Hospitalisations wholly attributable to Alcohol

This report presents information on the number of people hospitalised where the primary diagnosis was a condition wholly caused by alcohol consumption. It is based on data provided to EHINZ by Te Whatu Ora – Health New Zealand in April 2026.

Key facts

- In 2024 the age-standardised rate of hospitalisation for conditions wholly attributable to the consumption of alcohol was 79.1 per 100,000 people, an increase from 74.5 hospitalisations per 100,000 people in 2023.
- When short stays in Emergency Departments are included, the age-standardised rate is 142.9 per 100,000 people. This compares to a rate of 135.3 in 2023.
- Alcohol caused hospitalisation rates were higher for males than females (92.7 versus 52.5 age-standardised per 100,000 over the 2020-2024 period where Emergency Department visits are excluded).
- The crude rate of hospitalisations was statistically significantly higher for men in the 45-54 and 55-64 year old age groups when compared to men in the other age groups.
- Age-standardised rates of hospitalisation rates were higher in more socioeconomically deprived areas.
- Age-standardised rates of hospitalisation were highest in the Northland and Auckland regions.
- Age-standardised rates of hospitalisation were statistically significantly lower in rural when compared to urban areas
- The most common diagnoses for a patient hospitalised for a wholly attributable condition in 2024 were acute conditions relating to intoxication and dependence and chronic conditions mainly liver disease.

The health impact of alcohol

Alcohol consumption has been linked to more than 200 conditions including liver diseases, road injuries, violence, cancers, cardiovascular diseases, suicides, tuberculosis, and HIV/AIDS (World Health Organization 2018). There is increasing emphasis on alcohol as the third most important risk factor for cancer behind smoking and obesity (The Office of the Surgeon General 2025).

There is some evidence that low consumption of alcohol may have a protective effect for certain conditions such as type 2 diabetes and may lower cardiovascular risk in older people (Ronksley et al. 2011; Schrieks et al. 2015). However, these effects are outweighed by the risks of other conditions, such as cancer, and the most recent evidence suggests that there is no ‘safe’ level of alcohol consumption (Anderson et al. 2023).

The effects of alcohol are also determined by the way alcohol is consumed. Heavy episodic drinking or binge drinking sessions are more harmful than the same amount of alcohol consumed over a longer period. Such drinking patterns are more common in young people and can be associated with accidents, violence and sexual assault.

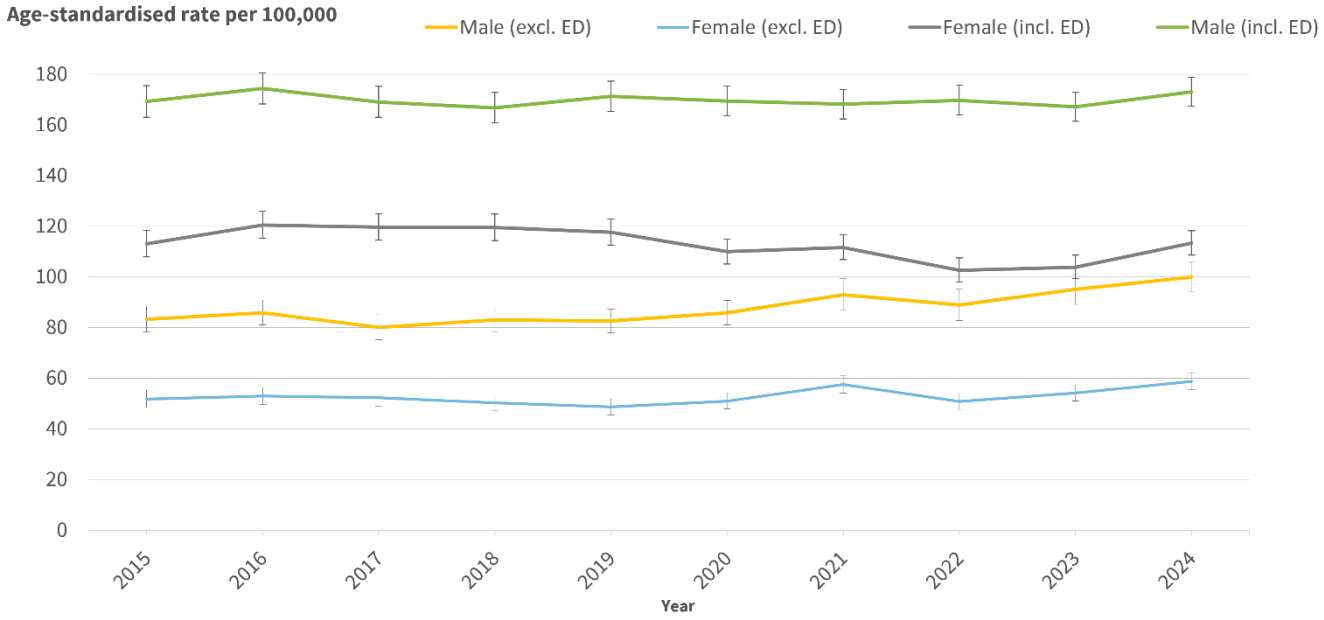
There are a number of health conditions that are defined as being wholly (that is 100%) caused by alcohol. These include chronic conditions such as liver cirrhosis and chronic pancreatitis and acute conditions such as alcohol poisoning. These are listed in the annex.

This document reports on the number and rates of hospitalisation for these wholly attributable causes measured over the 2015 to 2024 period.

