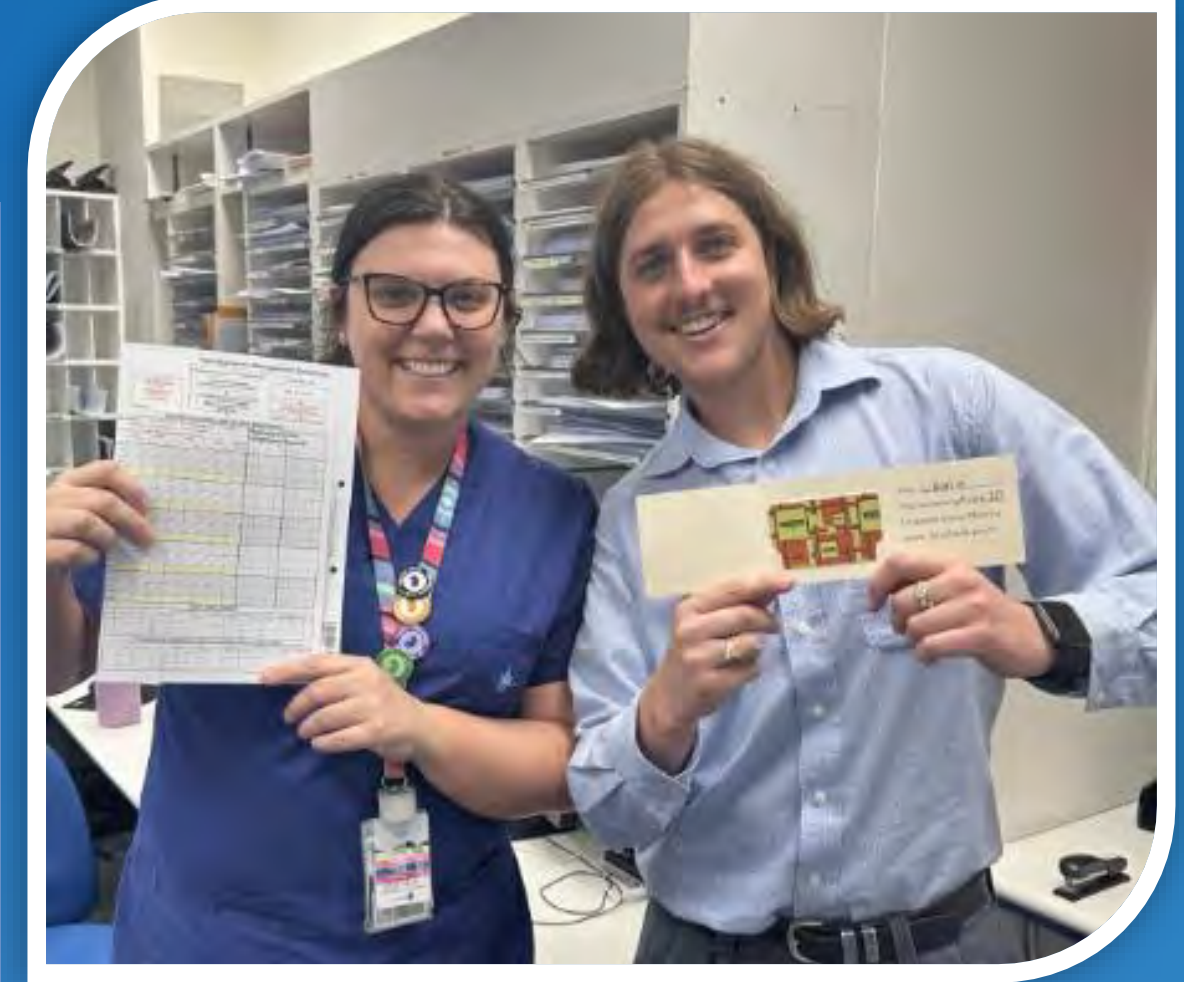


Hypoglycaemic events in inpatients receiving sulfonylureas – a pilot study

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Introduction

Hypoglycaemia is:

- Reported in up to 30% of hospital inpatients administered sulfonylureas
- Associated with increased morbidity and mortality and prolonged hospital stay
- Monitored as a Healthcare Acquired Complication (HAC)

Aims

- To assess the prevalence of hypoglycaemia in a metropolitan tertiary hospital amongst inpatients administered a sulfonylurea and to review potential contributing factors
- To review the accuracy of hypoglycaemic data capture in the NSW HAC database

Method

Institutional HREC approval #2023STE02007

- Retrospective review of 50 patients administered at least two doses of a sulfonylurea in 2022, identified using electronic medication records
- Routine demographics, clinical data, and episodes of hypoglycaemia (BGL < 4mmol/L) were obtained from healthcare records
- Identified episodes of care which included hypoglycaemia were compared to those reported in the NSW HAC database

