



# Enhancing patient safety in rapid tranquillisation (RT) in Accident and Emergency (A&E) department, Changi General Hospital (CGH) through implementation of inter-professional initiatives and audit

Dr Bharathi Balasundaram  
Dr June Sim Guek Gwee  
Ms Maragatham Ramany  
Ms Teoh Su Rene



Changi  
General Hospital  
SingHealth

## INTRODUCTION

Patient related violence is common in A&E department. The pharmacological management of acute behavioural patients is a high-risk intervention associated with patient safety.

In 2017, Changi General Hospital (CGH) revised its policy on management of violent/aggressive patients using rapid tranquillisation. With the inputs from interprofessional working group, dosage and route of administration of psychotropic medications in RT were reviewed, embedding patient safety into the original policy.

## AIMS

To assess the prescribing patterns of psychotropic medication used in RT in A&E department and concordance with the revised policy performance standards.

### Performance Standards

1. Doses of parenteral diazepam, lorazepam, midazolam, haloperidol and ketamine should be in line with the revised policy.
2. Route of administration of psychotropic medications should be in line with the revised policy.

### Performance Measurement

Presence of rapid tranquillisation associated serious complications within 24 hours for all psychotropic medications (Except diazepam, within 72 hours, due to the long half-life of the drug).

## METHODS

A retrospective cohort audit from 1<sup>st</sup> October – 31<sup>st</sup> December 2017 in CGH.

### Inclusion Criteria

All A&E patients aged  $\geq 21$  years old who were administered rapid tranquillisation for management of acute behavior disturbance.

### Data Collection

Relevant data was extracted from electronic and paper medical records by a study pharmacist. To ensure integrity of data collection, data quality check of 10 patients were conducted by the study psychiatrists and another pharmacists involved.

### Data Analysis

Descriptive data was used and data analysis was performed using Statistical Package for the Social Science (SPSS) Statistic version 22.