Alcohol hospitalisations since 2015

Figure 1 (below) shows the age-standardised rates of hospitalisation from 2015 to 2024 for men and women both where short stays in the Emergency Department (ED) are included and excluded. ED short stays are events where the patient stays in the hospital for one day or overnight but is not admitted as an inpatient. There is some evidence that the rate of hospitalisation where ED visits are excluded, has increased for both males and females since 2015. There is also evidence of an increase from 2023 to 2024 in all series.

Figure 1: **Hospitalisations wholly attributable to alcohol. Both including and excluding short stay ED visits. Population 15 years old or older, by sex, 2015–24 (age-standardised rate per 100,000)**



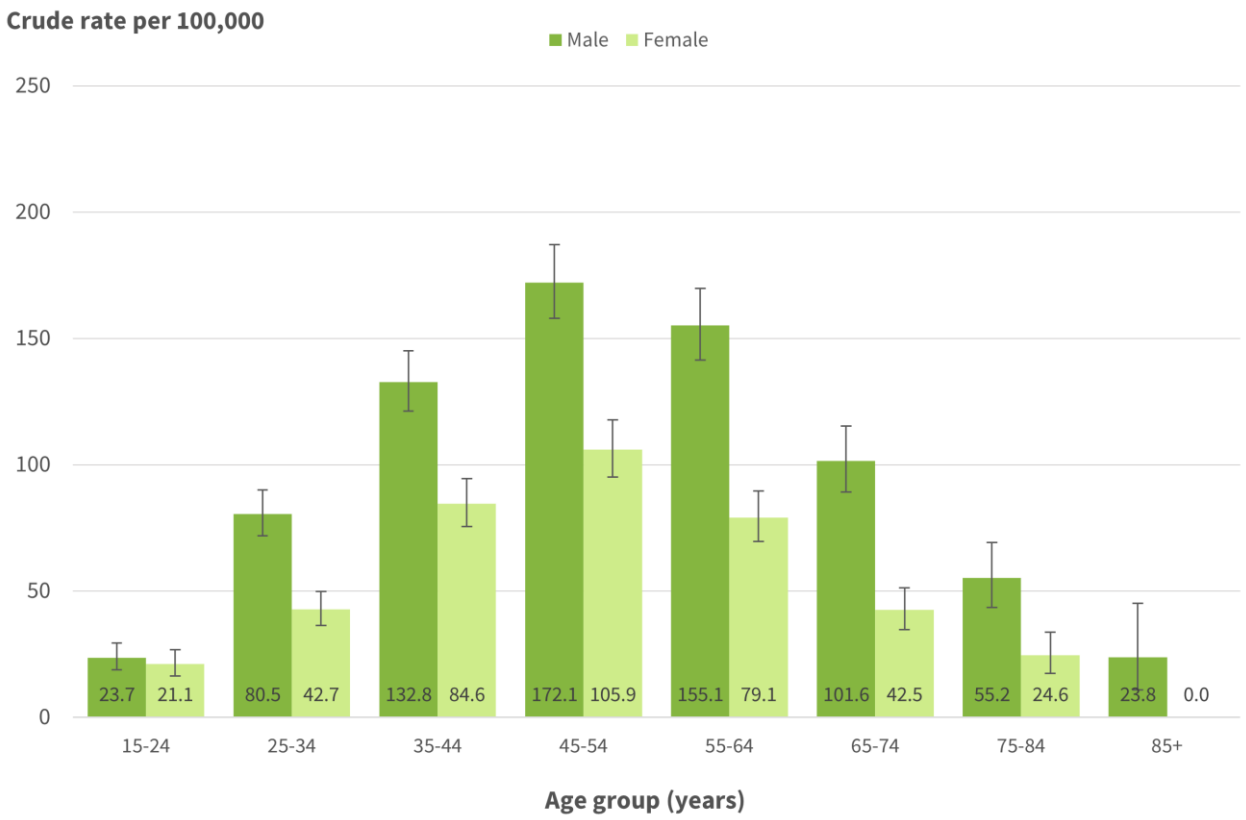
Notes: 95% confidence intervals have been presented as vertical bars
Source: National Minimum Dataset (NMDS) Ministry of Health 2025

The wholly alcohol-attributable hospitalisation rate is statistically significantly higher for men than for women. There is no evidence in the data that this gap is closing. In 2024 the hospitalisation rate for men (excluding ED short stays) was 70% higher than that of women (standardised rate ratio 1.7, 95% CI (1.59-1.83))

The highest hospitalisation rates were among 45–54 and 55–64-year-olds

Figure 2 shows the hospitalisation rate for each 10-year age group in 2024. The rates for men are statistically significantly higher than those for women in all but the 15–24-year-old age group.

