

# **Investigating the introduction of the alcohol minimum unit price in the Northern Territory**

## **SUMMARY REPORT**

(February 2020)

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## LIST OF TERMS AND ACRONYMS USED IN THE REPORT

Acronym	Definition
BDR	Banned drinker register
CI	Confidence interval
ED	Emergency department
ITS	Interrupted time series
MUP	Minimum unit price
NDSHS	National Drug Strategy Household Survey
NT	Northern Territory
PALIs	Police auxiliary liquor inspectors

## 1 EXECUTIVE SUMMARY

Alcohol has been ranked as the most harmful drug in Australia based on estimated costs individuals and the community. The burden of alcohol-related harm is the most pronounced in the Northern Territory, with consumption and subsequent harm occurring at rates higher than other states.

Recently, minimum unit price (MUP) of alcohol was recommended for the Northern Territory as part of a suite of interventions from the 2017 Alcohol Policy and Legislation Review (Riley, Angus, Stedman, & Matthews, 2017). On 1 October 2018 the MUP in the Northern Territory was set at \$1.30 per standard drink. The MUP was introduced as part of a suite of supply reduction interventions that also included a banned drinker register (BDR; introduced September 2017) and police auxiliary liquor inspectors (PALIs; initiated June 2018 in Alice Springs, Katherine, and Tennant Creek).

The goal of the MUP is to minimise the harms associated with high-alcohol, low-cost alcoholic beverages. Specific objectives of the initiative, as outlined in the Act, are to 1) Reduce harmful consumption<sup>1</sup> of alcoholic beverages; and 2) Have a minimal impact on moderate consumers.

### 1.1 TERRITORY WIDE

Our evaluation has found that introduction of the MUP legislation has been associated<sup>2</sup> with significant declines in:

- total alcohol wholesale supply per capita
- alcohol-related assault offences per 10,000 people
- protective custody episodes per 10,000 people
- alcohol-related ambulance attendances per 10,000 people
- alcohol-related emergency department (ED) presentations per 10,000 people
- Sobering Up Shelter admissions (excluding Darwin and Tennant Creek due to operational changes) per 10,000 people
- alcohol-related road traffic crashes (resulting in injury or fatality) per 10,000 people
- the number of child protection notifications, protection orders, and out-of-home care cases.

The introduction of the MUP legislation has been associated with no significant changes in:

- Number of liquor licences across the NT
- Tourism number and expenditure

<sup>1</sup> 'Harmful consumption' is a broad term that is intended to encompass many kinds of direct and indirect harms that flow to individuals and the Territory community as a result of alcohol consumption.

<sup>2</sup> Modelling was able to observe change in trends at and after October 2018. However, some changes coinciding with the introduction of MUP are continuations of trends to which the MUP has had an added effect, or coincided with other interventions that were implemented at a similar time meaning the independent impact of MUP was impossible to distinguish.

## 1.2 DARWIN AND PALMERSTON

In the greater Darwin area, cask wine and cider wholesale supply per capita declined after the date of MUP introduction. Additionally, there were significant decreases in the rate of alcohol-related assault offences, protective custody episodes, and alcohol-related ambulance attendances. There was also evidence of some decline in the rate of alcohol-related hospital admissions. While there was an initial increase in the rate of other substance use hospital admissions, this was followed by a gradual decline. Lastly, there were significant slope decreases in the rate of assault-related hospital admissions, and evidence of some decline in alcohol and other drug treatment episodes.

There was no discernible impact on the number and type of nightlife venues in Darwin, nor was there significant change to the volume of alcohol wholesale supply to nightlife venues in Darwin.

## 1.3 ALICE SPRINGS

In Alice Springs, there was a step decrease in overall wholesale supply of alcohol per capita. There were significant declines in the rate of police recorded alcohol-related assault offences, protective custody episodes, alcohol-related ambulance attendances, alcohol-related ED presentations, alcohol-related hospital admissions, and Sobering Up Shelter admissions.

## 1.4 KATHERINE

In Katherine, there was a significant decrease in the wholesale supply of cask wine and bottled wine per capita after the date of the MUP introduction and an increase in light beer. There were declines in the rate of alcohol-related assault offences, ambulance attendances, and hospital admissions.

## 1.5 TENNANT CREEK

In Tennant Creek, there was a decrease in the rate of alcohol-related ambulance attendances, and ED presentations, alongside a gradual increase in the supply of mid strength beer per capita.

