

## Supplementary Material

### **The profile, clinical characteristics, and outcomes of alcohol- and non-alcohol-related patient presentations to Queensland emergency departments: a multi-site observational study**

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## Supporting Information

**Table S1. ICD-10 codes used for alcohol-related diagnoses in the ED**

<b>ICD-10 Code</b>	<b>ICD-10 Code description</b>	<b>Reference</b>
F10.0	Alcohol Intoxication	Kisely et al., 2011; Verelst et al., 2012
F10.3	Alcohol Withdrawal Syndrome	Egerton-Warburton et al., 2014; Kisely et al., 2011; McLay et al., 2017
F10.5	Alcohol Hallucinosi	Kisely et al., 2011
K29.2	Gastritis – Alcoholic	Egerton-Warburton et al., 2014; McLay et al., 2017
T50.9	Other Drug Poisoning	Kisely et al., 2011

## Additional Results from ARP and NAPR site, sex, and age group comparisons

Table S2 shows the outcomes of ARPs and NARPs for each site. ED LOS was longer for ARPs compared with NARPs at three sites (A, B, D) and not different at site C. Admission rates for ARPs were higher than NARPs at sites A and B but lower than NARPs at sites C and D. Across all sites, admission to the ED SSU was higher for ARPs than NARPs. The ED episode-of-care cost was higher for ARPs than NARPs at three sites (A, B, D), but lower at site C.

Table S3 shows outcomes of ARPs and NARPs for males and females. The median ‘time to see a clinician’ was generally shorter for males than females. Median ‘time to see a clinician’ was also shorter for NARPs compared with ARPs in males, but not in females. The median ED LOS

was longer and median cost of an ED episode of care were higher for ARPs compared with NARPs in both males and females. Admission rates were lower for ARPs compared with NARPs in both males and females. Admission rates to the ED SSU were higher in ARPs compared with NARPs for both males and females.

Table S4 shows outcomes of ARPs and NARPs for different age groups. The median 'time to see a clinician' was shorter for ARPs than NARPs in the three younger age groups (i.e.  $\leq 17$ , 18-29, 30-50) but not in the older age groups. Median ED LOS and median cost of ED episode-of-care all increased with increasing age and were higher for ARPs compared with NARPs across all age groups. The admission rate was lower for ARPs compared with NARPs across all age groups. Where admission to ED SSU was required, this was higher for ARPs compared with NARPs across all age groups, except for the 18-29-year-old group.

**Table S2. Outcomes of alcohol- and non-alcohol-related ED presentations, based on site**

Outcome	ED A		P value	ED B		P value	ED C		P value	ED D		P value
	ARP (n=4,505)	NARP (n=129,287)		ARP (n=2,536)	NARP (n=71,102)		ARP (n=8,699)	NARP (n=83,659)		ARP (n=3,995)	NARP (n=102,462)	
Median time to see clinician (mins) [IQR]	50 [15-121]	53 [18-114]	0.010	50 [17-107]	45 [15-103]	<0.001	35 [14-70]	31 [13-64]	<0.001	29 [11-72]	25 [10-60]	<0.001
Median EDLOS (mins) [IQR]	219 [144-333]	180 [121-239]	<0.001	204 [1334-296]	167 [109-231]	<0.001	184 [113-287]	180 [108-288]	0.057	188 [126-257]	180 [112-257]	<0.001
Discharge rate (%)	52.9 (n=2381)	54.4 (n=70334)	0.042	54.1 (n=1373)	56.7 (n=40347)	0.010	68.7 (n=5976)	56.2 (n=46988)	<0.001	70.2 (n=2806)	64.7 (n=66274)	<0.001
Admission rate (%)	47.1 (n=2124)	45.6 (n=58953)	0.042	45.9 (n=1163)	43.3 (n=30755)	0.010	31.3 (n=2723)	43.8 (n=36671)	<0.001	29.8 (n=1189)	35.3 (n=36088)	<0.001
If admitted: to ED / SSU / CDU	70.8 (n=1503)	68.0 (n=40101)	0.008	77 (n=896)	62.1 (n=19089)	<0.001	32.2 (n=878)	30.4 (n=11152)	0.0475	62.7 (n=745)	32.4 (n=11683)	<0.001
If admitted: to ward other than ED	29.2 (n=621)	32.0 (n=18852)	0.008	23 (n=267)	37.9 (n=11666)	<0.001	0 (n=0)	0.1 (n=19)	0.4619	10.2 (n=121)	28.9 (n=10447)	<0.001
If admitted: to ward – unable to determine if ED or other	0.0	0.0	NA	0	0	NA	67.8 (n=28436)	69.5 (n=1845)	0.0543	27.2 (n=323)	38.7 (n=13958)	<0.001
Median ED cost of care [IQR]	790.9 [495.2-1253.3]	606.1 [404.7-866.1]	<0.001	661.6 [437.7-1024.3]	552.2 [372.8-771.1]	<0.001	687.8 [431.6-870.9]	736.2 [523.7-884.6]	<0.001	627.1 [406.2-977.7]	552.3 [342.3-905.1]	<0.001

ED: emergency department; ARP: alcohol-related presentation; NARP: non-alcohol-related presentation; LOS: Length of stay; (n): number of patients; IQR: interquartile range; SSU: Short Stay Unit; CDU: Clinical Decision Unit; Median time to be seen excludes time variables with negatives.

