



# Understanding Trends in GHB-Related Hospitalisations in Australia

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## Gamma-hydroxybutyrate (GHB)

- GHB is a potent central nervous system depressant associated with a high risk of overdose and severe toxicity. It has emerged as a significant public health concern globally.
- Historically used as a pharmaceutical agent for narcolepsy and alcohol withdrawal.
- GHB and its precursors (GBL and 1,4-butanediol) are now popular as recreational drugs due to their euphoric and sedative effects.
- Although less commonly used than other illicit substances in Australia, GHB has:
  - A narrow therapeutic window,
  - A high potential for overdose,
  - Resulting in frequent emergency department visits and hospital admissions.
- There is an urgent need to better understand the drivers and patterns of GHB-related hospitalisations, as the drug continues to account for a disproportionate number of acute medical presentations relative to its prevalence.

## Study Aims

It explores demographic, geographical, and clinical characteristics associated with GHB-related hospitalisations, and how these have changed over time.

## Methods

### Data source

- National Hospital Morbidity Database
- Patients aged 15 and over
- GHB-specific diagnosis in the first 20 diagnosis fields

*\*Separations where the care type was 'newborn without qualified days', cross border separations and records for 'posthumous organ procurement' and 'hospital boarders' were excluded*

### Measure

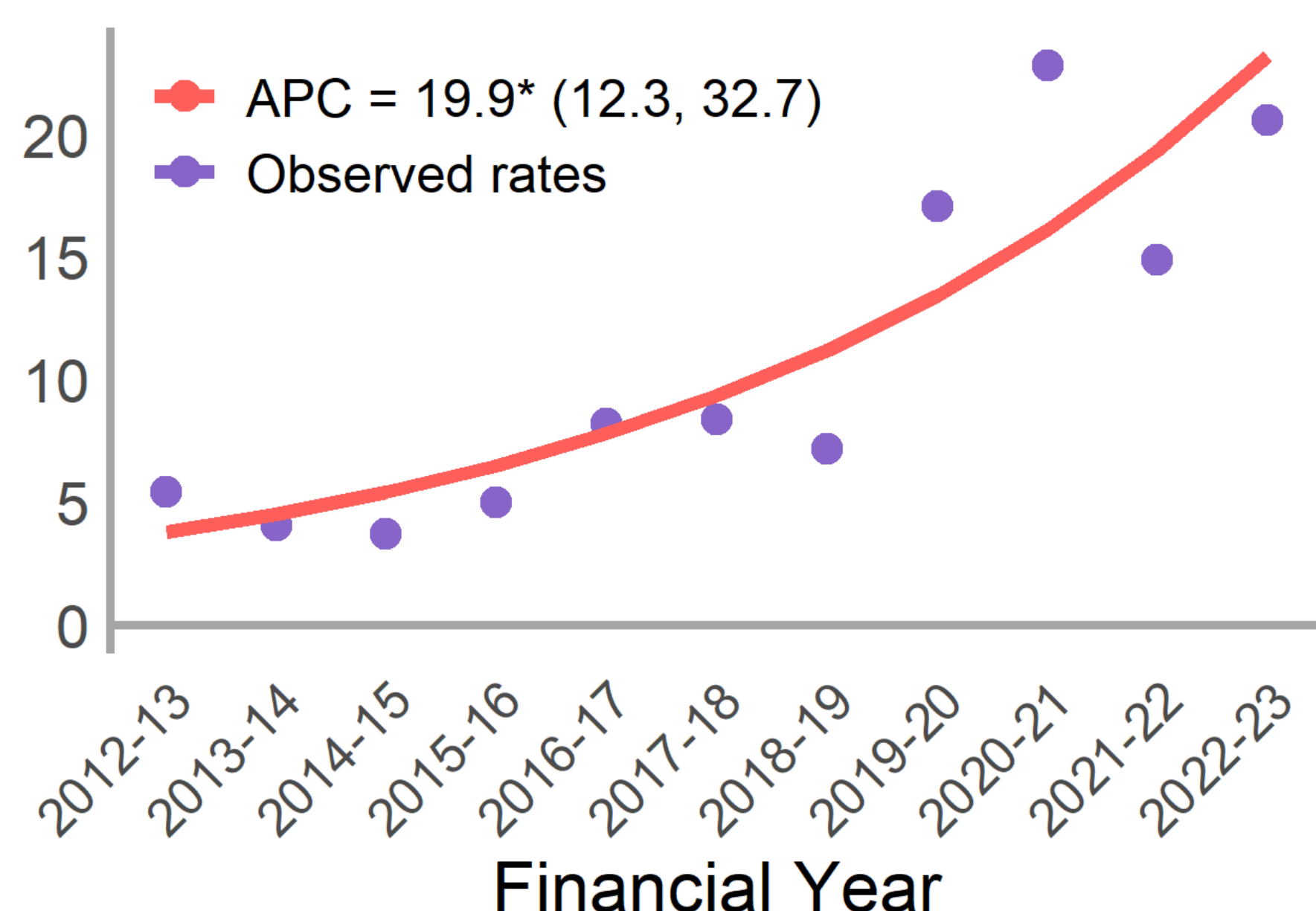
- Hospitalisation numbers were converted to age-standardised rates per 100,000 individuals.
- Sociodemographic and clinical characteristics were presented as percentages of the total.

