

# Psychotropic-related hospital acquired complications: An exploration of their probability, preventability and severity

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## Background

Hospital Acquired Complications (HACs) are adverse patient events occurring during admission, identified via International Classification of Diseases (ICD) coding.

HAC data is available to health services and is used as a measure of quality and safety, especially since the development of the Australian Commission on Safety and Quality in Healthcare's HAC list in 2016.<sup>1</sup> However, there is limited research to provide clinical context to this data, including the two HACs related to psychotropics;

- Movement disorders due to psychotropic medication, and
- Serious alteration to conscious state due to psychotropic medication.





## Objectives

To explore psychotropic-related HAC data to determine the probability that the HAC event was related to a psychotropic, whether the HAC was preventable and the severity of the event.

## Methods

A retrospective review of patient medical records was conducted for psychotropic-related HAC events at The Royal Melbourne Hospital (RMH), a quaternary metropolitan hospital, over a 23 month period (1<sup>st</sup> August 2020 to 30<sup>th</sup> June 2022).

Psychotropic medicine classes included in the study were:

-  Antipsychotics
-  Antidepressants
-  Anxiolytic/hypnotic agents
-  Mood stabilising agents.

Assessment tools were used by a senior mental health pharmacist to determine the probability<sup>2</sup>, preventability<sup>3</sup> and severity<sup>4</sup> of each psychotropic-related HAC.

## Results

A total of 51 psychotropic-related HAC events were included, which occurred in 44 eligible inpatients. Of the 51 HAC events, 39% (20/51) were associated with movement disorders and 61% (31/51) were associated with serious alteration to conscious state (Figure 1).

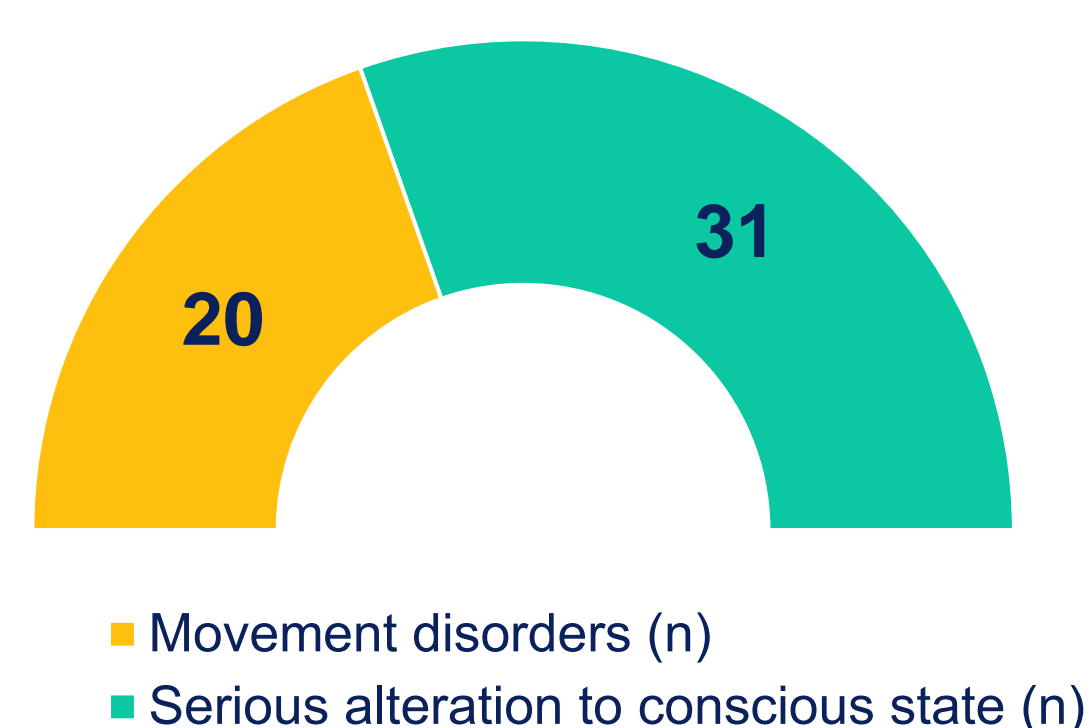


Figure 1: Psychotropic-related HAC events analysed

All psychotropic HAC events were assessed as either possible (76%, 39/51) or probable (24%, 12/51) (Figure 2).