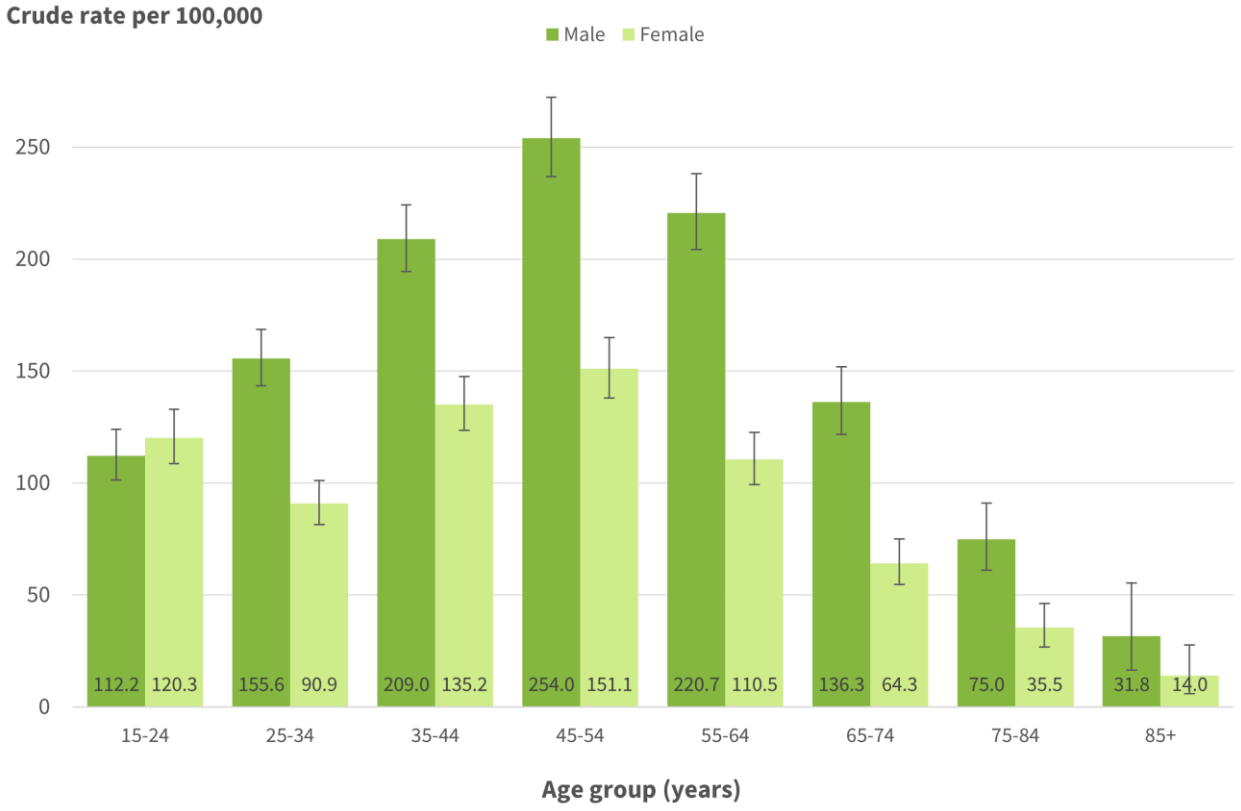
Figure 2: **Hospitalisations wholly attributable to alcohol excluding ED visits. Population 15 years old or older, by 10-year age group, 2024 (crude rate per 100,000)**



Notes: Rates are counts divided by population for each age/sex group
Notes: 95% confidence intervals have been presented as vertical bars
Source: National Minimum Dataset (NMDS) Ministry of Health 2025

Quite a different pattern is shown when ED short stay visits are included (Figure 3). The rates for the 15–24 age group increases by a factor of five and the 25–34 age group rate doubles. The rate for men is again statistically significantly higher than that for women for every age group except 15–24 years and 85+. In the 15–24 age group the rate for women is higher than that for men but the difference is not statistically significant.

Figure 3: **Hospitalisations wholly attributable to alcohol including ED visits. Population 15 years old or older, by 10-year age group, 2024 (crude rate per 100,000)**



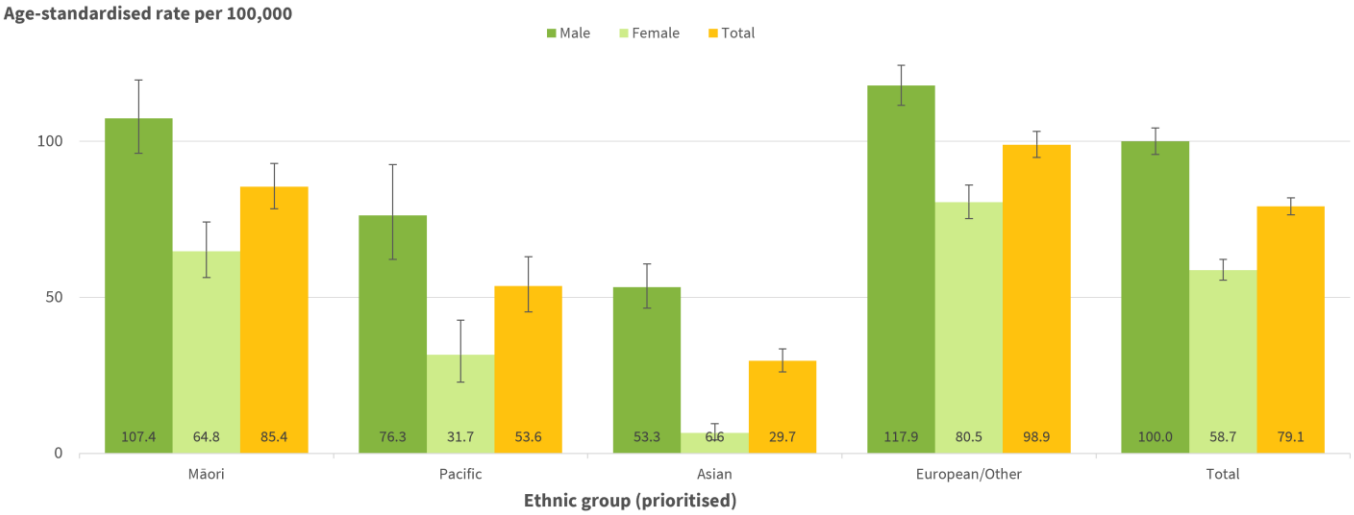
Notes: Rates are counts divided by population for each age/sex group
Notes: 95% confidence intervals have been presented as vertical bars
Source: National Minimum Dataset (NMDS) Ministry of Health 2025

When the figures for the 15- to 24-year-old age group were examined further the large number of ED short stay events for this group were mostly in the diagnosis group F10.0 “mental and behavioural problems due to alcohol: acute intoxication”. There were 551 ED stays with this diagnosis for 15-24 year olds in 2024.

