Investigating the use of Monitored Medicines, Antidepressants and Antipsychotics Prescribed within an Inpatient Mental Health Facility

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Introduction

The growing prevalence of mental-health conditions is a national health priority in Australia and is a key focus of Ramsay Health Care.[1] Mental-health related prescriptions such as benzodiazepines, antidepressants, and antipsychotics are used to treat these conditions, however, can be associated with significant medication-related harms if misused or overprescribed.[2] The Australian Institute of Health and Welfare (AIHW) data on drug-induced deaths, identifies benzodiazepines with the highest rate of significant harm, present in 811 drug-induced deaths (43%). Antidepressants present in 568 deaths (30%) and antipsychotics in 356 deaths (19%).[3] The Queensland Medicines and Poisons Regulation 2021 outlines a list of high-risk medicines that have a recognised therapeutic use, but also present a high risk of harm.[4] These high-risk medicines are referred to as monitored medicines and require additional monitoring to help health professionals better assess their safety and clinical appropriateness.

They include[4,5,6]:
- All Schedule 8 medicines
- All benzodiazepines
- Codeine
- Gabapentin
- Pregabalin
- Quetiapine*
- Tramadol
- Zolpidem
- Zopiclone

*For the purposes of this study, the antipsychotic quetiapine was categorised as a monitored medicine

Aim

1. Investigate the prevalence of monitored medicine prescribing
2. Investigate the prevalence of antidepressant and antipsychotic prescribing
3. Investigate the prevalence of monitored medicine, antidepressant, and antipsychotic co-prescribing
4. Develop initiatives and guidelines to improve the quality of monitored medicine use within the hospital to ensure the safe continuation of treatment on discharge

Methods

A cross-sectional audit of inpatient medication charts was conducted over two weeks in a small mental-health hospital. The audit included patients over the age of 18 years admitted to the hospital and prescribed at least 1 monitored medicine. Patients were excluded from the study if they did not meet the inclusion criteria or if they had discharged and readmitted to the hospital within the data collection period. The data collected included the name of medication, whether the medicine was a 'regular' or PRN medicine, the class or category, and the total number of monitored medicines, antidepressants and antipsychotics prescribed. Medicines prescribed as both a regular and PRN dose was considered 2 separate data entries. No patient identifiers were collected.

Results

A total of 135 inpatient charts were reviewed against the inclusion criteria. Nine patients were not prescribed a monitored medicine, and 1 patient was discharged and readmitted during the data collection period. The remaining 125 patients met the inclusion criteria. A total of 552 medications were included, with 316 (57.3%) monitored medicines, 148 (26.8%) antidepressants and 88 (15.9%) antipsychotics prescribed, see Figure 1-3. Diazepam and quetiapine were most prescribed monitored medicine, with 102 (32.3%) and 82 (25.9%) orders respectively, see Figure 1. The mean number of monitored medicines prescribed across all charts was 2.53 (SD 1.53). The rates of co-prescribing for the most prescribed monitored medicines are outlined in Table 1.