## 1.6 CONCLUSIONS

The MUP has complemented the BDR and PALIs in the NT. These observational findings show that the introduction of the MUP coincided with significant reductions in harm in many communities adding to the impact of the existing supply reduction measures. These changes occurred in Darwin and the rest of the Northern Territory, suggesting that the MUP is likely to have made a unique contribution to reduced harm described above and added to regionally-specific policies like PALIs. The MUP achieved the goal of specifically targeting cask wine in many towns, but moderate drinking patterns show no change. Business reported that implementation of the legislation was straightforward and that turnover, including tourism, has improved or remained stable. This preliminary assessment describes some promising changes, and some challenges, but longer term patterns may vary due to other factors.

## 2 INTRODUCTION

As a part of a suite of interventions from the 2017 Alcohol Policies and Legislation Review (Riley et al., 2017; Smith et al., 2019), a minimum unit price (MUP) on alcohol was recommended for the Northern Territory. On 22 August 2018 amendments to the Northern Territory *Liquor Act 1978* (the Act)<sup>3</sup> were passed in the Northern Territory (NT) Legislative Assembly, introducing a MUP. On 1 October 2018 the MUP was set at \$1.30 per standard drink contained in the alcohol product, where the meaning of ‘a standard drink is the volume of a liquor product that contains 10 g of ethyl alcohol when measured at 20°C’. The legislative amendment prohibits selling alcohol below the price of \$1.30 per standard drink (as compared to the \$1.50 recommended by the Alcohol Policies and Legislation Review (Riley et al., 2017)), and imposes the minimum price as an automatic condition of a liquor licence. Following World Health Organization guidelines (World Health Organization, 2018) and public policy best practice (Babor et al., 2010), The MUP was introduced as part of a suite of interventions that also included a banned drinker register (BDR; introduced September 2017) and police auxiliary liquor inspectors (PALIs; initiated June 2018 in Alice Springs, Katherine, and Tennant Creek).

The goal of the MUP is to minimise the harms associated with high-alcohol, low-cost alcoholic beverages. Specific objectives of the initiative, as outlined in the Act, are to:

- a) Reduce harmful consumption of alcoholic beverages; and
- b) Have a minimal impact on moderate consumers.

‘Harmful consumption’ is a broad term that is intended to encompass many kinds of direct and indirect harms that flow to individuals and the Territory community as a result of alcohol consumption.

### 2.1 THE CURRENT STUDY

This project examines the initial effects of the introduction of the MUP on alcohol consumption rates, alcohol-related harm, and other indicators in the NT. It must be noted that it will be difficult to attribute any reductions in alcohol-related harm to any one individual policy initiative (i.e., MUP, BDR, PALIs), given the number of initiatives enacted in a relatively short time. Insofar as possible, however, this project will seek to determine the extent to which the minimum unit price has contributed to any observed short-term reductions in harms and consumption, while acknowledging the contribution of other measures across the NT. The project examines the impact of the MUP on particular groups of drinkers (e.g., risky drinkers as opposed to low-risk drinkers).

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<sup>3</sup> Now superseded by the Northern Territory Liquor Act 2019

This study includes multiple data collection components and analysis of administrative data sources. Specifically, this mixed methods cross-sectional study data from five key sources:

1. Administrative data (e.g., health, police, treatment, and liquor licensing)
2. Population telephone survey
3. Key informant interviews
4. Price Monitoring
5. Monitoring sales of substitution commodities

### 2.1.1 PROJECT OBJECTIVES

The study has the following objectives:

1. To examine the extent to which MUP is achieving its objectives in the short-term, defined as;
  - a. Reduce harmful consumption of alcoholic beverages; and
  - b. Have a minimal impact on moderate consumers.
2. To examine the extent to which MUP may reduce negative outcomes associated with alcohol consumption.
3. To the extent that it is possible, identify the unique contribution of the MUP to the achievement of the intended outcomes. Alternatively, identify which initiatives in combination with the MUP can be credited with achieving improvements.

### 2.1.2 STUDY AREAS

The current project was undertaken across the Northern Territory, Australia. Results are presented for five geographic areas, where there is sufficient reportable data. The five study areas are composed of one or more regions defined by the Australian Bureau of Statistics (ABS) as a ‘Statistical Area 2’ (SA2; Australian Bureau of Statistics, 2010). The SA2s in each study area are based on that used for NT police statistics.

## 3 METHODS

Administrative data from eight agencies were used to track the potential impact of the MUP on alcohol consumption and related harms (see Table 1). De-identified monthly aggregate data were analysed from January 2013 (where available) to the latest available. January 2013 was chosen as the start of the study period in order to exclude the first time the BDR was in place during 2011-12.