**Table S3. Outcomes of alcohol- and non-alcohol-related ED presentations, based on sex**

Outcome	Male		P value	Female		
	ARP (n=11,264)	NARP (n=182,791)		ARP (n=6,747)	NARP (n=188,817)	P value
Median[IQR] time to see clinician (min)	37 [13, 83]	35 [12, 83]	0.02	40 [15, 90]	40 [14, 91]	0.75
Median [IQR] ED LOS (min)	198 [124, 297]	172 [108, 240]	<0.001	194 [127, 289]	182 [119, 252]	<0.001
Discharge rate (% , n)	62.3 (n=7,016)	58.8 (n=107,558)	<0.001	64.6 (n=4,359)	57.1 (n=107,740)	<0.001
Admission rate (% , n)	37.7 (n=4,248)	41.2 (n=75,233)	<0.001	35.47 (n=2,388)	42.9 (n=81,077)	<0.001
If admitted: to ED / SSU / CDU	54.7 (n=2322)	46.9 (n=35270)	<0.001	63.5 (n=1517)	55.3 (n=44823)	<0.001
If admitted: to ward other than ED	16.5 (n=699)	28.3 (n=21277)	<0.001	13 (310)	24.3 (n=19702)	<0.001
If admitted: to ward – unable to determine if ED or other	28.9 (n=1227)	24.8 (n=18686)	<0.001	23.5 (n=561)	20.4 (n=16552)	<0.001
ED cost of care Median [IQR] (AUD)	691.2 [427.2, 988.7]	607.4 [394.9, 860.3]	<0.001	686.2 [435.5, 960.5]	625.8 [422.0, 859.5]	<0.001

ED: emergency department; ARP: alcohol-related presentation; NARP: non-alcohol-related presentation; LOS: Length of stay; IQR: Interquartile Range; SSU: Short Stay Unit; CDU: Clinical Decision Unit; Median time to be seen excludes time variables with negatives

**Table S4. Outcomes of alcohol- and non-alcohol-related ED presentations, based on age-group**

Outcome	≤17 years		P value	18-29 years		P value	30-50 years		P value
	ARP (n=843)	NARP (n=75907)		ARP (n=6580)	NARP (n=78327)		ARP (n=8011)	NARP (n=101743)	
Median [IQR] time to see clinician (min)	27 [9, 79]	33 [12, 77]	<0.001	39 [14, 86]	43 [15, 96]	<0.001	37 [14, 85]	39 [14, 90]	0.025
Median [IQR] ED LOS (min)	155 [83, 244]	140 [90, 209]	0.004	180 [116, 261]	167 [107, 233]	<0.001	199 [128, 300]	175 [114, 240]	<0.001
Discharge rate (%)	78.89 (n=664)	76.9 (n=58380)	0.218	74.2 (n=4882)	69.1 (n=54156)	<0.001	62.8 (n=5032)	60.8 (n=61901)	<0.001
Admission rate (%)	21.2 (n=179)	23.1 (n=17527)	0.218	25.8 (n=1698)	30.9 (n=24171)	<0.001	37.2 (n=2979)	39.2 (n=39842)	<0.001
If admitted: to ED / SSU / CDU	64.8 (n=116)	56.0 (n=9820)	<0.001	54.5 (n=926)	60.9 (n=14709)	<0.001	57.7 (n=1720)	56.8 (n=22629)	<0.001
If admitted: to ward other than ED	10.1 (n=18)	28.7 (n=5025)	<0.001	10.6 (n=180)	14.1 (n=3419)	<0.001	13.2 (n=393)	18.1 (n=7205)	<0.001
If admitted: to ward – unable to determine if ED or other	25.1 (n=45)	15.3 (n=2682)	<0.001	34.9 (n=592)	25.0 (n=6043)	<0.001	29.1 (n=866)	25.1 (n=10008)	<0.001
Median ED cost of care	533 [310, 841]	472 [315, 713]	<0.001	651 [427, 903]	592 [417, 811]	<0.001	697 [432, 983]	633 [422, 854]	<0.001

ARP: Alcohol-related presentation; NARP: non-alcohol-related presentation; LOS: Length of stay; IQR: Interquartile Range; SSU: Short Stay Unit; CDU: Clinical Decision Unit; Median time to be seen excludes time variables with negatives

**Table S4 cont. Outcomes of alcohol- and non-alcohol-related ED presentations, based on age-group**

Outcome	51-64 years		P value	≥65 years		P value
	ARP (n=3004)	NARP (n=52320)		ARP (n=1297)	NARP (n=78112)	
Median [IQR] time to see clinician (min)	38 [15, 93]	35 [12, 84]	<0.001	38 [13, 86]	36 [12, 86]	0.818
Median [IQR] ED LOS (min)	221 [147, 342]	193 [127, 271]	<0.001	234 [172, 358]	221 [154, 320]	<0.001
Discharge rate (%)	49.1 (n=1474)	48.8 (n=25532)	0.789	37.3 (n=484)	30.7 (n=23973)	<0.001
Admission rate (%)	50.9 (n=1530)	51.2 (n=26788)	0.789	62.7 (n=813)	69.3 (n=54139)	<0.001
If admitted: to ED / SSU / CDU	54.6 (n=836)	46.8 (n=12545)	<0.001	52.2 (n=424)	41.2 (n=22322)	<0.001
If admitted: to ward other than ED	17.4 (n=266)	25.9 (n=6950)	<0.001	18.7 (n=152)	34 (n=18385)	<0.001
If admitted: to ward – unable to determine if ED or other	28 (n=428)	27.2 (n=7293)	<0.001	29.2 (n=237)	24.8 (n=13432)	<0.001
Median ED cost of care	753 [474, 1045]	676 [454, 933]	<0.001	820 [596, 1097]	753 [518, 1024]	<0.001

ARP: Alcohol-related presentation; NARP: non-alcohol-related presentation; LOS: Length of stay; IQR: Interquartile Range; SSU: Short Stay Unit; CDU: Clinical Decision Unit; Median time to be seen excludes time variables with negatives

## References for Supporting Information

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