NZ Europeans and Māori had the highest rates of hospitalisation

The Māori and European/other ethnic groups have much higher rates of hospitalisation for alcohol-caused conditions than the other ethnic groups. Figure 4 depicts the comparative rates by ethnic groups based on all hospitalisations in 2024. Males in the European/other group have marginally higher rates (117.9 per 100,000 (95% CI 111.6-124.4)) than the Māori male group (107.4 per 100,000 (95% CI 96.1-119.6)) but the confidence intervals overlap so the difference is not statistically significant. The Pacific male group has statistically significantly lower rates than the European and Māori groups but is statistically significantly higher than the Asian group. For most ethnic groups the rate for women is just over half that for men. An exception is the Asian group where the rate for women is just over one tenth of that for men.

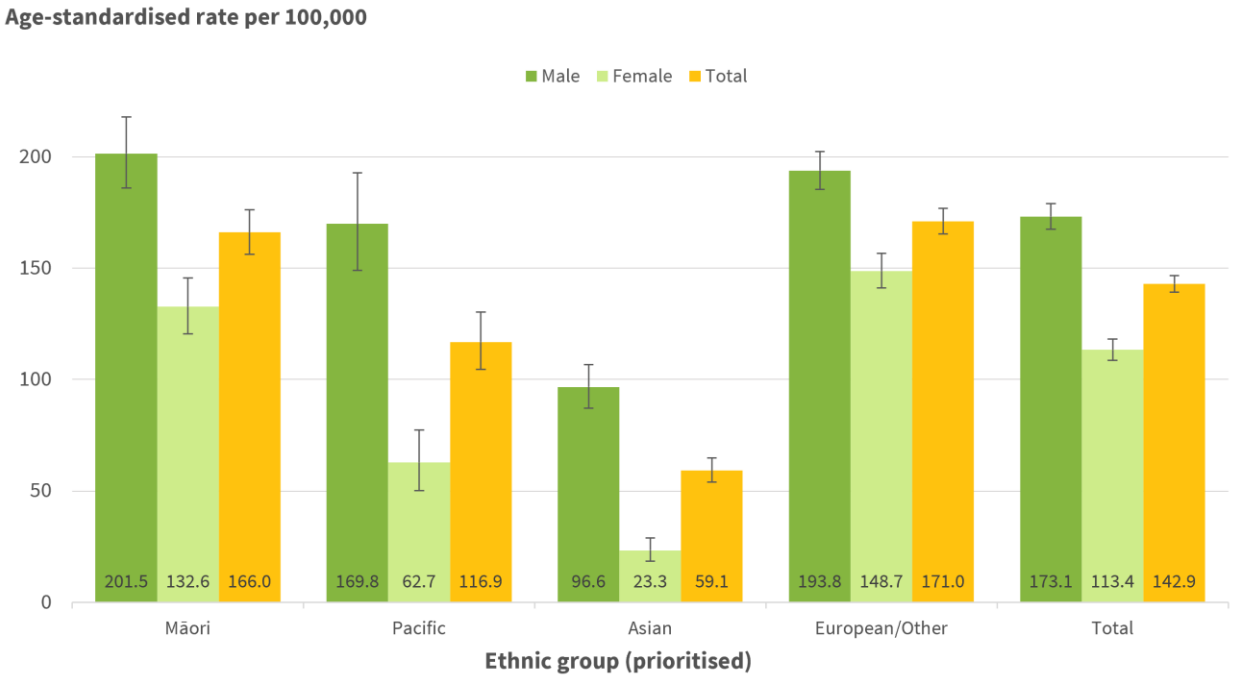
Figure 4: **Hospitalisations wholly attributable to alcohol excluding ED visits. Population 15 years old or older, by prioritised ethnic group , 2024 (age standardised rate per 100,000)**



Notes: 95% confidence intervals have been presented as vertical bars
Source: National Minimum Dataset (NMDS), Ministry of Health 2025

When emergency department short stays are added the rates increase for all groups. Māori men now have the highest rate of hospitalisation (201.5 per 100,000 (95% CI 186.1-217.8)) although the difference with the European/Other male group (193.8 per 100,000 (95% CI 185.4-202.4)) is not statistically significant. There is also a big increase in the rate of Pacific male hospitalisations to 169.8 per 100,000 (95% CI 149.0-192.8), and they are now not statistically significantly lower than European or Māori.

Figure 5: **Hospitalisations wholly attributable to alcohol including ED visits. Population 15 years old or older, by prioritised ethnic group, 2024 (age-standardised rate per 100,000)**