Results

16/50 (32%) patients administered ≥ 2 doses of a sulfonylurea experienced hypoglycaemia

- Mean age = 71 (range: 49-86) years
- 10/16 (63%) were male
- Mean 4 hypoglycaemic events/patient (range 1 - 9)
- BGL < 3mmol/L in 7 patients
- See Figure 1 for distribution by type of sulfonylurea
- Risk factors for hypoglycaemia included:
 - Insulin co-administration = 12/16 (75%)
 - Cognitive impairment documented = 5/16 (31%)
 - eGFR < 30mL/min/1.73m² = 2/16 (13%)
 - No specialist review for patients on oral hypoglycaemics (see Figure 2)
- Of the healthcare record identified episodes of care including hypoglycaemia, 5/16 (31%) were included in the NSW HAC database

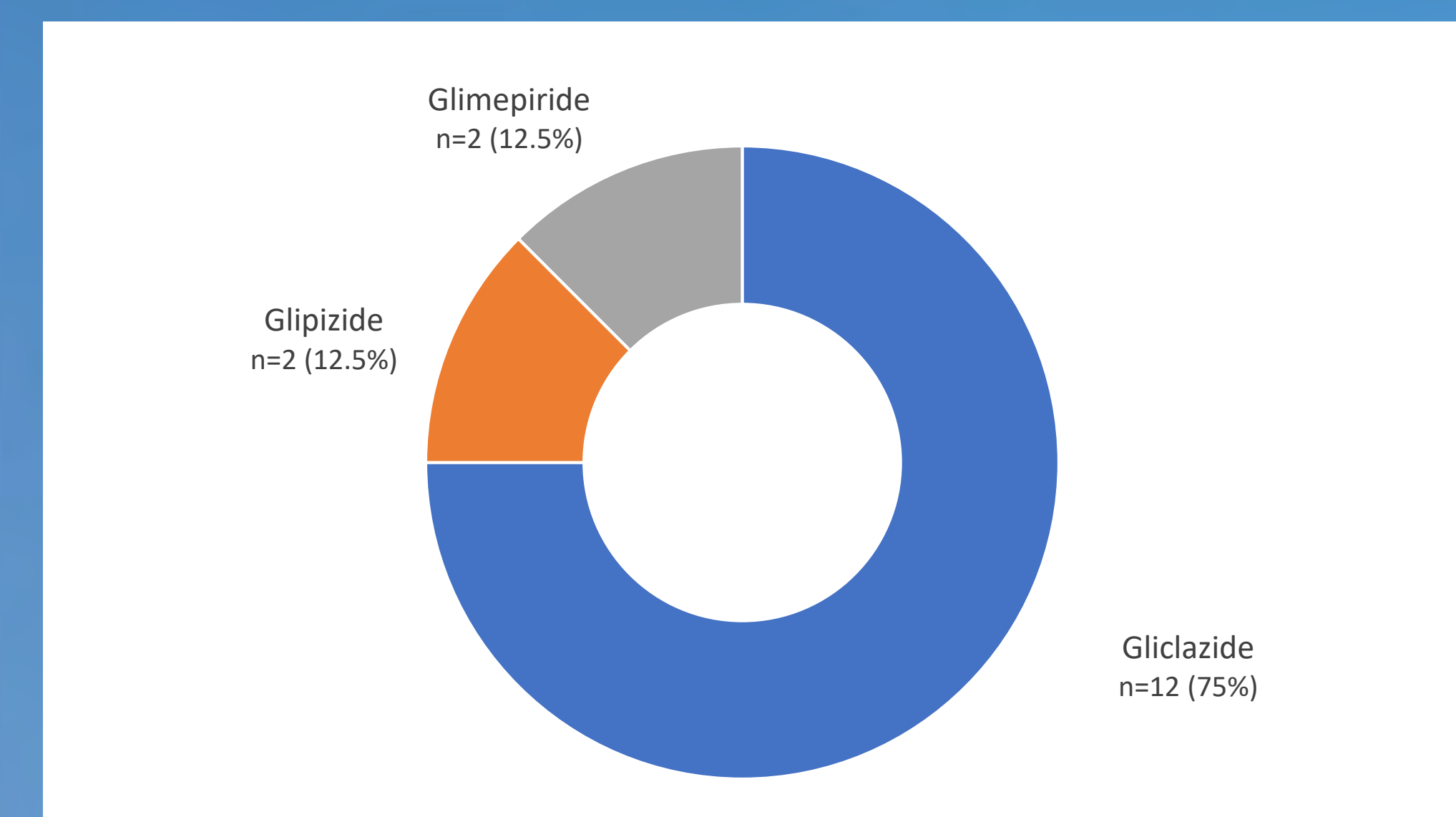


Fig 1: Distribution of sulfonylurea administered to patients who experienced hypoglycaemia