### Analysis

- Trends were analysed using Joinpoint regression.
- Annual Percent Change (APC) was used to quantify the direction and magnitude of the trend over time.

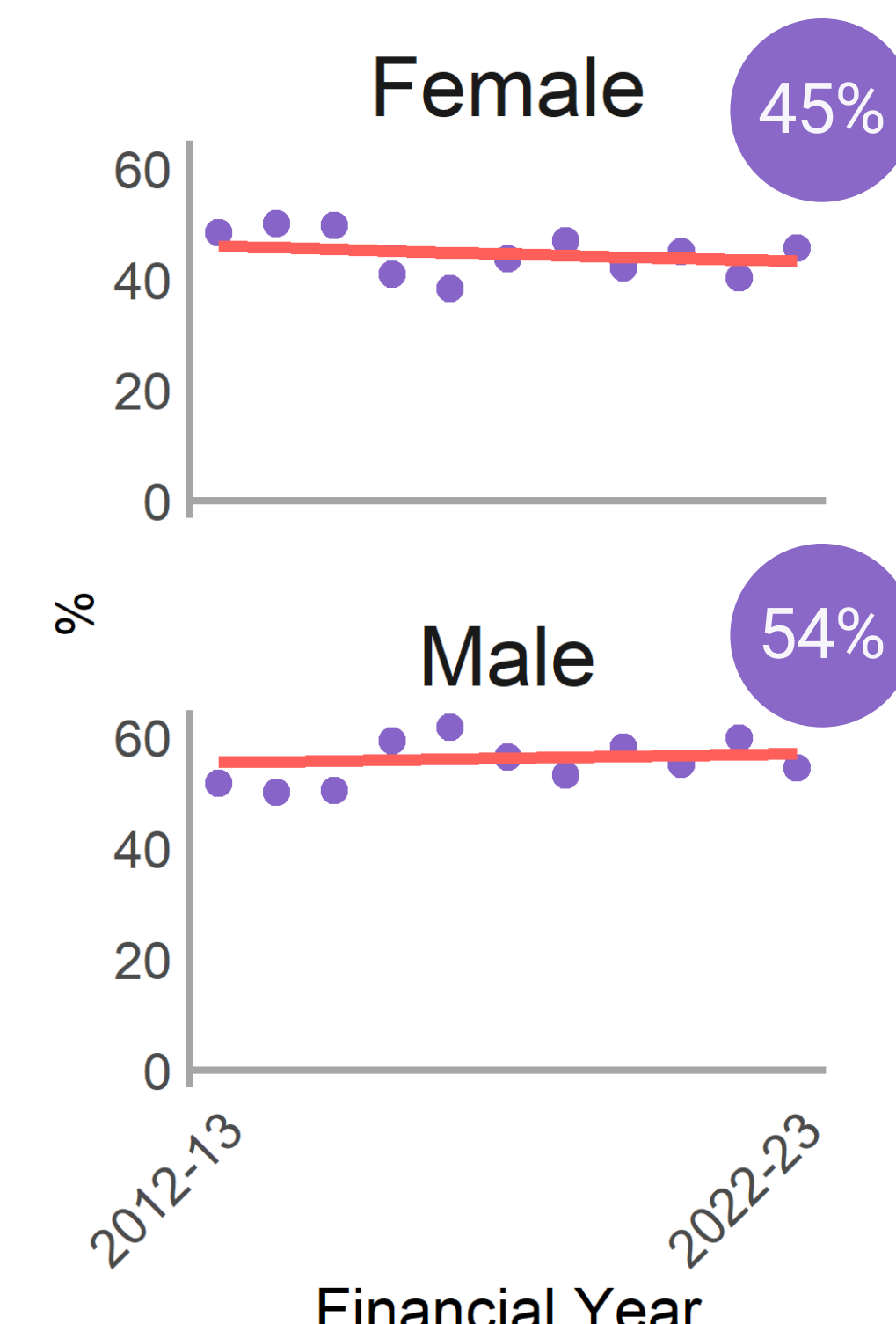