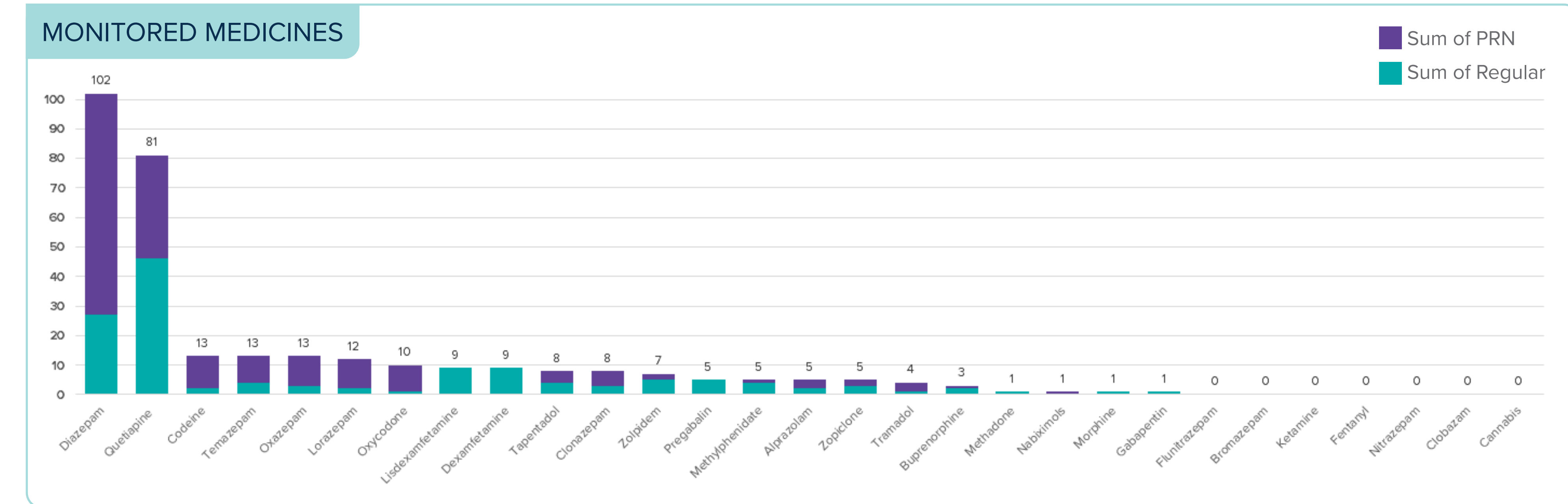**Figure 1:** *Total Number of Monitored Medicines Prescribed*

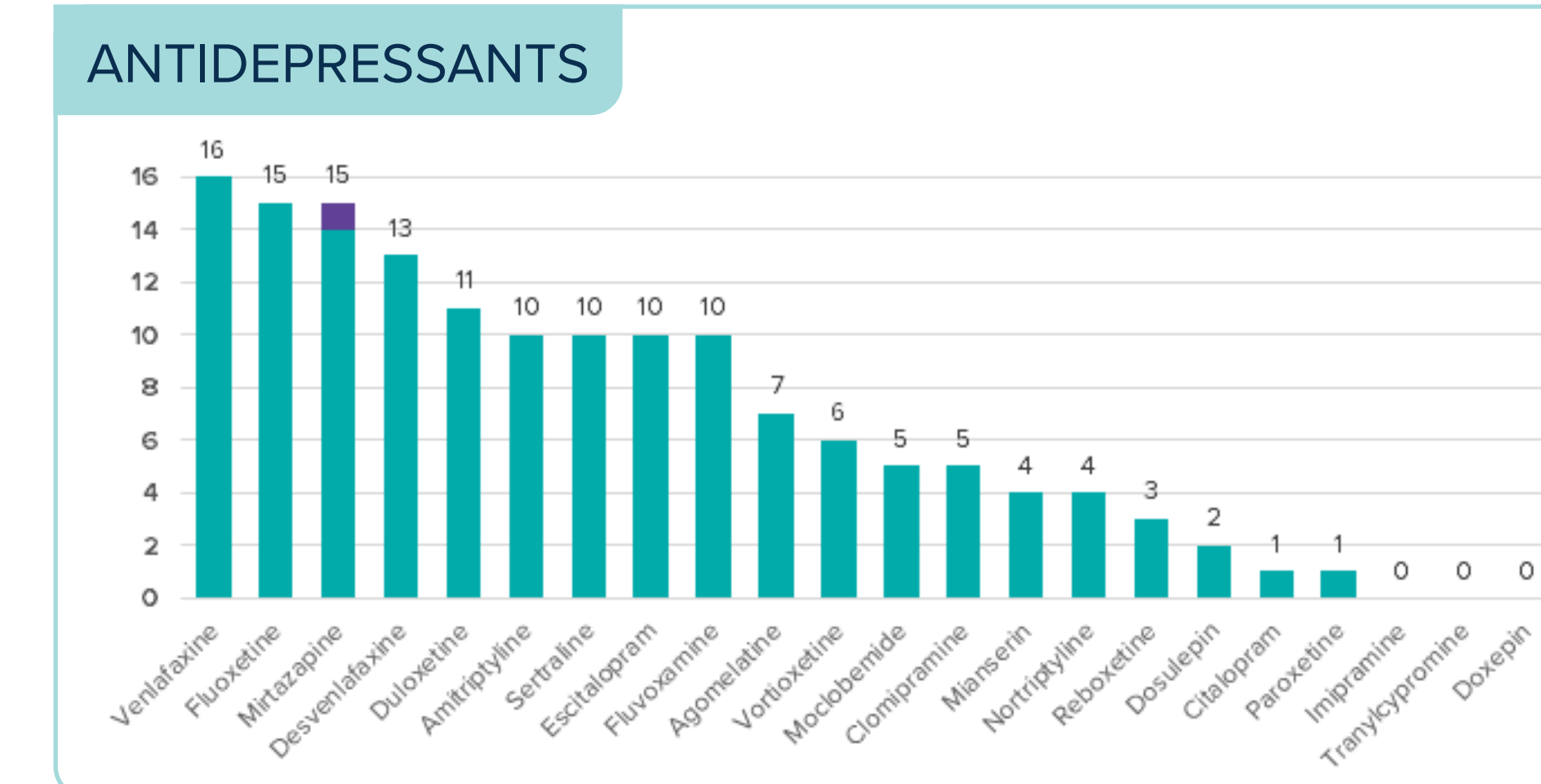**Figure 2:** *Total Number of Antidepressants Prescribed Prescribed*

