



The impact of an alcohol floor price on critical care admissions in Central Australia

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The Northern Territory has a long history of excessive alcohol consumption and correspondingly high rates of alcohol-related morbidity and mortality.¹⁻³ The per capita alcohol consumption by Central Australians exceeds the NT average, and much has been written about the “rivers of grog” that flow in Alice Springs.³ We have previously reported that as many as 25% of admissions to the Alice Springs Hospital intensive care unit (ICU) were linked with alcohol misuse.³

Recognising the health and social consequences of alcohol misuse, the NT government legislated a mandatory floor price for alcohol in August 2018. Since 1 October 2018 it has been illegal to sell alcohol for less than \$1.30 per standard drink,^{1,4,5} a measure that has been both hailed and condemned.^{6,7}

To examine the effects of the introduction of the floor price, admissions details for patients admitted to the Alice Springs Hospital ICU during two periods — the 6 months preceding and the 6 months following its introduction — were analysed. The analysed data were prospectively collected for submission to the Australian and New Zealand Intensive Care Society (ANZICS) Adult Patient Database, one of four clinical quality registries maintained by the ANZICS Centre for Outcome and Resource Evaluation (CORE) as part of the CORE Outcome and Measurement and Evaluation Tool (COMET) database. COMET includes demographic and physiological data for all patients admitted to the Alice Springs Hospital ICU.⁸ Ethics approval was granted by the Central Australian Human Research Ethics Committee (reference, CAHREC 18-3110).

Alice Springs Hospital ICU is the only critical care facility within a radius of 1500 km; almost all patients admitted to the ICU live in the region affected by the floor price legislation. In April 2018, the local hospital code for alcohol misuse was refined to allow distinction between acute alcohol misuse (the patient presented intoxicated,

had acute withdrawal symptoms during their inpatient admission, or had a diagnosis of alcoholic pancreatitis) and chronic misuse (end organ dysfunction attributable to alcohol — cardiomyopathy, chronic pancreatitis, cirrhosis, acquired brain injury attributed to alcohol misuse — or more than four emergency department presentations during the preceding two years while intoxicated).³

Data were assessed for normality and analysed in Stata 15.1. Results are summarised as numbers and proportions or medians and interquartile ranges; group characteristics were compared in χ^2 or Wilcoxon rank-sum tests, as appropriate.

During 1 April – March 2019, there were 684 admissions to the Alice Springs ICU of 557 individual patients, 389 of whom (70%) were Indigenous Australians. After excluding multiple admissions, 311 people (56%) were admitted during the 6 months before and 246 (44%) during the 6 months after the introduction of the alcohol floor price. The proportion of presentations associated with acute alcohol misuse was 54% lower with the floor price (4.1% *v* 9.0%; *P* = 0.022), but the decline in the proportion associated with chronic misuse was not statistically significant (9.8% *v* 13%; *P* = 0.25) (Box).

While there are limitations to our analysis, we found that the introduction of the alcohol floor price was followed by a significant reduction in the proportion of ICU admissions associated with acute alcohol misuse in Central Australia. We are investigating whether the proportion of patients presenting with chronic misuse also declines over time.

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Demographic and admission characteristics for 557 patients admitted to Alice Springs intensive care unit (ICU), April 2018 – March 2019

	Total	ICU admission date		<i>P</i>
		Apr – Sept 2018	Oct 2018 – Mar 2019	
Number of patients	557	311	246	
Age (years), median (IQR)	49.8 (37.8–62.1)	48.8 (37.5–61.5)	51.6 (38.8–63.8)	0.18
Indigenous Australians*	389 (70%)	212 (68%)	188 (72%)	0.31
Admission characteristics				
Alcohol misuse [†]	86 (15%)	56 (18%)	30 (12%)	0.06
Acute alcohol misuse	38 (6.8%)	28 (9.0%)	10 (4.1%)	0.022
Chronic alcohol misuse	64 (12%)	40 (13%)	24 (9.8%)	0.25
Mechanical ventilation	101 (18%)	64 (21%)	37 (15%)	0.12
APACHE III score, median (IQR)	47 (31–61)	48 (31–65)	45 (30–58)	0.05

APACHE III = Acute Physiology and Chronic Health Evaluation (third iteration); IQR = interquartile range. * Defined by the Australian and New Zealand Intensive Care Society Adult Patient Database data dictionary. † To track overall alcohol misuse, this classification was retained after the sub-classifications (acute and chronic misuse) were introduced in early 2018;³ the numbers for “acute” and “chronic alcohol misuse” do not sum to the total for “alcohol misuse” because patients could meet the definitions for both acute and chronic misuse. ◆

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Podcast with Paul Secombe available at <https://www.mja.com.au/podcasts>

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