### OVERALL RATE

Age-standardised rate per 100,000 people aged 15 years and over



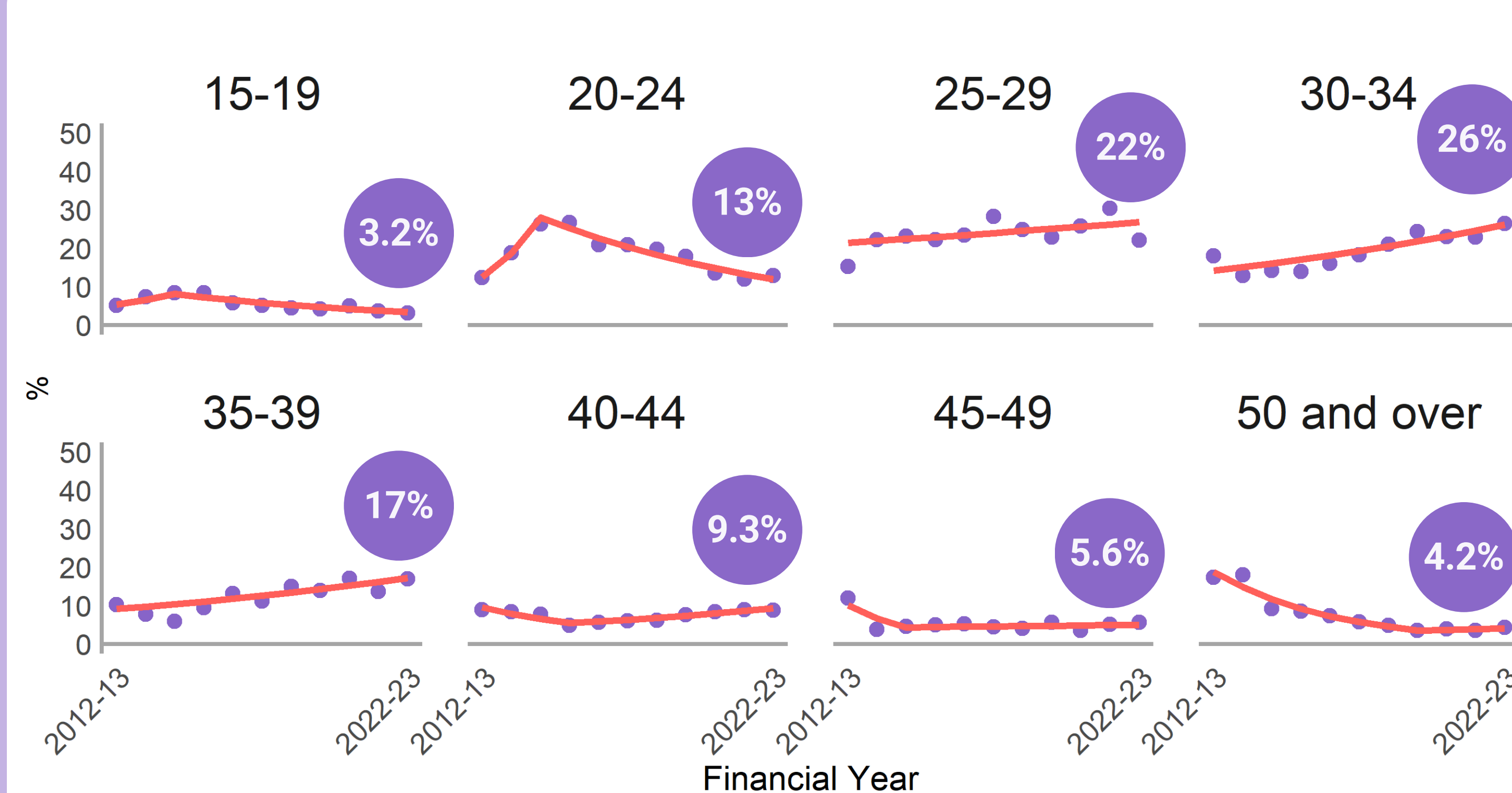
From 2012-13 to 2022-23, GHB-related hospitalisation rates **increased** by an average of 20% annually