**Table 1 Administrative data sources**

Agency	Datasets
Northern Territory Police and the Department of the Attorney-General and Justice	Police recorded alcohol-related assault offences, homicides, and protective custody episodes
St John Ambulance	Alcohol-related ambulance attendances
NT Department of Health	Emergency department presentations, hospital admissions, sobering up shelter admissions, and treatment episodes
Territory Families	Child protection (investigations of notifications, protection orders, out of home care)
NT Department of Infrastructure, Planning and Logistics	Alcohol-related road traffic crashes
Licencing Northern Territory	Licensing and wholesale alcohol supply
NT Department of Education	School attendance data
NT Department of Tourism and Culture	Tourism (number of visitors and expenditure)

## 4 RESULTS

### 4.1 ADMINISTRATIVE DATA

Interrupted time series (ITS) analysis was used to examine the changes to trends coinciding with the introduction of the MUP. We tested for both a step (immediate) and slope (gradual) change post October 2018 for each data series. ITS models were only conducted where there were a sufficient number of cases over the time period examined.

#### 4.1.1 NORTHERN TERRITORY

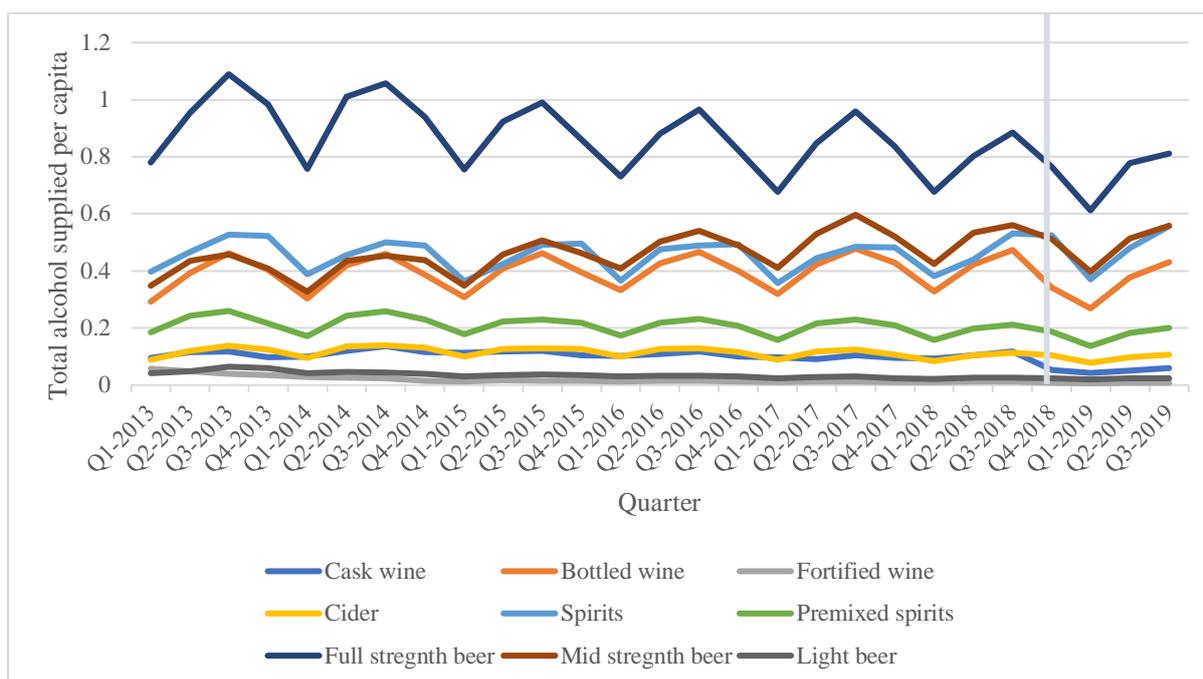
As shown in Table 2 and Figure 1, there was a decline in total wholesale alcohol supply per capita across the Territory that coincided with introduction of the MUP. There were significant declines in supply of cask wine, mid-strength beer, and bottled wine beer per capita.