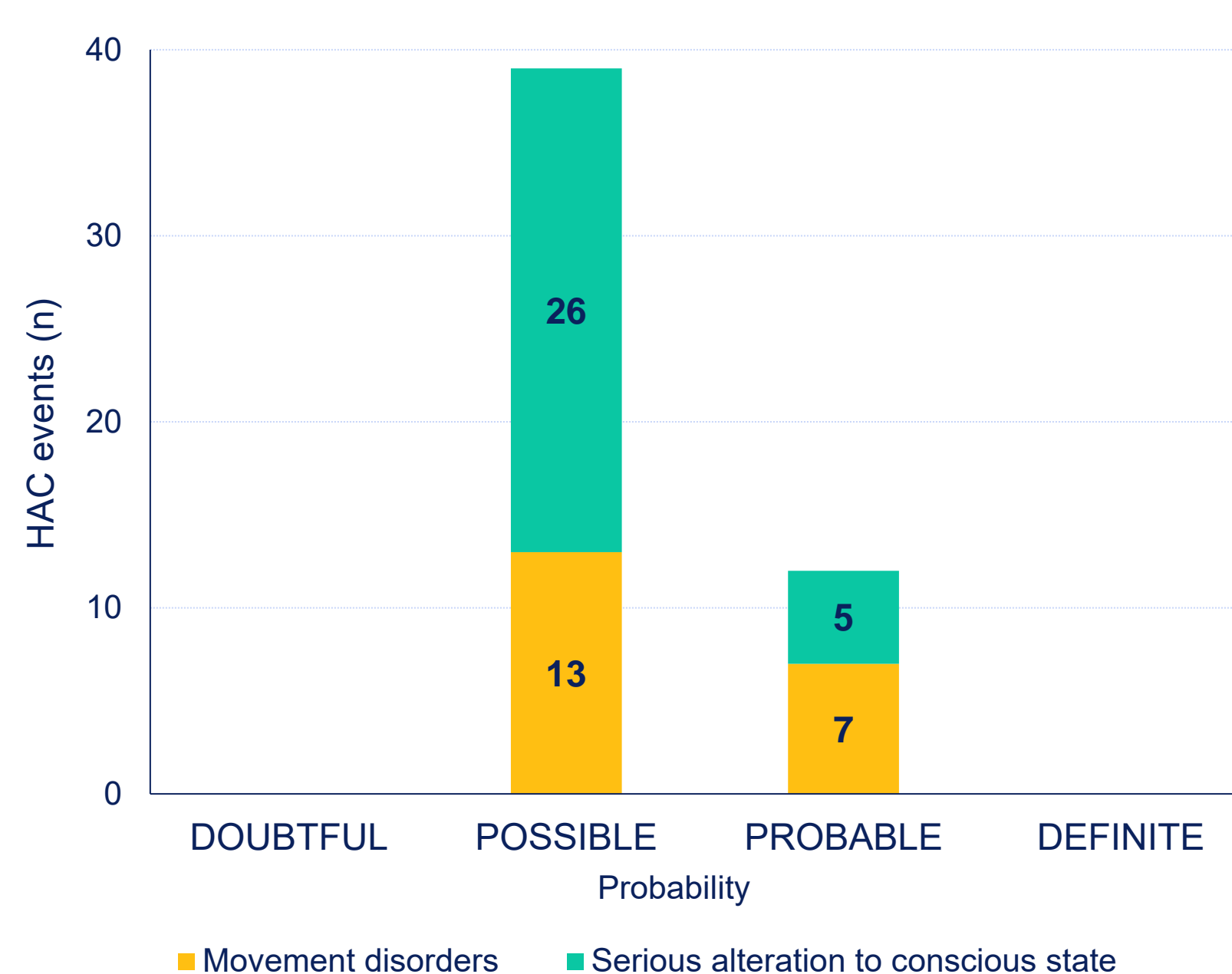


Figure 2: Probability of psychotropic-related HAC events

Almost half of the psychotropic HAC events (45%, 23/51) were preventable (Figure 3). Medicine interactions were commonly identified as preventable HACs.