### SEX



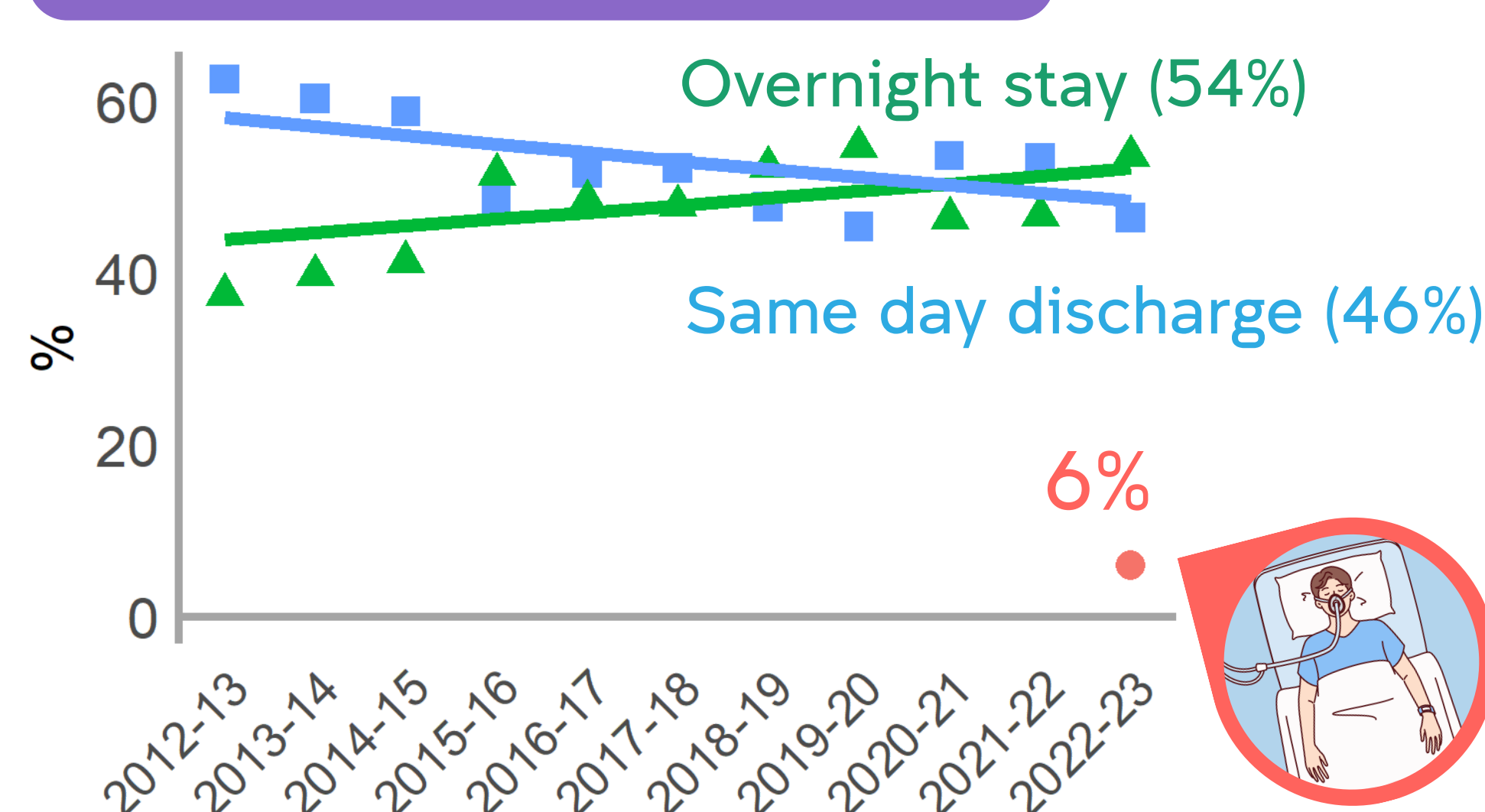
**Males** constituted over half of the hospitalisations across most years.