**Table 2 Change in quarterly alcohol wholesale supply data, Northern Territory**

	Step change	Slope change
Total alcohol	↓	–
Cask wine	↓	–
Bottled wine	↓	–
Fortified wine	–	↑
Cider	–	–
Spirits	–	–
Premixed	–	–
Full strength beer	–	–
Mid strength beer	↓	–
Light beer	–	–

*Note: Models control for seasonality and number of people on the BDR at the end of each quarter. Step represents the immediate change post-MUP, slope represents gradual change post-MUP*

*↓ significant decrease, ↑ significant increase, – no significant change*



**Figure 1 Alcohol wholesale supply per capita by beverage type, Northern Territory**

Table 3 reports trends for the other outcomes across the Territory. As shown, there were significant declines in the rate of alcohol-related assault offences, protective custody episodes, and alcohol-related ambulance attendances after October 2018. There was also a decrease in the rate of alcohol-related emergency department (ED) presentations and hospital admissions. There was also an initial decline in the rate of Sobering Up Shelter admissions, followed by a gradual increase. There were also significant declines in the rate alcohol-related road traffic crashes. However, there was a gradual increase in the rate of treatment episodes. Finally, the child protection data showed declines in the number of investigations of notifications, protection orders, and out-of-home care cases.

**Table 3 Change in monthly administrative data, Northern Territory**

	Step change	Slope change
Police recorded alcohol-related assaults		
Offences	↓	—
Offenders	↓	—
Victims	↓	—
Protective custody episodes	↓	—
Ambulance attendances	↓	—
Emergency department presentations		
Alcohol-related	↓	—
Other substance use	↑	↓
Fracture of skull and facial bones	—	—
Fracture of forearm	—	—
Maltreatment syndromes	↓	—
Assault by sharp object	—	—
Hospital admissions		
Alcohol-related	↓	↓
Other substance use	↑	↓

	Step change	Slope change
Fracture of skull and facial bones	↓	–
Fracture of forearm	–	–
Toxic effect of alcohol	–	–
Maltreatment syndromes	–	–
Assault	–	–
Assault by sharp object	–	–
Sobering Up Shelters <sup>a</sup>	↓	↑
Treatment episodes	–	↓
Road traffic crashes (resulting in injury or fatality)	↓	–
Child protection cases <sup>b</sup>		
Investigations of notifications	↓	–
Protection orders	–	↓
Out-of-home care	–	↓

Note: Models control for seasonality and number of people on the BDR per month

Step represents the immediate change post-MUP, slope represents gradual change post-MUP

Data are per 10,000 population unless otherwise indicated

↓ significant decrease, ↑ significant increase, – no significant change

<sup>a</sup> Alice Springs, Katherine, and Nhulunbuy only

<sup>b</sup> Count data

#### 4.1.2 DARWIN AND PALMERSTON

Table 4 shows that cask wine and cider wholesale supply per capita declined in the Darwin and Palmerston region after the introduction of MUP. While there was a small significant slope increase in the supply of fortified wine, the actual amount supplied per capita demonstrated a non-significant decrease. There was also a very small, but significant slope increase in spirits wholesale supply.

**Table 4 Change in quarterly alcohol wholesale supply data, Darwin and Palmerston**

	Step change	Slope change
Total alcohol	–	–
Cask wine	↓	–
Bottled wine	–	–
Fortified wine	–	↑
Cider	–	↓
Spirits	–	↑
Premixed	–	–
Full strength beer	–	–
Mid strength beer	–	–
Light beer	–	–

As reported in Table 5, there were significant decreases in the rate of alcohol-related assault offences, protective custody episodes, and alcohol-related ambulance attendances. There was also evidence of some decline in the rate of alcohol-related hospital admissions. While there was an initial increase in the rate of other substance use hospital admission, this was followed by a gradual decline. There were significant slope decreases in the rate of assault-related hospital admissions, however, there was

evidence of a gradual decrease in and non-government organisation and government alcohol and other drug treatment episodes.

**Table 5 Change in monthly administrative data, Darwin and Palmerston**

	Step change	Slope change
Police recorded alcohol-related assaults		
Offences	↓	–
Offenders	↓	–
Victims	–	–
Protective custody	–	↓
Ambulance attendances	–	↓
Emergency department presentations		
Alcohol-related	–	–
Other substance use	–	–
Fracture of skull and facial bones	–	–
Fracture of forearm	↑	–
Maltreatment syndromes	–	↓
Assault by sharp object	–	–
Hospital admissions		
Alcohol-related	–	↓
Other substance use	↑	↓
Fracture of skull and facial bones	↓	–
Fracture of forearm	–	↑
Assault	–	↓
Assault by sharp object	–	–
Treatment episodes	–	↓

*Note: Models control for seasonality and number of people on the BDR per month*

*Step represents the immediate change post-MUP, slope represents gradual change post-MUP*

*Data are per 10,000 population*

*↓ significant decrease, ↑ significant increase, – no significant change*

#### 4.1.3 ALICE SPRINGS

As shown in Table 6, there was an overall step decrease in alcohol supply and bottled wine per capita in Alice Springs after the introduction of MUP. Cask wine sales per capita did not change significantly in line with expectations because of existing price restrictions.