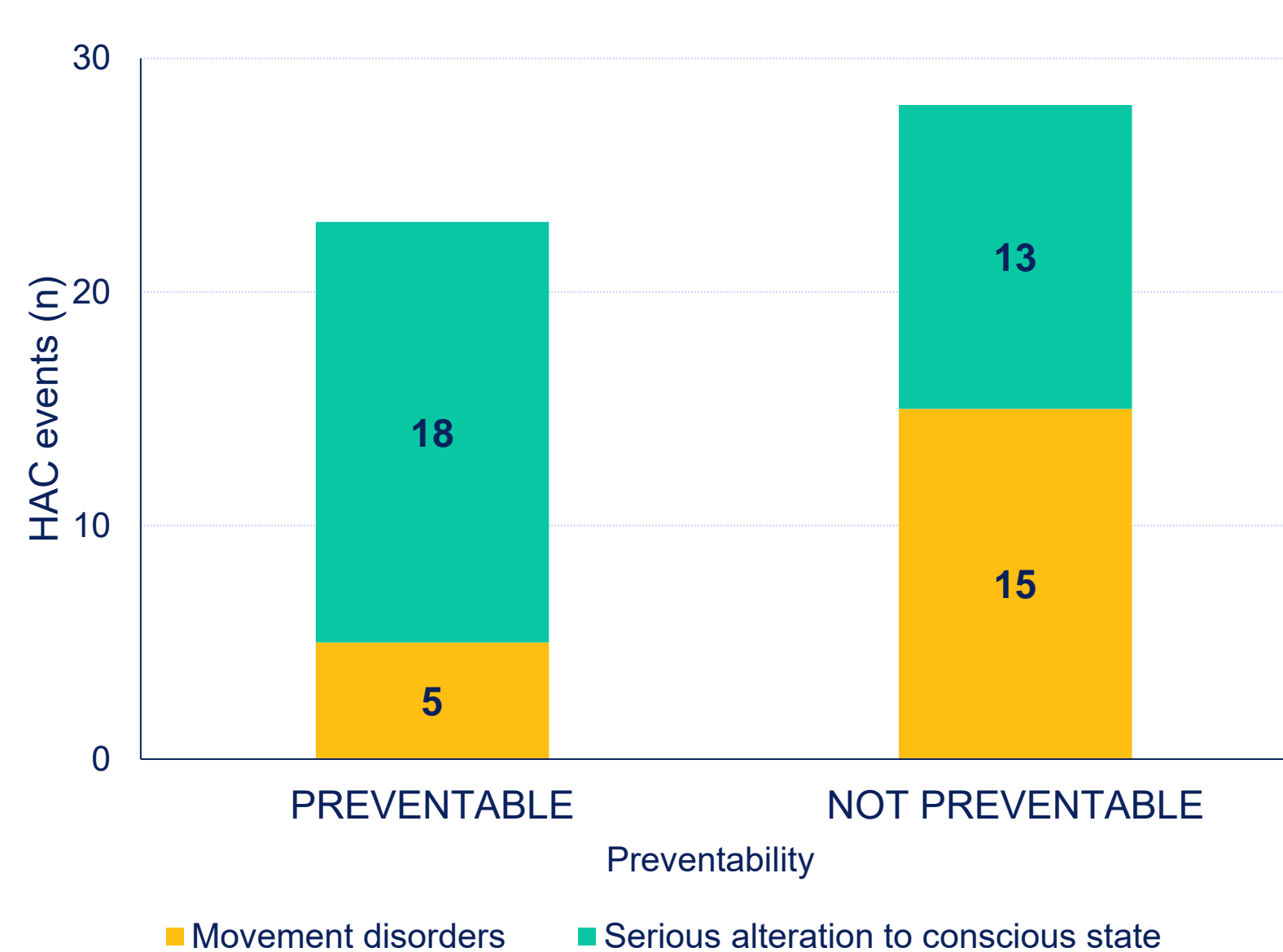


Figure 3: Preventability of psychotropic-related HAC events

The majority of HAC events were assessed as mild (71%, 36/51) to moderate (27%, 14/51) (Figure 4).