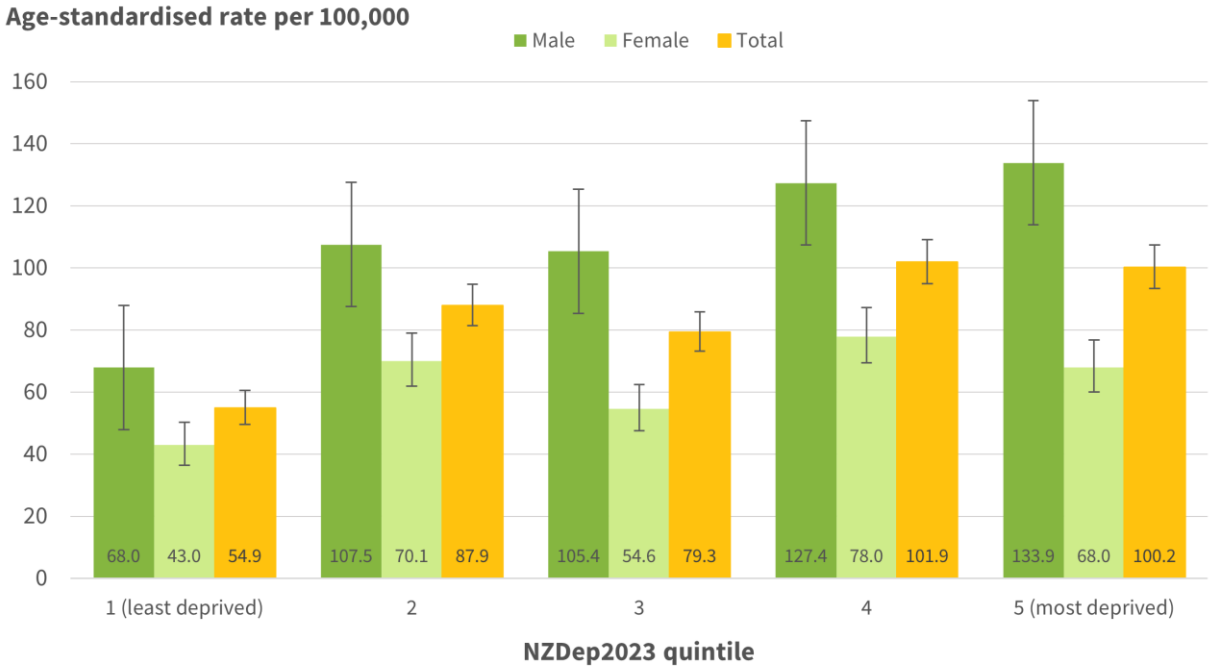


Notes: 95% confidence intervals have been presented as vertical bars
Source: National Minimum Dataset (NMDS), Ministry of Health 2025

Rates of hospitalisation are higher in more socioeconomically deprived areas

In figure 6 the rates of hospitalisation are given separately by quintiles of the New Zealand Deprivation Index – an index of socioeconomic deprivation based on data collected by the 2023 Census (Atkinson et al. 2024). For men, higher levels of deprivation are associated with higher rates of hospitalisation (Standardised rate ratio (SRR) between quintile 5 and quintile 1 = 1.97 (CI 1.69-2.29)) although the increase is not monotonic. For women the association is less strong but still statistically significant (SRR 1.58 (95% CI 1.3-1.93)).

Figure 6: **Hospitalisations wholly attributable to alcohol excluding ED visits. Population 15 years old or older, by NZ Index of Deprivation quintiles 2024 (age-standardised rate per 100,000)**



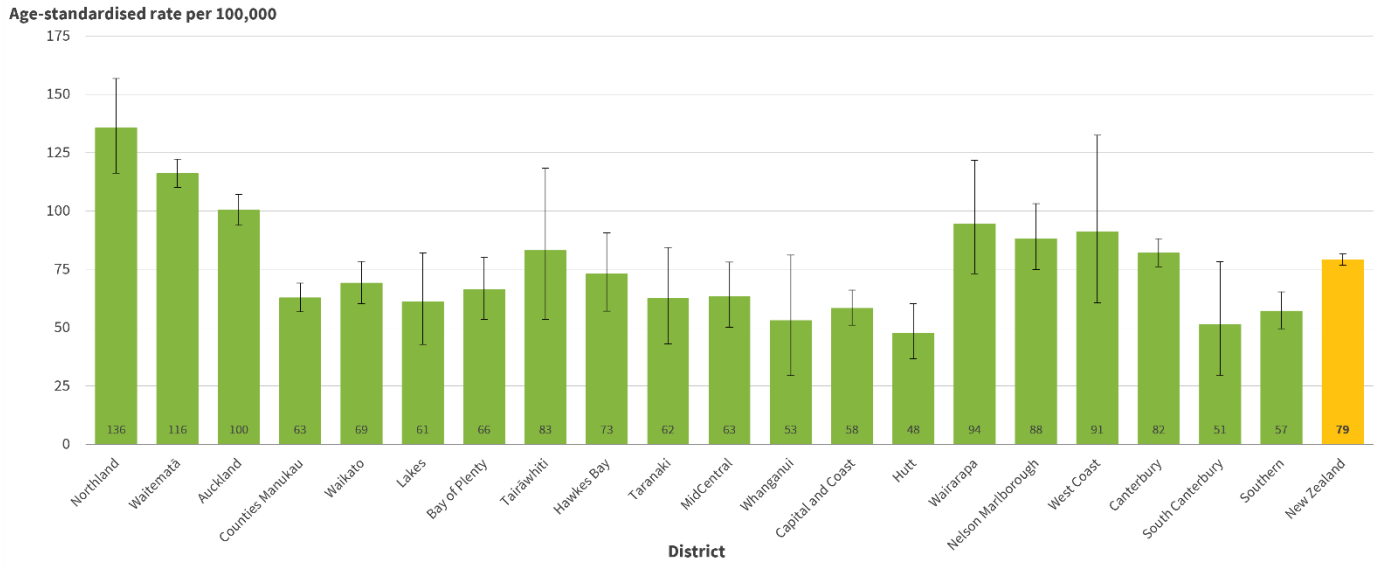
Notes: 95% confidence intervals have been presented as vertical bars
Notes: Source: National Minimum Dataset (NMDS), Ministry of Health 2025

When short stays in the ED are added to the above figures the rates slightly less than double for all categories, but the pattern doesn't change. The most deprived quintiles still have significantly higher rates of hospitalisation (SRR males Quintile 5 vs Quintile 1 = 1.8 (95% CI 1.6-2.0)).