**Table 6 Change in quarterly alcohol wholesale supply data, Alice Springs**

	Step change	Slope change
Total alcohol	↓	↑
Cask wine	–	–
Bottled wine	↓	–
Fortified wine	–	–
Cider	–	–
Spirits	–	–
Premixed	–	–
Full strength beer	–	↑
Mid strength beer	↓	↑
Light beer	–	–

Table 7 shows that there were significant declines in the rate of police recorded alcohol-related assault offences, protective custody episodes, alcohol-related ambulance attendances, alcohol-related ED presentations, hospital admissions, and Sobering Up Shelter admissions.

**Table 7 Change in monthly administrative data, Alice Springs**

	Step change	Slope change
Police recorded alcohol-related assaults		
Offences	↓	—
Offenders	↓	↑
Victims	↓	—
Protective custody	↓	—
Ambulance attendances	↓	—
Emergency department presentations		
Alcohol-related	↓	—
Other substance use	—	↓
Maltreatment syndromes	↓	—
Hospital admissions		
Alcohol-related	↓	—
Other substance use	—	—
Fracture of forearm	—	—
Assault	↓	—
Assault by sharp object	—	—
Sobering Up Shelters	↓	↑
Treatment episodes	—	—

*Note: Models control for seasonality and number of people on the BDR per month*

*Step represents the immediate change post-MUP, slope represents gradual change post-MUP*

*Data are per 10,000 population*

*↓ significant decrease, ↑ significant increase, — no significant change*

#### 4.1.4 KATHERINE

Table 8 shows that there was a significant decrease in the wholesale supply of cask wine and bottled wine per capita in the Katherine region post-October 2018. There was a significant gradual increase in the supply of light beer.

**Table 8 Change in quarterly alcohol wholesale supply data, Katherine**

	Step change	Slope change
Total alcohol	—	—
Cask wine	↓	—
Bottled wine	↓	↑
Fortified wine	—	—
Cider	—	—
Spirits	—	—
Premixed	—	—
Full strength beer	—	—
Mid strength beer	—	—
Light beer	↑	—

As demonstrated in Table 9, there were gradual declines in the rate of alcohol-related assault offences and alcohol-related ambulance attendances in Katherine. There was also evidence for a significant decrease in the rate of alcohol-related hospital admissions.

**Table 9 Change in monthly administrative data, Katherine**

	Step change	Slope change
Police recorded alcohol-related assaults		
Offences	–	↓
Offenders	–	↓
Victims	–	↓
Protective custody	–	–
Ambulance attendances	↓	↓
Emergency department presentations		
Alcohol-related	–	–
Maltreatment syndromes	–	↓
Hospital admissions		
Alcohol-related	–	↓
Sobering Up Shelters	–	–
Treatment episodes	–	–

*Note: Models control for seasonality and number of people on the BDR per month*

*Step represents the immediate change post-MUP, slope represents gradual change post-MUP*

*Data are per 10,000 population*

*↓ significant decrease, ↑ significant increase, – no significant change*

#### 4.1.5 TENNANT CREEK

As demonstrated in Table 10, there were indications of a gradual increase in the supply of mid strength beer per capita.

**Table 10 Change in quarterly alcohol wholesale supply data, Tennant Creek**

	Step change	Slope change
Total alcohol	–	–
Cask wine	–	–
Bottled wine	–	–
Fortified wine	–	–
Cider	–	–
Spirits	–	–
Premixed	–	–
Full strength beer	–	–
Mid strength beer	–	↑
Light beer	–	–

Table 11 reports that there was an initial decline in the rate of alcohol-related ambulance attendances, followed by a gradual increase. There was also a significant decrease in the rate of alcohol-related ED presentations.

**Table 11 Change in monthly administrative data, Tennant Creek**

	Step change	Slope change
Police recorded alcohol-related assaults		
Offences	–	–
Offenders	–	–
Victims	–	–
Protective custody	–	–
Ambulance attendances	↓	↑
Emergency department presentations		
Alcohol-related	↓	–
Maltreatment syndromes	–	–
Hospital admissions		
Alcohol-related	–	–
Treatment episodes	–	↓

*Note: Models control for seasonality and number of people on the BDR per month*

*Step represents the immediate change post-MUP, slope represents gradual change post-MUP*

*Data are per 10,000 population*

*↓ significant decrease, ↑ significant increase, – no significant change*

#### 4.1.6 OTHER NORTHERN TERRITORY REGIONS

Table 12 shows that there were significant decreases in the wholesale supply of cask wine per capita through the rest of the Northern Territory. However, there was an increase in light beer, cider, and premixed drinks per capita supply.