### AGE



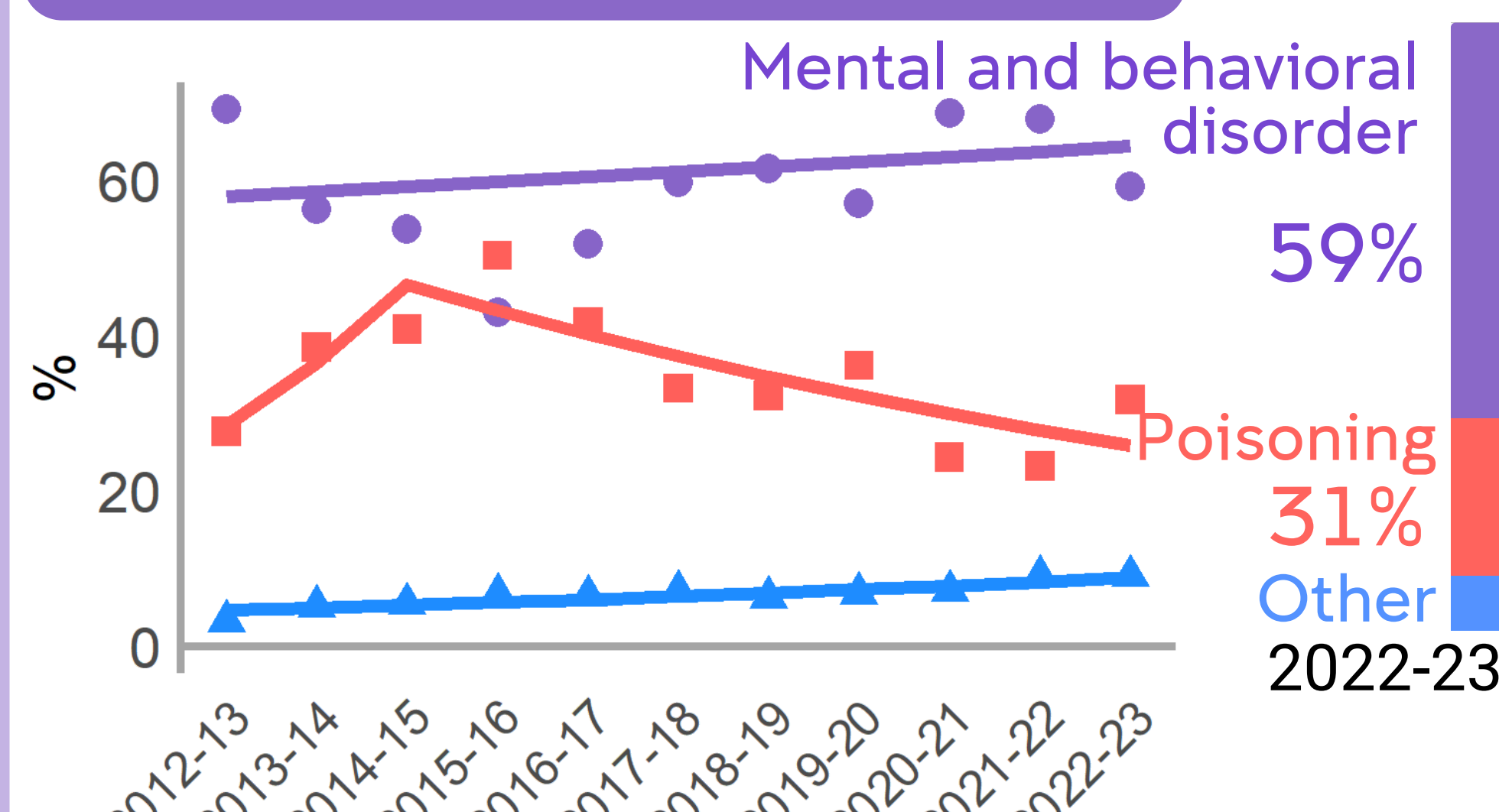
The proportion of patients aged **25-39 years increased** over the study period, with average annual rises of **2.3%** (95% CI: 0.11, 5.8; **25-29 years**), **6.3%** (4.2, 10.2; **30-34 years**), and **6.6%** (0.80, 17.5; **35-39 years**).