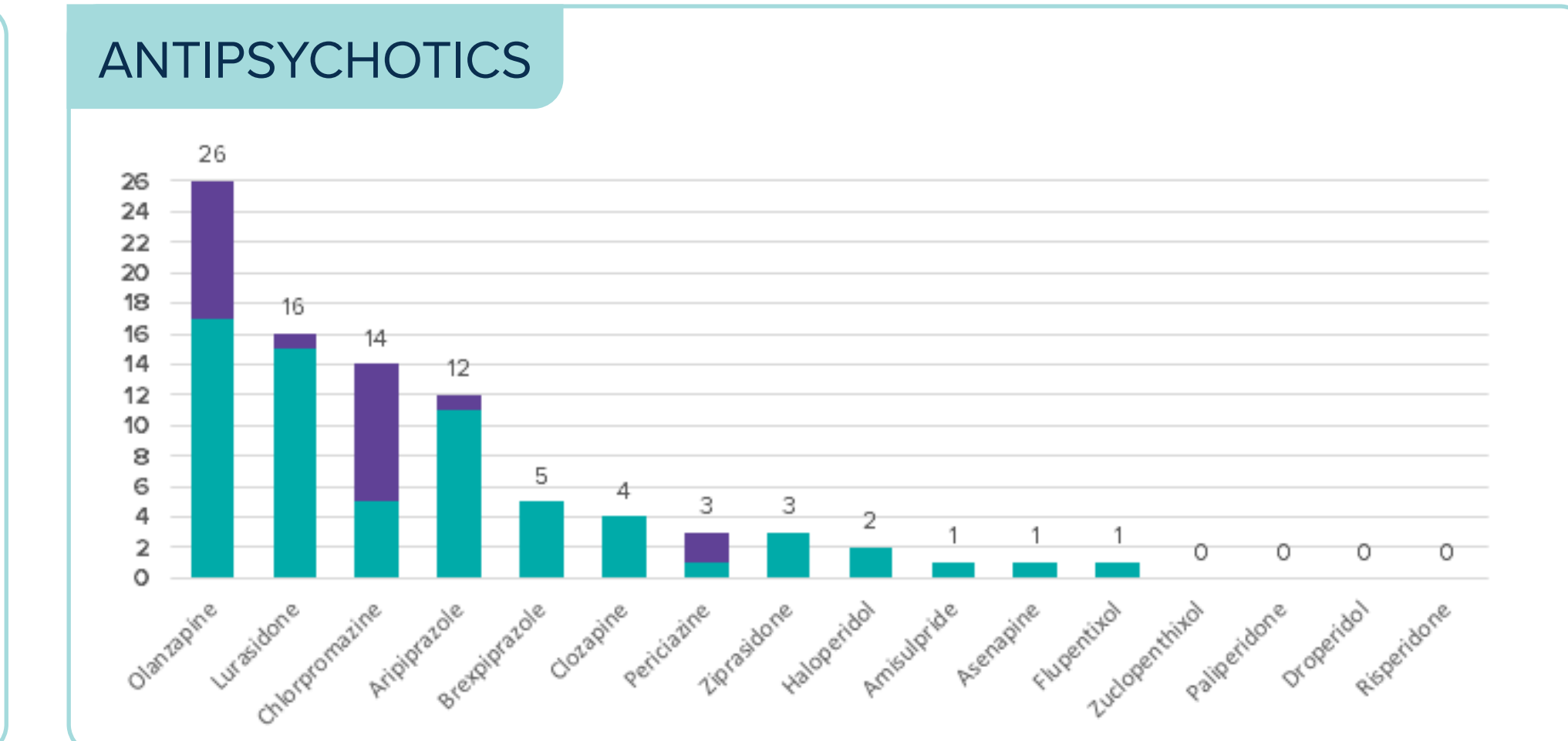**Figure 3:** *Total Number of Antipsychotics Prescribed*