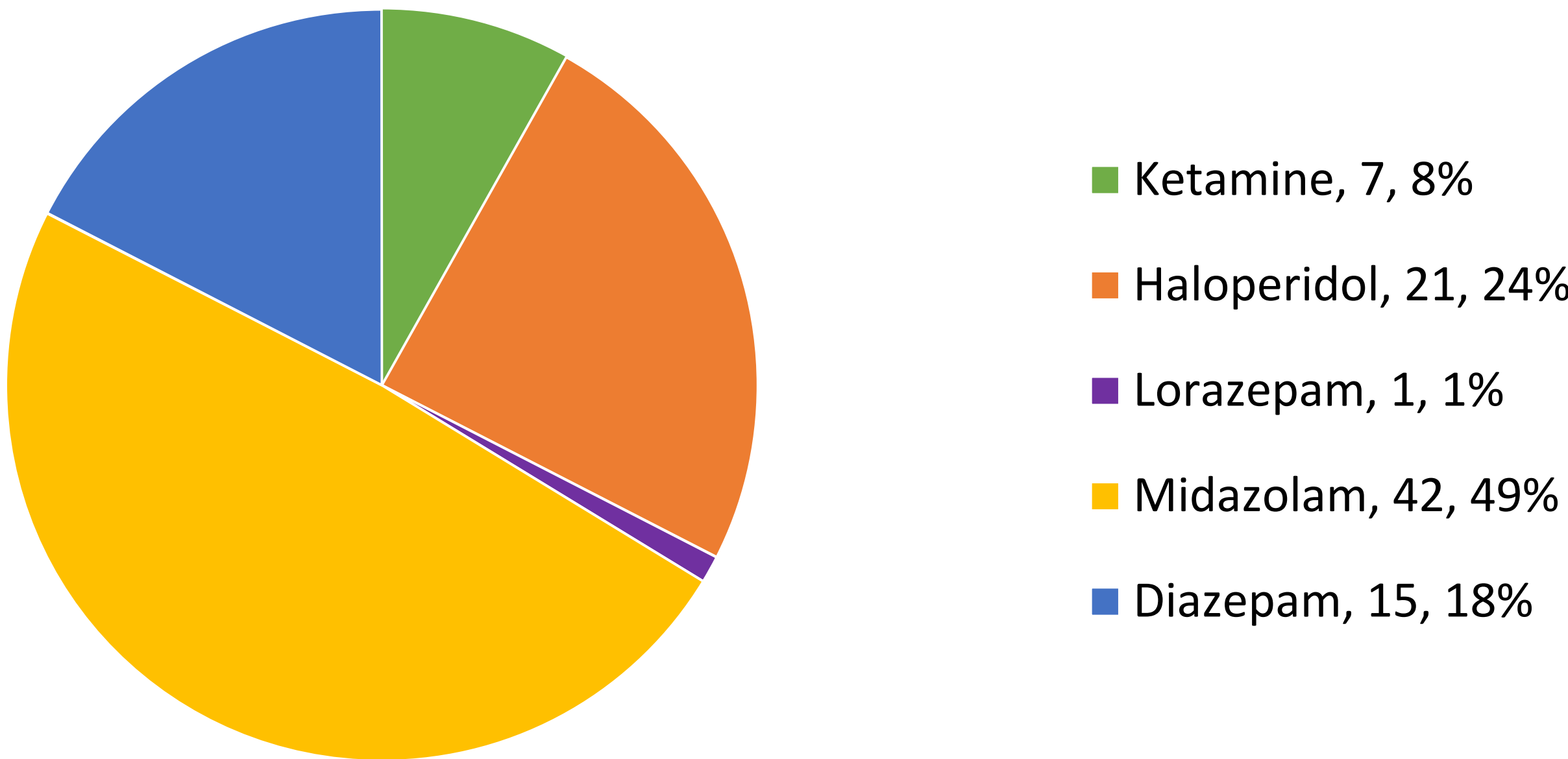
## RESULTS

52 patients (86 electronic rapid tranquillisation prescriptions) were included.

Characteristics	Number of patients, n=52
Male gender, (%)	31 (59.6%)
Mean age, (SD)	53 (19.6)
Ethnicity, (%)	
Chinese	38 (73.1%)
Malay	6 (11.5%)
Indian	3 (5.8%)
Others	5 (9.6%)
Place of residences, (%)	
Home	45 (86.5)
Nursing home (Institutional care)	2 (3.8)
Others eg. prison, travellers	5 (9.6)

Figure 1: Patient's demographic

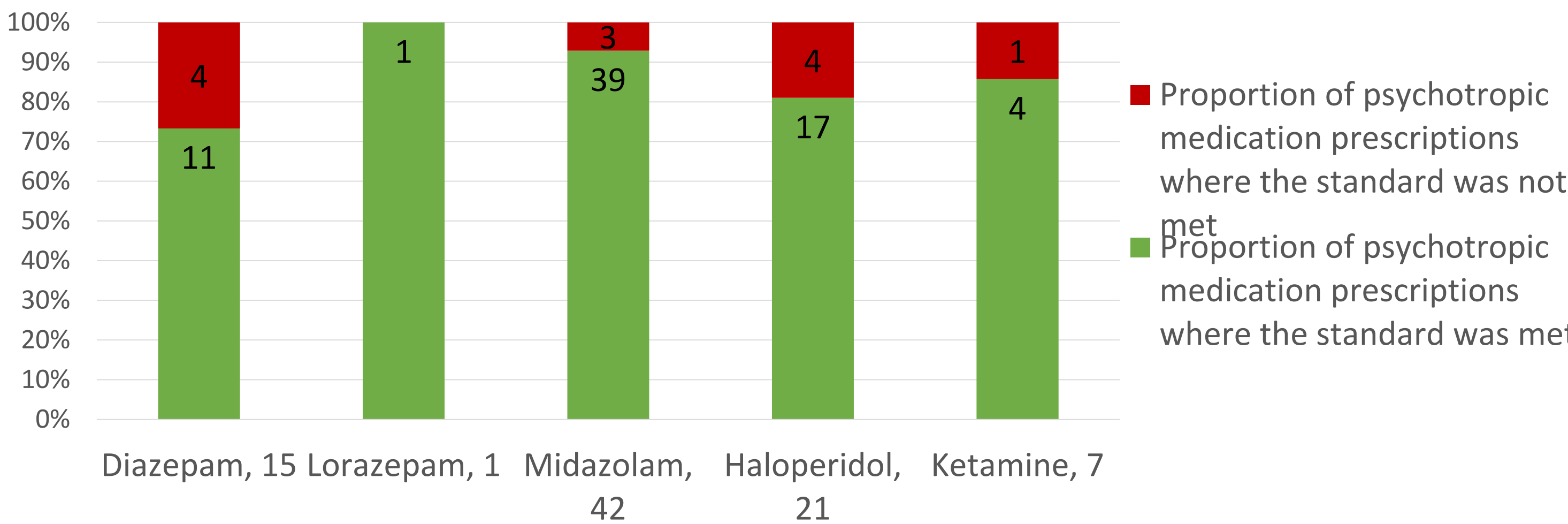
Figure 2: Summary of psychotropic medication prescriptions