**Table 12 Change in quarterly alcohol wholesale supply data, Rest of Northern Territory**

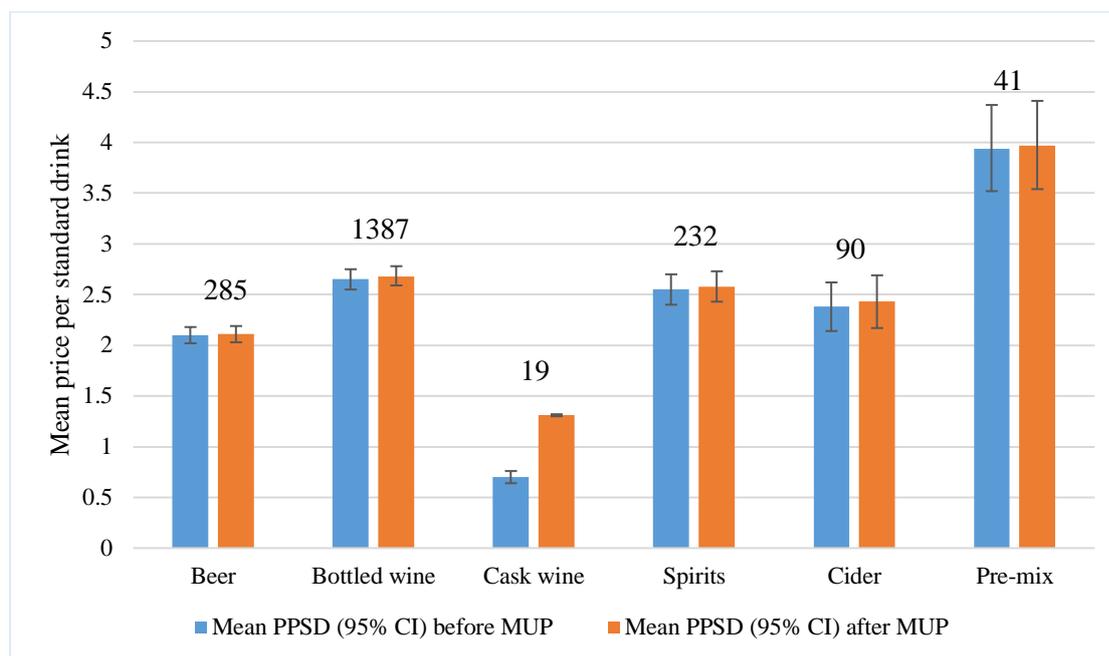
	Step change	Slope change
Total alcohol	–	–
Cask wine	↓	–
Bottled wine	–	–
Fortified wine	–	–
Cider	↑	–
Spirits	–	–
Premixed	↑	–
Full strength beer	↑	–
Mid strength beer	–	–
Light beer	↑	–

Data for the rest of the NT report on too small numbers across different sites to be reliably analysed.

#### 4.1.7 PRICE MONITORING

This data is taken from a larger report on price monitoring in the NT (Mojica-Perez, Jiang, & Livingston, in press). As shown in Figure 2, before the MUP came into effect in October 2018 in the NT, cask wine was sold as the cheapest alcoholic beverage, at on average \$0.70 per standard drink, followed by beer, cider, spirits, bottled wine, and pre-mix. Bottled wine had the largest number of distinct products (n=1,387), while cask wine had the least (n=19). After the introduction of the MUP,

there were non-significant increases in the overall mean price per standard drink of bottled wine, spirits, cider and pre-mix spirits and a significant jump in cask wine prices.



**Figure 2 Mean price per standard drink (with 95% CIs) for each alcohol beverage type (n=2,054)**

*Note. Number above columns represents number of products included in estimate. Data from (Mojica-Perez et al., in press)*

## 4.2 POPULATION TELEPHONE SURVEY

Table 13 presents comparisons between the 2019 survey data and the NT component of the 2016 National Drug Strategy Household Survey (NDSHS) for overall past-year drinking behaviour by key socio-demographic variables. Both samples have substantial limitations and are likely to under-represent problem and heavy drinkers.