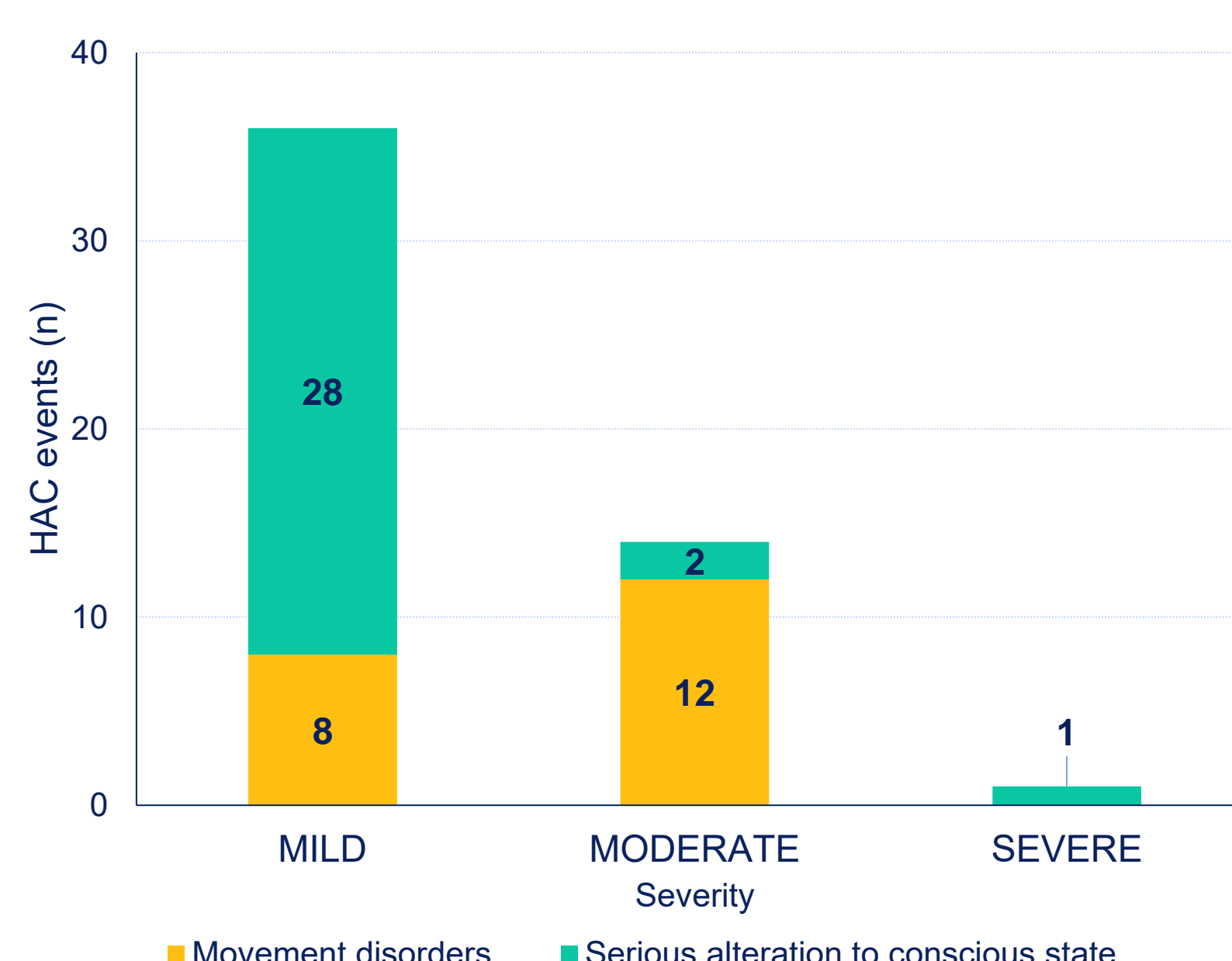


Figure 4: Severity of Psychotropic-related HAC Events

## Discussion

Given the established adverse effect profiles of psychotropic medicines and HAC definitions, the high probability of these agents causing the HAC was unsurprising. This finding provides reassurance that the HACs were coded appropriately at our hospital.

The mild severity rating of HACs reviewed was anticipated, given that psychotropic medicine use infrequently results in an increased length of stay or antidote administration which is consistent with local incident reporting data.

For HACs that were found to be 'preventable', the key factor contributing to this finding was identification of medicine interactions. This was likely due to the coadministration of medicines with the potential to cause or contribute to a serious alteration to conscious state. The high incidence of non-preventable psychotropic HACs, relative to preventable HACs, indicates limited potential for improvement of psychotropic HAC rates.

The use of pre-existing, validated assessment tools provided consistency and repeatability; however, the nature of the questions could not account for reviewer biases, which was a limitation in this study.

## Conclusion

This research provided insights into the probability, preventability and severity of psychotropic-related HAC events in a quaternary metropolitan hospital. It provides important clinical context to facilitate ongoing interpretation and monitoring of psychotropic HAC data at our hospital. Our study preventability findings indicate that future system improvements, e.g. clinical decision support, could focus on medicine interactions to prevent psychotropic HACs. However, it is recommended that decisions relating to broader organisational HAC strategies consider preventability, given that over half of psychotropic HACs were not preventable.

## Acknowledgements

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## References

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