## RESULTS

Performance Standard 1 (Doses)  
Compliance rate  $\rightarrow$  74/86 (86%)

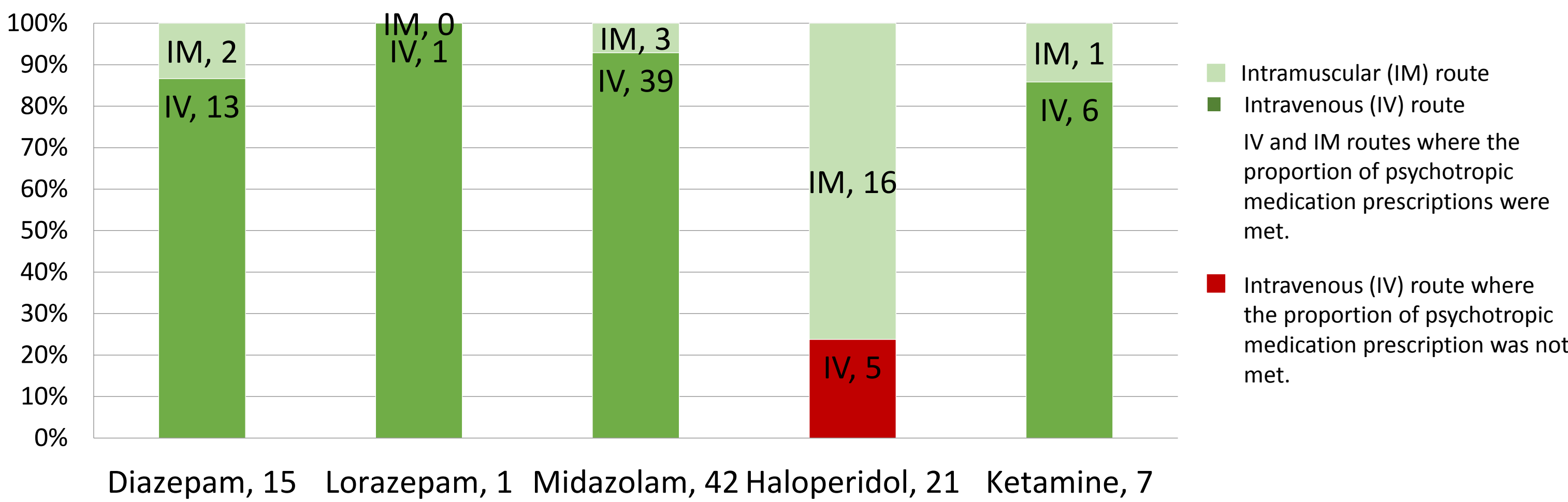
Figure 3: Proportion of psychotropic medication prescriptions where the dosage regimen were in line with revised policy



The compliance rate of psychotropic medication prescribed in relation to dosage regimen in the revised policy was 74/86 (86%). The remaining 12/86 (14%) of psychotropic medication prescriptions had exceeded the maximum single dose recommendation in the revised policy. Among these 14% of prescriptions, 2 patients received a total daily dose that exceeds the daily dose recommendation in the revised policy. The psychotropic medication involved was diazepam.

Performance Standard 2 (Route)  
Compliance rate  $\rightarrow$  81/86 (94%)

Figure 4: Proportion of psychotropic medication prescriptions where the route of administration were in line with revised policy



Majority of the psychotropic medications were prescribed in intravenous (IV) route, 64/86 (74%) vs intramuscular (IM) route, 22/86 (26%). The compliance rate of psychotropic medications in relation to route of administration was 81/86 (94%). Non compliance to the revised policy was noted only in 5 haloperidol orders. IV haloperidol was discouraged from use due to high risk of developing QT prolongation and Torsades de pointes.

Performance Measurement  
NO RT-associated complication observed

## CONCLUSION

The audit results revealed that the dosage and route of administration of rapid tranquillisation medications in A&E department were complied with at 86% and 94% respectively. This suggests reasonable good practice being adopted in A&E department in CGH.

Area of improvement/future work:

- ❖ Abstain from haloperidol intravenous prescriptions
- ❖ Awareness sessions to both medical and nursing staff regarding patient safety in RT
- ❖ Re-audit will be conducted with staff training embedded into interventions for improvement.