There is wide regional variation in hospitalisation rates

The highest age-standardised rate of hospitalisations for conditions wholly caused by alcohol is in Northland with a rate of 136 per 100,000 of those over 15 years old (95% CI 116.3-156.8). This is followed by Waitematā and Auckland. The lowest is in Hutt with a rate of just 48 per 100,000 (95% CI 41.9-65.5). Other health district regions such as West Coast and Tairāwhiti have high rates but also wide confidence intervals because of their low populations.

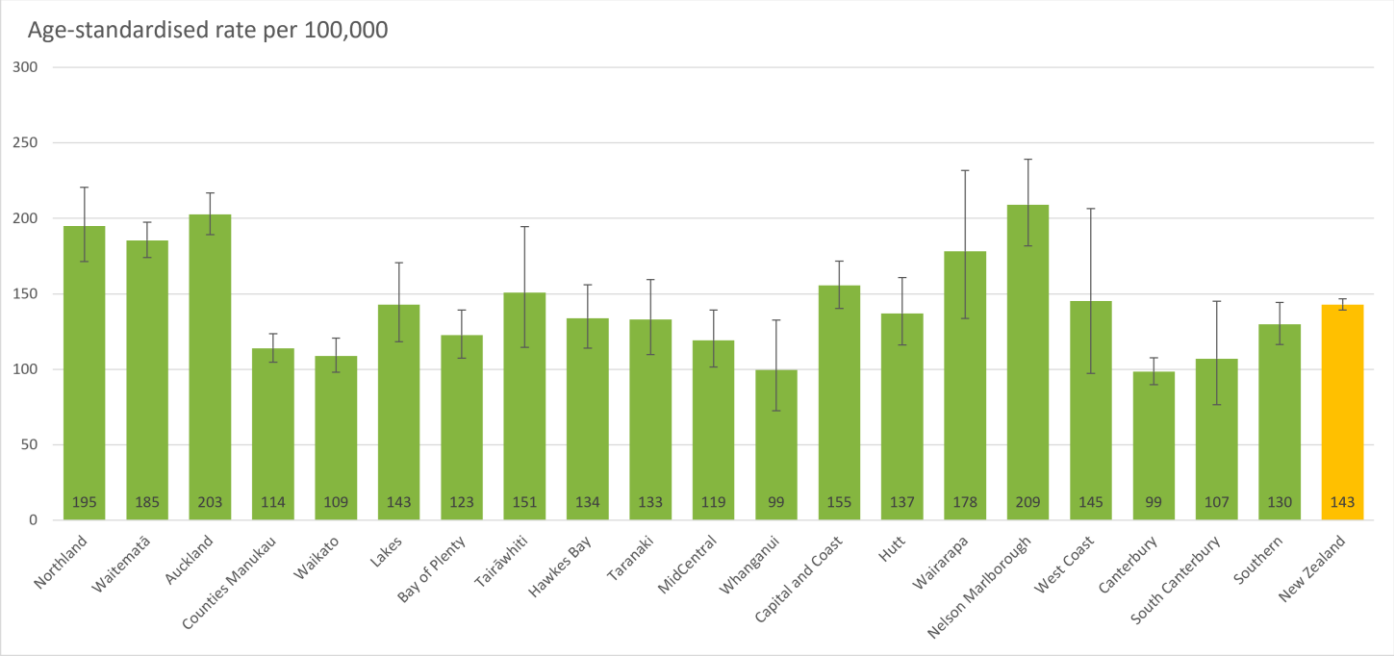
Figure 7: **Hospitalisations wholly attributable to alcohol excluding ED visits. Population 15 years old or older, by health district area 2024 (age-standardised rate per 100,000)**



Notes: 95% confidence intervals have been presented as vertical bars
Source: National Minimum Dataset (NMDS), Ministry of Health 2025

When ED short stay visits are included (Figure 8) the pattern changes slightly with the three highest health district areas; Northland, Waitematā and Auckland, having rates insignificantly different from each other. There is also a big increase in the rate estimated for Nelson-Marlborough, which more than doubles, to give it the highest overall rate at 209 per 100,000 (95% CI 181.7-239.3).

Figure 8: **Hospitalisations wholly attributable to alcohol including ED visits. Population 15 years old or older, by health district area 2024 (age-standardised rate per 100,000)**