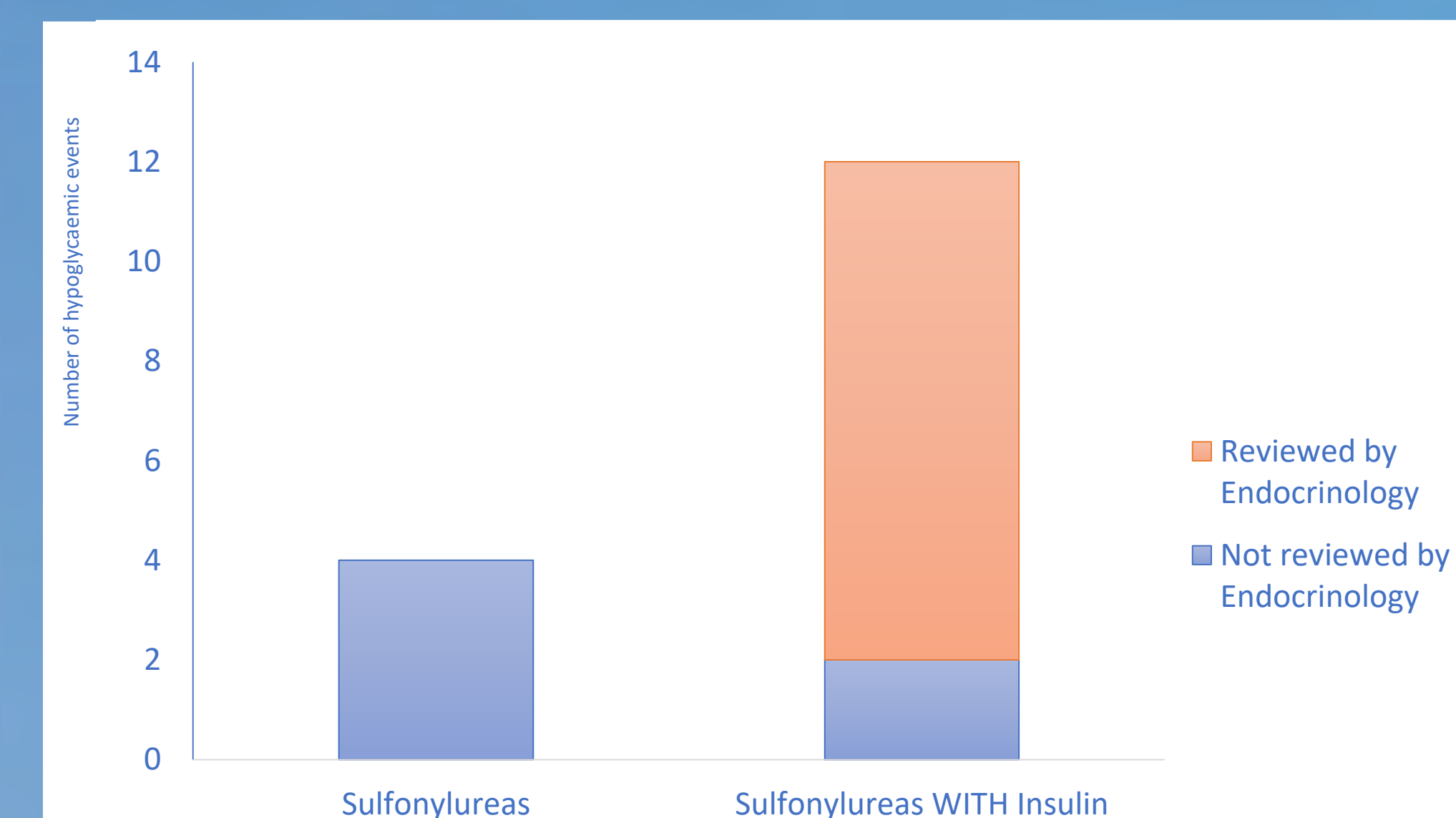


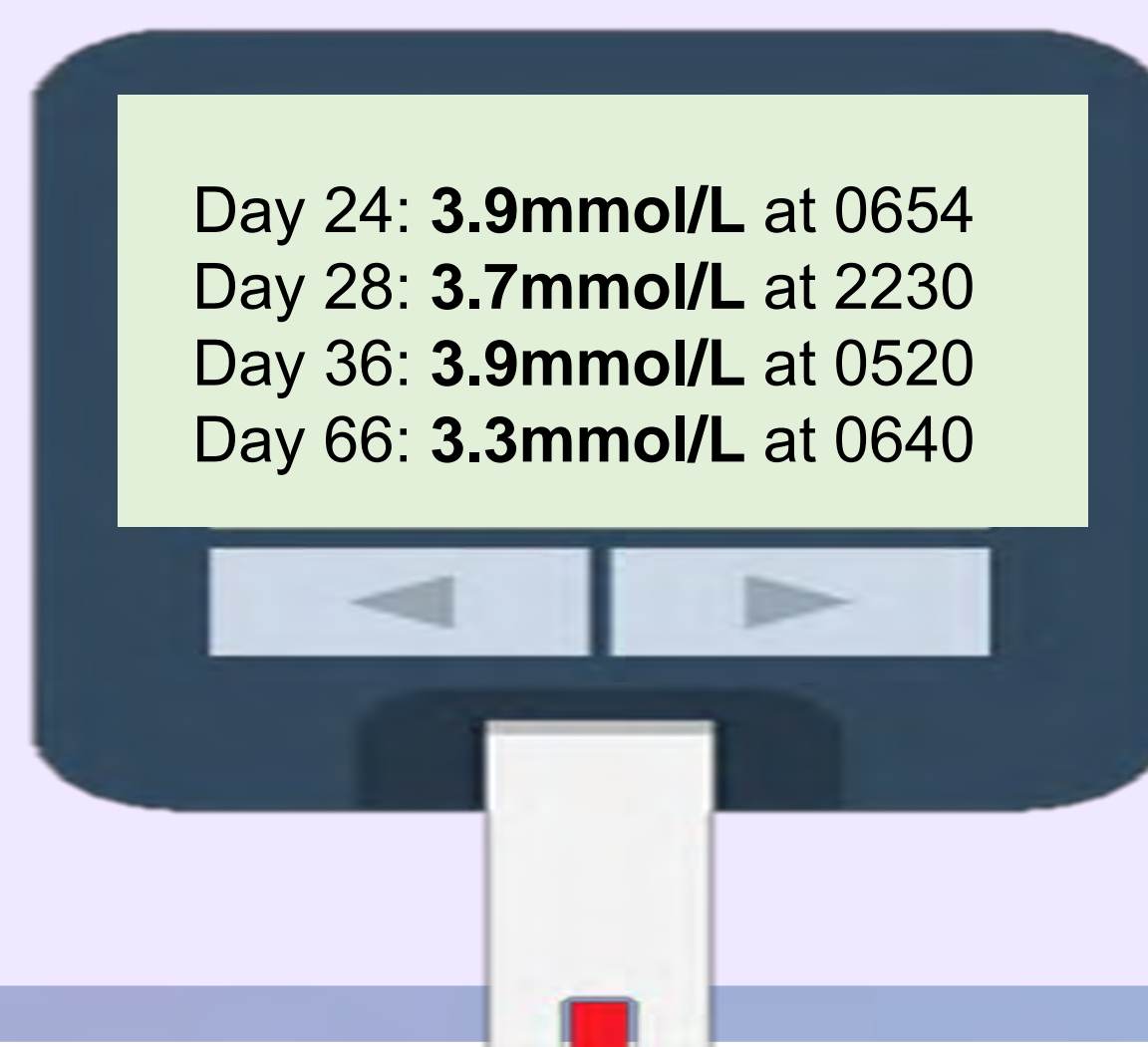
Fig 2: Number of hypoglycaemia events by medication and Endocrinology review

Why does this matter? A case study from this cohort

Mr FB 86yrs

- ❖ Admitted via ED due to fall, lives alone
- ❖ Type 2 diabetes for 12 years, on gliclazide 60mg MR mane
- ❖ Day 2: HbA1c = 6.4%
- ❖ Shoulder injury, septic arthritis

Hypoglycaemia



Discharged home from rehab

- ❖ No change in diabetes therapy: Gliclazide 60mg MR daily
- ❖ Transitional Aged Care Program (TACP) support

12 days later

- ❖ Readmitted to ED after TACP visit
- ❖ Hypoglycaemia 2.6mmol/L



Conclusion

- One third of this cohort administered sulfonylureas experienced multiple episodes of hypoglycaemia
- Contributing factors included concurrent use of insulin, age and cognitive impairment
- Timely medication reconciliation and glucose review by pharmacists and a diabetes clinical team are opportunities to minimise hypoglycaemia risk
- Strategies to improve the documentation of hypoglycaemia in medical record coding would increase accuracy of HAC data