

## Potentially inappropriate prescribing in long-term care residents and its association with probable delirium.

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### Objectives

Medications can increase the risk of delirium due to drug toxicities, polypharmacy, and drug interactions. This study examined potentially inappropriate prescribing (PIP) of medication and its association with probable delirium among long-term care residents.

### Approach

We conducted a cross-sectional study of long-term care residents in Ontario, Canada between January 1, 2016 and December 31, 2019. Routinely collected long-term care resident assessment data from the Resident Assessment Instrument – Minimum Dataset (RAI-MDS) was linked to prescription claims data to ascertain probable delirium and medication use in the two weeks preceding the index assessment. PIP was measured via the STOPP/START criteria and Beers criteria, with residents classified as having 0, 1, 2, or 3+ PIPs. Associations between PIP and probable delirium was assessed via bivariate and multivariable logistic regression models.

### Results

The study population included 171,190 long-term care residents. The mean age was 84.5 years, 66.8% were female, and 62.9% had dementia. Probable delirium was documented on 3.7% of resident assessments. Over half (51.8%) of residents had 1+ PIP and 21% had 3+ PIPs according to the STOPP/START criteria. The odds of probable delirium increased as the number of PIPs increased. Probable delirium was 1.86 times more likely (95% confidence interval 1.74–1.98) in residents with 3+ PIPs compared to those with no PIPs after confounder adjustment. Similar findings were observed when PIP was evaluated using the Beers criteria.

### Conclusion

This population-based study highlighted that potentially inappropriate medication prescribing was highly prevalent and was significantly associated with the increased likelihood of probable delirium among long-term care residents.