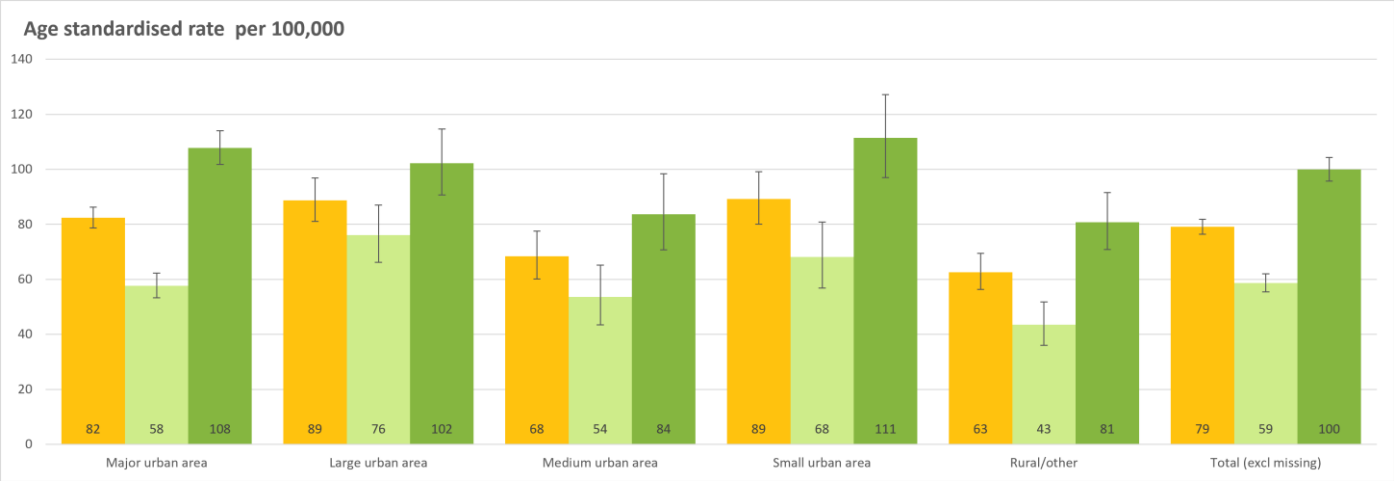


Notes: 95% confidence intervals have been presented as vertical bars
Source: National Minimum Dataset (NMDS) Ministry of Health (2025)

Lower rates of hospitalisation in rural areas

The statistical geography used by Stats NZ classifies all areas in New Zealand as either urban or rural using a number of criteria such as population density. Urban areas are further classified into four subcategories; major urban, large urban, medium urban and small urban based on their population (Stats NZ 2023). In Figure 9 below the alcohol caused hospitalisation rates are shown for these five categories. Across the urban areas the differences in rates are not statistically significant, although the rate for men and women combined in medium urban areas is just statistically significantly lower than those for other urban areas. Age standardised rates in rural areas are marginally (but not significantly) lower than in medium urban areas.

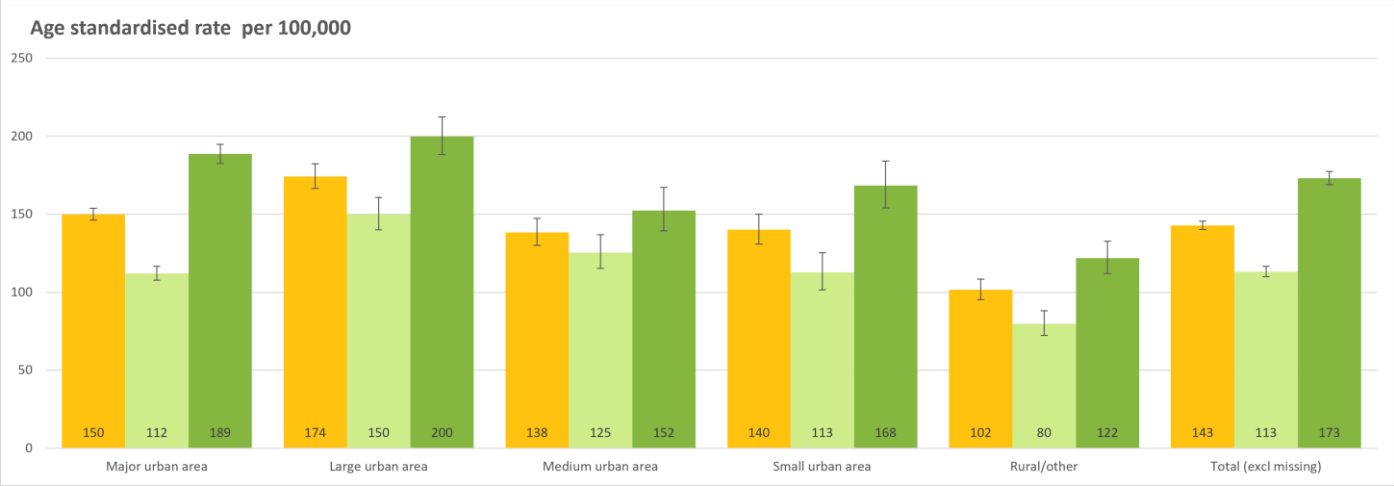
Figure 9: Hospitalisations wholly attributable to alcohol by urban and rural, 2024 (age-standardised rate per 100,000). ED short stay visits excluded



Notes: 95% confidence intervals have been presented as vertical bars
Source: National Minimum Dataset (NMDS) Ministry of Health 2025

When we include ED short stay visits (Figure 10) the pattern doesn't change but rural rates are now statistically significantly lower than the other categories.

Figure 10: Hospitalisations wholly attributable to alcohol by urban and rural, 2024 (age- standardised rate per 100,000). ED short stay visits included



Notes: 95% confidence intervals have been presented as vertical bars
Source: National Minimum Dataset (NMDS) Ministry of Health (2025)

The SRR for rural areas when compared to all urban areas is 0.76 (95% CI: 0.68-0.84) when ED visits are excluded and 0.67 (95% CI 0.62-0.74) when ED visits are included.

Most common diagnoses for hospitalisation: acute use of alcohol and chronic liver diseases

The table below shows the ten most common diagnosis codes for wholly attributable hospitalisations in 2024. The ICD-10 codes are given in the first column and the counts of cases by age group across the columns. In Table 1 ED short stay visits are excluded and in Table 2 they are included.