### DURATION OF STAY



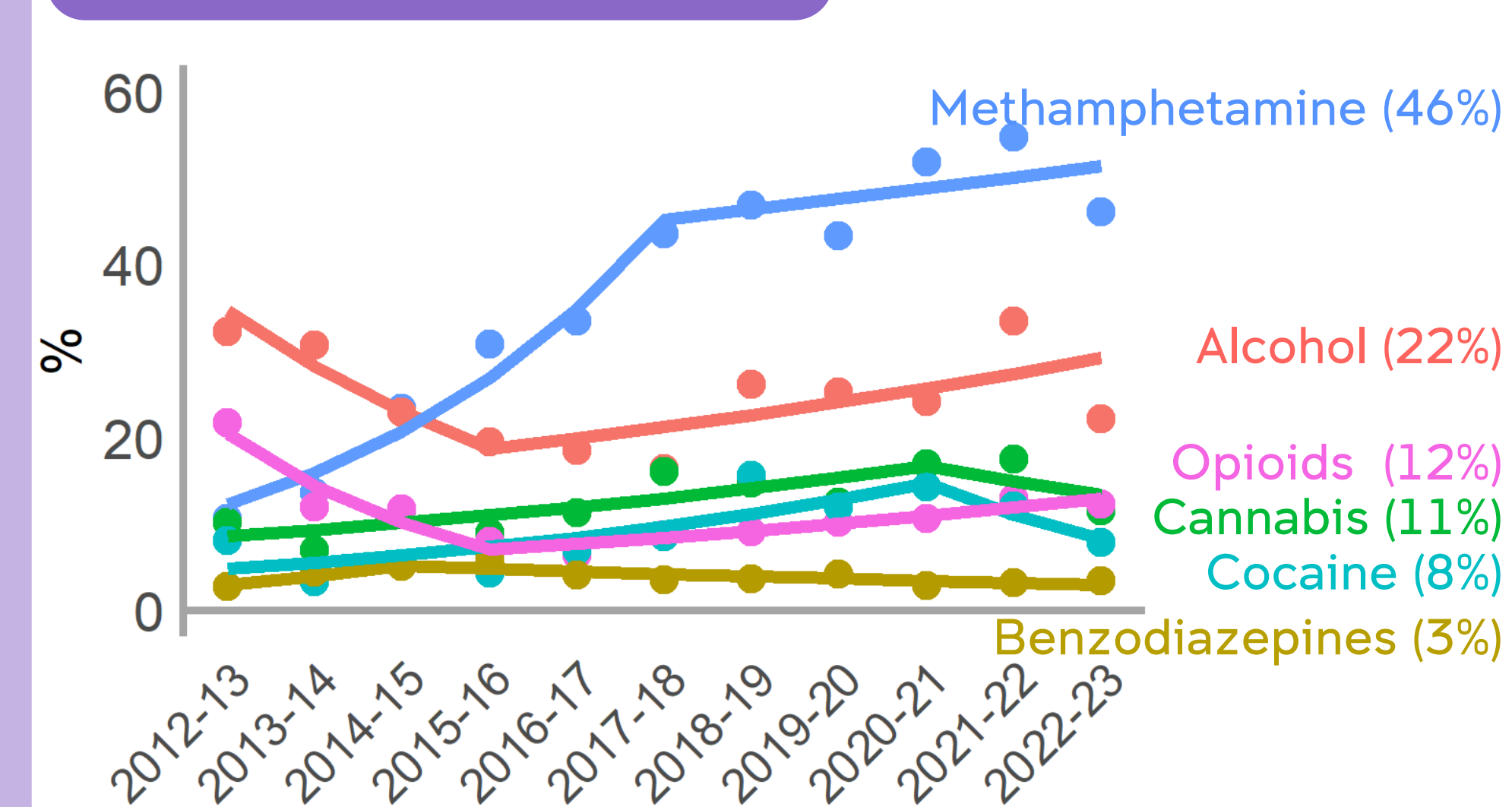
While nearly 50% of patients were discharged the same day, **overnight stays have increased** slightly over time, reflecting a rise in clinically complex admissions. In 2022-23, **6% required ICU care**.