Due to limitations in the NDSHS data, our regional comparisons are limited to Darwin versus the rest of the NT (i.e. Alice Springs cannot be separated out). There were no significant changes in drinking behaviour, although this may partly relate to the small sample sizes. There were suggestive increases in non-drinking for young adults and Indigenous respondents.

The data suggest reductions in episodic and binge drinking among Indigenous people, but confidence intervals are too large to be significant. Data suggest that heavy episodic and binge drinking increased non-significantly in Darwin and decreased non-significantly in the rest of the NT.

In Table 14, the overall prevalence of self-reported harms related to drinking are compared between 2016 and 2019. The prevalence of self-reported physical abuse fell by around half, from 12% in 2016 to 7% in 2019.

**Table 13 Trends in drinking behaviour by sex, Indigenous status, age group, and location for the 2016 NDSHS and 2019 NT MUP survey**

	Non-drinkers (%)		Non risky drinkers (<2 drinks per day) (%)		Risky drinkers (2-4 drinks per day) (%)		Heavy drinkers (4+ drinks per day) (%)	
	2016	2019	2016	2019	2016	2019	2016	2019
Men (n = 482)	18.8 (14.4, 24.2)	27.3 (18.4, 38.5)	41.1 (35.7, 46.7)	38.1 (31.4, 45.3)	19.7 (15.8, 24.4)	17.0 (13.0, 22.0)	20.3 (16.2, 25.2)	17.6 (13.5, 22.5)
Women (n = 518)	24.6 (20.3, 29.3)	27.7 (21.9, 34.5)	57.8 (52.7, 62.7)	56.0 (49.1, 62.6)	8.7 (6.5, 11.6)	7.9 (4.6, 13.1)	8.9 (6.2, 12.6)	8.4 (4.9, 14.2)
Indigenous (n = 81)	35.6 (23.8, 49.5)	47.6 (30.7, 65.1)	35.6 (25.1, 47.8)	35.4 (22.4, 50.9)	13.7 (7.2, 24.5)	5.9 (1.6, 19.6)	15.1 (8.1, 26.4)	11.1 (4.8, 23.8)
Non-Indigenous (n = 919)	19.1 (16.3, 22.4)	20.9 (17.8, 24.5)	51.1 (47.2, 55.0)	50.5 (46.5, 54.5)	14.8 (12.3, 17.7)	14.8 (12.1, 18.0)	15 (12.3, 18.1)	13.8 (11.3, 16.8)
18-34 years (n = 174)	21.7 (15.8, 29.2)	33.9 (22.0, 48.2)	49.3 (42.0, 56.6)	40.2 (30.5, 50.8)	15.2 (10.8, 21.1)	13.3 (8.0, 21.3)	13.7 (9.3, 19.8)	12.6 (7.5, 20.4)
35-49 years (n = 323)	20.1 (15.3, 26.1)	21.5 (16.0, 28.2)	54 (47.5, 60.3)	53.5 (46.3, 60.6)	14.9 (11.0, 19.9)	11.2 (8.0, 15.5)	11 (7.6, 15.7)	13.9 (9.5, 19.7)
50-64 years (n = 333)	19.8 (14.8, 25.8)	25.1 (19.2, 32.0)	44.7 (38.0, 51.5)	47.1 (40.5, 53.7)	12.5 (8.9, 17.5)	15.1 (11.1, 20.1)	23 (17.2, 30.1)	12.8 (9.2, 17.6)
65+ years (n = 170)	28.1 (20.8, 36.6)	26.5 (17.5, 38.1)	42.2 (33.8, 51.0)	51.5 (41.6, 61.2)	15.5 (10.4, 22.6)	8.1 (4.5, 14.3)	14.2 (9.2, 21.3)	13.9 (8.9, 21.1)
Darwin/Palmerston (n = 638)	18.9 (15.5, 22.8)	21.2 (17.5, 25.3)	49.4 (44.7, 54.1)	49.9 (45.3, 54.6)	16.9 (13.7, 20.6)	14.5 (11.5, 18.3)	14.9 (11.8, 18.6)	14.4 (11.4, 18)
Rest of the NT (n = 362)	25.4 (19.8, 32.1)	37.4 (25.7, 50.8)	48.2 (42.0, 54.6)	41.8 (32.0, 52.4)	11.2 (7.8, 15.8)	9.6 (5.4, 16.3)	15.2 (11.0, 20.6)	11.2 (6.5, 18.6)