Table 1: Counts of hospitalisations wholly due to alcohol by ICD-10-AM codes, 2024, Ten most common, Excluding ED visits

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69-	70-74	75-79	80-84	85+	Total
F10.2	4	12	37	82	99	109	114	123	89	56	49	16	6	2	1	799
F10.3	6	14	30	61	74	102	98	102	87	62	39	18	12	2	1	708
K85.2	4	15	31	43	52	56	44	49	46	36	27	9	8	9	3	432
F10.0	23	21	35	29	44	27	38	49	37	36	21	13	15	7	5	400
K70.3	0	0	2	3	17	25	31	47	48	40	23	14	7	5	1	263
K70.1	0	3	10	8	23	19	20	25	26	14	12	3	2	0	0	165
F10.1	0	9	6	9	14	14	21	13	12	10	10	4	4	1	1	128
K29.20	5	12	13	7	18	8	13	8	13	9	2	3	0	1	0	112
K70.4	0	0	1	2	6	9	17	7	17	11	8	11	0	1	0	90
F10.4	1	0	3	10	7	20	9	6	6	3	10	3	5	2	0	85

Notes: These are counts of primary diagnosis ICD 10 codes in complete hospital events from assessment to discharge
Notes: For code definitions see annex
Source: National Minimum Dataset, Ministry of Health 2025

In the table where ED short stays are included the number of people in the younger age groups greatly increases, especially for the most common diagnosis F10.0 “Acute intoxication”. There are also quite large increases across age groups for the alcoholic gastritis code K29.20.

Table 2: Counts of hospitalisations wholly due to alcohol by ICD-10-AM codes, 2024, Ten most common, including ED visits

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total
F10.0	330	265	222	204	238	157	159	216	170	117	91	49	41	17	11	2287
F10.3	10	22	45	84	113	133	120	134	106	87	48	21	15	2	1	941
F10.2	4	13	38	85	106	115	120	129	92	58	54	18	7	2	1	842
K85.2	4	16	32	44	53	58	46	50	46	37	28	9	8	9	3	443
K70.3	0	0	2	4	17	25	31	47	48	42	23	14	7	5	1	266
K29.20	17	35	29	14	33	21	21	20	21	18	4	4	1	1	0	239
F10.1	8	13	10	14	22	18	27	19	17	11	13	5	5	2	1	185
K70.1	0	3	11	9	23	20	22	26	27	14	12	4	2	0	0	173
K70.4	0	0	1	2	6	10	17	7	17	12	9	11	0	1	0	93
F10.4	1	0	3	10	7	20	9	7	6	3	10	3	5	2	0	86

Notes: These are counts of primary diagnosis ICD 10 codes in complete hospital events from assessment to discharge
Notes: For code definitions see annex
Source: National Minimum Dataset, Ministry of Health 2025

Summary

The data reported here is an underestimate of the total harm by the consumption of alcohol. An important omission is the harm that alcohol consumption causes to those other than the drinker. What estimates exist suggest that this may be of greater magnitude than the harm caused to the drinker themselves (Casswell et al. 2024).

The evidence shows that men are much more likely to be hospitalised than women. This is paradoxical given that women experience more harm from the same level of alcohol consumption as men. However, men drink much more, and more harmfully. Male drinking is ‘normal’ in most European style societies and part of many male bonding activities. A potential worrying factor is the narrowing gap between male and female drinking, particularly in the younger cohorts (Hunt and Antin 2019).

The prevalence of drinking in Māori is not statistically significantly different to non-Māori. However, the Māori who drink are significantly more likely to drink in a hazardous fashion and to engage in heavy episodic drinking at least monthly (Ministry of Health 2025). Māori may also suffer from poorer access to timely and appropriate treatment for alcohol disorders and this could lead to hospitalisation for conditions that can be treated at a primary or community level.

There is a wide variation in the age standardised rates of hospitalisation for alcohol caused conditions at a district level. Males in Northland are hospitalised at a rate three times that in Mid Central. At present we cannot explain why such a wide disparity exists.

Data for this indicator

The data used for this indicator is from the National Minimum Dataset (NMDS) a record of all

discharges from public hospitals in New Zealand. All completed inpatient spells were counted, where the primary diagnosis code was in the list of wholly alcohol-attributable codes listed in the Annex. All stays in the Emergency Department of over 3 hours with an alcohol-attributable diagnosis code were also counted. Results are presented both including and excluding these ED 'Short Stays' particularly when this considerably change the pattern across the categories studied.

A hospital 'stay' here is the period between initial admission or assessment and final discharge. Transfers between health facilities where there is no spell outside the hospital are not counted as separate stays.

A metadata document is available on the EHINZ website (link) with full details of sources and methods used.

Annex

Table 1: Wholly attributable to alcohol: diagnosis codes

ICD 10	Description
E24.4	Alcohol-induced pseudo-Cushing's syndrome
F10.0	Mental and behavioural disorders due to use of alcohol, acute intoxication
F10.1	Mental and behavioural disorders due to use of alcohol, harmful use
F10.2	Mental and behavioural disorders due to use of alcohol, dependence syndrome
F10.3	Mental and behavioural disorders due to use of alcohol, withdrawal state
F10.4	Mental and behavioural disorders due to use of alcohol, withdrawal state with delirium
G31.2	Degeneration of nervous system due to alcohol
G62.1	Alcoholic polyneuropathy
G72.1	Alcoholic myopathy
I42.6	Alcoholic cardiomyopathy
K29.2	Alcoholic gastritis (K29.20 – without bleeding, K29.21 – with bleeding)
K70.1	Alcoholic hepatitis
K70.3	Alcoholic cirrhosis of liver
K70.4	Alcoholic hepatic failure
K85.2	Alcohol-induced acute pancreatitis
K86.0	Alcohol-induced chronic pancreatitis
T51.0	Ethanol poisoning
T51.1	Methanol poisoning
T51.9	Toxic effect of alcohol, unspecified
X45	Accidental poisoning by and exposure to alcohol
X65	Intentional self-poisoning by and exposure to alcohol
Y15	Poisoning by and exposure to alcohol, undetermined intent
K85.2	Alcohol-induced acute pancreatitis
Q86.0	Foetal alcohol syndrome (dysmorphic)
R78.0	Excess alcohol blood levels
Y90	Evidence of alcohol involvement determined by blood alcohol level
Y91	Evidence of alcohol involvement determined by level of intoxication

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