Table 1: *Co-Prescribing with Most Prescribed Monitored Medicines*

Characteristics	Diazepam (n=102)	Quetiapine (n=81)	Codeine (n=13)	Temazepam (n=13)	Oxazepam (n=13)
At least one other monitored medicine, n (%)	57 (55.9)	41 (50.6)	12 (92.3)	9 (69.2)	7 (53.8)
At least one other antidepressant, n (%)	70 (68.6)	54 (66.7)	11 (84.6)	12 (92.3)	10 (76.9)
At least one other antipsychotic, n (%)	43 (42.2)	23 (28.4)	5 (38.5)	4 (30.8)	7 (53.8)
Average number of medicines prescribed - all categories, mean (SD)	4.73 (1.89)	4.88 (1.97)	5.15 (2.44)	4.23 (2.35)	2.5 (0.97)

Discussion and Conclusion

There was a high rate of monitored medicine prescribing (57.3%). Benzodiazepines collectively represented 48.8% of all monitored medicines, with diazepam (32.3%) the most prescribed, and was charted with at least 1 other monitored medicine in 55.9% of charts. The most-common combinations were monitored medicines + antidepressants, with 62 patients (49.6%), and monitored medicines + antidepressants + antipsychotics charted for 55 patients (44%). In total, this indicates co-prescribing in 93.6% of all charts audited, with an average of 2.53 (SD 1.53) medications co-prescribed. This average was higher for patients prescribed a monitored medicine, with an average of 4.73 (SD 1.89) prescribed alongside diazepam and 4.88 (1.97 SD) alongside quetiapine.

The findings of the study are an important basis for understanding the current usage of monitored medicines, antidepressants, and antipsychotics in the context of a small mental-health facility. The results show a significant use of benzodiazepines and quetiapine, that are associated with a high rate of co-prescribing amongst high-risk medicines. It provides useful preliminary results on clinical prescribing that can be used to guide the development of future quality assurance initiatives.

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