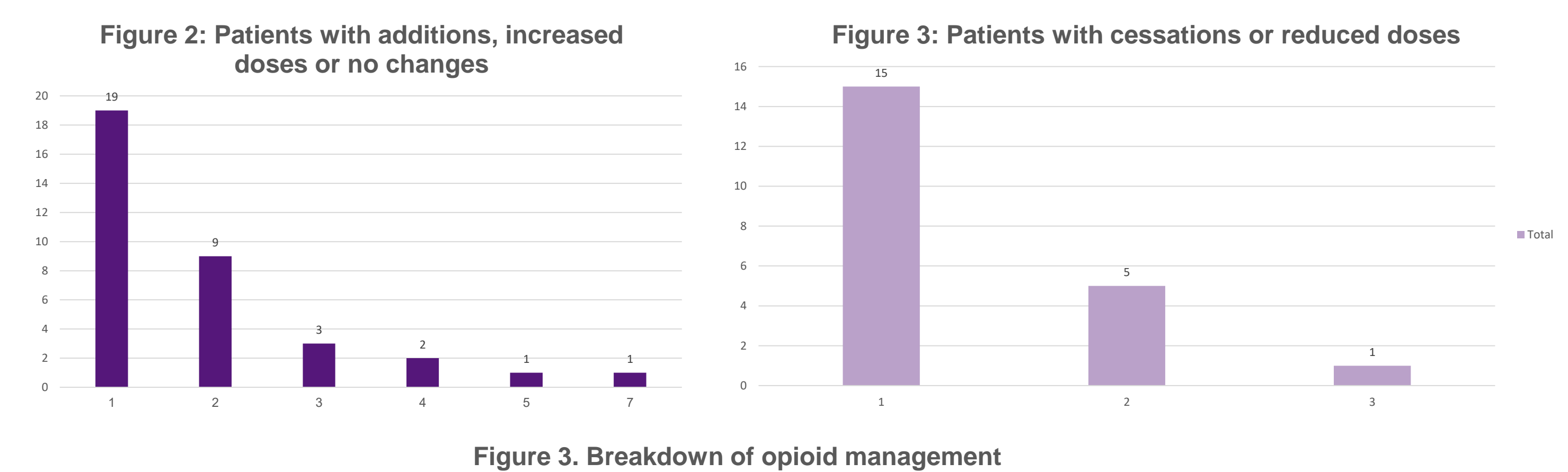
The most common high falls risk medication participants were on include antidepressants (n=21) and opioids (n=41). There were 39 newly commenced medications compared to 22 ceased, 23 medications were unchanged, and the doses of six medications were reduced while four were increased (see Table 1).

37/58 (63.8%) patients didn't have any of their high falls risk medications ceased or dose reduced, 15/58 (25.9%) patients had one medication either ceased or reduced, 2/58 (3.4%) patients had this done to two medications and 1/58 (1.7%) patient had this done to three (see Figure 2).

The median changes across the cohort was 1 (0-7). The most changes occurred with opioid medications. The most commonly used opioid was immediate release (IR) oxycodone, followed by sustained release (SR) oxycodone and buprenorphine (see Figure 3).

Table 1. Total summary of findings

Medication	Ceased	Reduced dose	Increased dose	No change	New	Grand total
Opioid	13	1	0	5	22	41
Benzodiazepine	4	1	0	0	3	8
Antipsychotic	2	1	1	1	5	10
Gabapentanoid	2	1	0	2	4	9
Anti-cholinergic	1	0	0	0	0	1
Anti-depressant	0	2	3	13	3	21
Anticonvulsant	0	0	0	2	2	4
Grand total	22	6	4	23	39	94



Discussion

28/94 (29.8%) of high falls risks medications in this study were either ceased or dose reduced on discharge. Among the new medications, 22/39 (56.4%) were comprised of opioids which were likely commenced due to pain sustained from the fall. Of the newly commenced opioids, 19/22 (86.4%) were IR formulations and 3/22 (13.6%) were SR, which closely aligns with opioid prescribing recommendations for acute pain. Alternatively, 7/11 (63.6%) of sustained release opioids were either ceased or dose reduced, demonstrating that long acting opioids are being ceased in the setting of acute pain and aren't the treatment of choice as they are known contributors to falls.

Anti-depressants were the group with the least amount of changes made (57%). A recent study found the main barriers to deprescribing anti-depressants in the geriatric population are the complexity of care, due to multiple comorbidities and medications, and relapse of depression.⁵ Increasing awareness of the falls-related side effect profiles of different anti-depressants and utilisation of clinical decision making tools may help overcome these barriers.

Limitations included being a single ward study with sub-acute casemix. This reduces generalizability to acute to care settings. This study did not investigate potential confounding medical conditions that pre-dispose falls and fragility assessment of the patient, which may also have influenced the changes made to medications with respect to falls risk.

Conclusion

Changes in medications defined by Beers Criteria for high risk of falls were investigated across all patients admitted with falls to GEM over a 12-month period. This study will inform future quality improvement and targeted research interventions into medication classes with high frequency changes like opioids, but also medication classes with low frequency changes like anti-depressants

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³. Department of Health. Consequences of Falls [Internet]. Government of Western Australia [cited 2022 May 17]. Available from: https://ww2.health.wa.gov.au/Articles/A_E/Consequences-of-falls

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⁵. Van der Velde N, Stricker BH, Pols HA, Van der Cammen TJ. Risk of falls after withdrawal of fall-risk-increasing drugs: a prospective cohort study. Br J Clin Pharmacol. 2007 Feb; 63(2): 232-237. 2006 Aug 30. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2000574/> doi: 10.1111/j.1365-2125.2006.02736.x