**Table 14 Prevalence of self-reported harms related to alcohol, 2016 NDSHS and 2019 NT MUP survey, with 95% confidence intervals in parentheses**

	2016 NT NDSHS (%)	2019 NT MUP (%)
Verbally abused by someone affected by alcohol	31.8 (28.4, 35.3)	32.3 (28.0, 36.9)
Physically abused by someone affected by alcohol	12.2 (9.9, 14.9)	6.8 (4.7, 9.7)*
Injury requiring medical attention while under the influence of alcohol	3.2 (2.0, 5.0)	2.9 (1.7, 4.9)

*Note. \* 95% confidence intervals do not overlap with 2016 confidence intervals*

#### 4.3 KEY INFORMANT INTERVIEWS

Overall, key informants report strong impacts across the Territory from the three main policy supply reduction interventions (MUP, PALIs/POSI and the BDR). However, most cultural behaviours, such as alcohol, takes time to change. Smoking trends took over 60 years to reach current levels. In this context, this one year point after the MUP implementation and two years since BDR, means that it is still early in the culture-change timeline and some of the apparent trends might change in the mid-term. It was also clear that the measures are having a different impact in different areas, especially because of the different laws and conditions in Darwin meaning that PALIs have not been implemented there. This ultimately means that alcohol is much more available at the population level. Key informants generally reported that the MUP was accepted by the NT community and that the vast majority of alcohol sales/customers are unaffected.

## 5 DISCUSSION

The data presented show that the trends for alcohol consumption and related harms are mostly demonstrating significant reductions, although there are some variables where there is no change. It is also clear from the range of data presented that at this one year point, while trends are mostly promising, more time is required to evaluate the impact of the MUP in the context of the other supply reduction measures.

These findings are broadly consistent with those from other countries where a MUP has been introduced, especially considering that this is a much smaller population, with substantially more complex problems over a much more geographically diverse area.

For all of the reported findings, it is worth considering these were achieved by the addition of successive elements (i.e., BDR, POSIs/PALIs, MUP). This is in line previous public health programmes such as those for anti-smoking and drink-driving where downward trends were continued and bolstered by adding interventions to achieve continued success. While specific interventions might begin a downward trend, it is reasonable to expect that all interventions have a limited effect/duration and that achieving a longer term trend, rather than a simple step effect, requires ongoing intervention. More people accessing treatment will also support downward long term trends.

## 5.1 CONSIDERATIONS FOR FUTURE RESEARCH

Throughout this report we have identified a range of issues where there is incomplete or missing data. Looking ahead to the three-year evaluation, there are a number of key questions to be addressed.

The survey methods used in this study and the NDSHS provide a baseline of drinking behaviour in the NT which provides important information for understanding the mid - long term impacts of the MUP.

As discussed above, while it is unlikely that the MUP is a major factor in displacement of drinkers, it is important to gather evidence to be confident this is the case. Such evidence should include quantitative data on people's movement within and out of the NT, as well as qualitative interviews with people attending services around the NT to assess how their behaviour has been impacted by the MUP. Quantitative data should ideally be drawn from social housing, Centrelink, and other agencies.

## 6 CONCLUSIONS

This report has documented a wide range of benefits to the community which have coincided with the implementation of the MUP in the NT. The MUP has complemented the BDR and PALIs in the NT, significantly adding to the impact of these measures to further reduce harm in many communities. The research found evidence of a sharp decline in the experience of physical abuse from people affected by alcohol, which is suggestive of improvements in alcohol-related violence since 2016. These changes occurred in Darwin and the rest of the Northern Territory, suggesting that the MUP is likely to have made a unique contribution to reduced harm and added to specific policies like PALIs.

The evaluation of each stand-alone policy initiative in a comprehensive response poses challenges in terms of the introduction of multiple policy initiatives concurrently and/or within quick succession. However, the methods used have allowed for an assessment of changes across a range of outcomes and the staggered implementation of different policy elements in different locations allows for some teasing out of differential impacts, if they exist.

Per capita alcohol wholesale supply data and surveys highlight that the MUP achieved its goal of specifically targeting cask wine in many towns. Most other beverages were not affected.

Business generally reported that implementation of the legislation was straight forward and that turnover/business has improved or remained stable. Tourism in the NT has not been affected by the MUP, nor has the supply to nightlife venues in Darwin, holding important information for other jurisdictions in terms of understanding the benefits of the legislation for the community.

This evaluation of one-year impact has highlighted the need for more in-depth data collection from a range of data sources, but has also highlighted that currently available data can paint a strong picture of the impacts across the Northern Territory.

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