### PRINCIPAL DIAGNOSIS



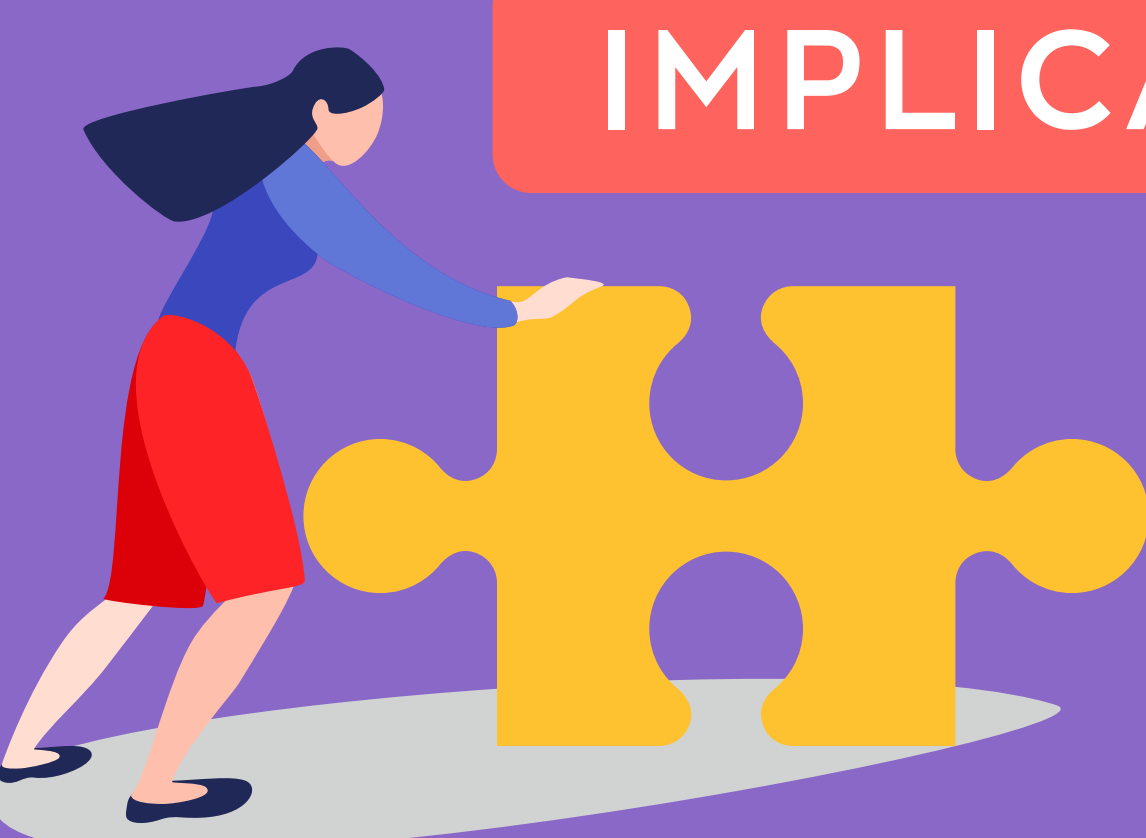
The leading diagnosis in most years was **mental and behavioural disorders due to substance use**.

### OTHER DRUGS



**Methamphetamine** was identified as the most frequent co-occurring substance since 2015-16, rising sharply between 2012-13 and 2017-18 with an average annual **increase of 30%** (95% CI: 17, 185).

## IMPLICATIONS



- The increase in GHB-related hospitalisations over the past decade underscores the need for enhanced surveillance and early intervention strategies.
- Identification of affected age groups, increased severity, and polysubstance involvement can inform targeted prevention efforts and tailored healthcare responses.
- The findings support the development of public health campaigns focused on raising awareness of GHB-related harms, particularly in the context of polysubstance use.
- Ongoing monitoring is essential to detect emerging patterns and guide evidence-based policy and harm reduction strategies.