

People aged 65 years and over who received both a benzodiazepine or zopiclone and an antipsychotic in the same quarter

Technical information	
Indicator name (short)	Received both a benzodiazepine or zopiclone and an antipsychotic in the same quarter.
Description	This measure details the percentage of people aged 65 and over who received both a benzodiazepine or zopiclone and an antipsychotic in the same quarter.
Rationale	In older people, certain classes of medicines carry a substantially higher risk of adverse effects. Two examples presented in this Atlas domain are antipsychotics and benzodiazepine or zopiclone. Common adverse effects include impaired functional ability, agitation, confusion, blurred vision, urinary retention, constipation, postural hypotension, and falls. These increase if both classes of medicine are taken together. This indicator cannot assess inappropriate use of these medicines; however, high rates of prescribing may indicate misuse or overuse. The combination of a benzodiazepine or zopiclone and a strong opioid is one that carries an increased risk of over-sedation. The Food and Drug Administration (FDA) in the USA issued an alert in 2018 warning against prescribing this combination due to the risk of serious side effects, including slowed or difficult breathing and deaths. It should be only used in patients for whom alternative treatment options are inadequate.
Numerator	People who received an antipsychotic and either a benzodiazepine or a zopiclone in the same quarter per year.
Denominator	New Zealand population, using Statistics New Zealand (StatsNZ) population projections for the relevant years.
Inclusions	- Age at end of quarter $\geq$ 65 years. - A dispensing of chemical group = benzodiazepine or zopiclone. - A dispensing of chemical group = antipsychotic. Medicines: - Antipsychotic: amisulpride, aripiprazole, chlorpromazine hydrochloride, clozapine, flupenthixol decanoate, fluphenazine decanoate, haloperidol, haloperidol decanoate, levomepromazine, levomepromazine hydrochloride, olanzapine, olanzapine pamoate monohydrate, paliperidone, pericyazine, pimozide, pipothiiazide palmitate, quetiapine, quetiapine fumarate, risperidone, thiothixene, trifluoperazine hydrochloride, ziprasidone,

	zuclopenthixol decanoate, zuclopenthixol dihydrochloride, zuclopenthixol hydrochloride. • Benzodiazepine: alprazolam, clonazepam, diazepam, lorazepam, lorazepam, melatonin, midazolam, nitrazepam, oxazepam, temazepam, triazolam, zopiclone.
Exclusions	–
Note for calculation	Unit of measure: Percentage Adjustment applied: None District health board (DHB) assignment: Domicile
Data sources	Pharmaceutical Collection, Ministry of Health. National Resident Population, Statistics New Zealand.
Suppression rule	Data is not presented where the denominator was less than 10.
Notes	<i>See appendix for more details.</i>

Appendix 1. Interpretation notes

Standard deviation
Data is presented as standard deviation from the mean. Standard deviation is a statistical measure of variation from a mean. Assuming that recorded instances are normally distributed (ie, they are in the usual 'bell-shaped curve'), 68 percent of all recorded instances would be expected to be within one standard deviation either side of the mean and 95 percent within two standard deviations. The two 'middle' shades will be within one standard deviation of the mean.
Confidence intervals
Data for each DHB is presented as rate per 100 population. Upper and lower confidence intervals were calculated to 95 percent level of confidence.

Te Kāwanatanga o Aotearoa
New Zealand Government