

People who received both a benzodiazepine or zopiclone and a strong opioid following a public hospital event

Technical information	
Indicator name (short)	Received both a benzodiazepine or zopiclone and a strong opioid following a public hospital event.
Description	This measure details the percentage of people aged 65 and over who received both a benzodiazepine or zopiclone and a strong opioid following a public hospital event.
Rationale	All people starting these medicines will have a medical reason for doing so, and it is likely that many have a hospital event related to that reason. This indicator identifies those who appear to have had the combination of a benzodiazepine or zopiclone and a strong opioid commenced during their hospital stay. This combination increases the risk of over-sedation and serious side effects, including slowed or difficult breathing and deaths. The FDA has issued an alert warning against this combination and recommends prescribing should be limited to patients for whom alternative treatment options are inadequate. People already receiving a benzodiazepine or zopiclone prior to admission re excluded on the basis that it may not be appropriate to withdraw treatment as part of a hospital event requiring a strong opioid.
Numerator	People having a 'trigger event' in National Minimum Dataset or National Non-Admitted Patient Collection in the eight days prior to dispensing of a strong opioid and a benzodiazepine or zopiclone.
Denominator	People dispensed both a strong opioid and a benzodiazepine/zopiclone.
Inclusions	- Age at end of quarter $\geq$ 65 years. - A dispensing of chemical group = benzodiazepine or zopiclone. - A dispensing of chemical group = antipsychotic. - Dispensing of both medicines to be on the same day. Medicines: - Strong opioid: 1274 fentanyl citrate, 1830 morphine hydrochloride, 1831 morphine sulphate, 1915 oxycodone pectinate, 2383 morphine tartrate, 3801 fentanyl, 3822 oxycodone hydrochloride, 3896 fentanyl citrate, 1953 pethidine hydrochloride. - Benzodiazepine: alprazolam, clonazepam, diazepam, lorazepam, lormetazepam, melatonin, midazolam, nitrazepam, oxazepam, temazepam, triazolam, zopiclone.

Exclusions	• People dispensed a benzodiazepine or zopiclone in the three months prior to admission. • Methadone hydrochloride was not included as a strong opioid.
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	We have corrected a technical error in which dispensing of both medicines on the same day was not accounted for correctly in previous publications of this Atlas domain. This means the number of people in 2017 dispensed both a strong opioid and a benzodiazepine or zopiclone on the same day has changed from 800,000 to 15,000. <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