

QUEENSLAND Alcohol-related violence and Night Time Economy Monitoring (QUANTEM)

FINAL REPORT (April 2019)

SUMMARY

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LIST OF TERMS AND ACRONYMS USED IN THE REPORT

Acronym	Definition
ABS	Australian Bureau of Statistics
AIC	Akaike information criterion
AMCOS	Australasian Mechanical Copyright Owners Society Limited
AOD	Alcohol and other drugs
APRA	Australasian Performing Right Association
ARIMA	Auto-Regressive Integrated Moving Average
BAC	Blood alcohol concentrate
BCR	Benefit cost ratio
BIC	Bayesian information criterion
CAD	Call to assist data
CBD	Central business district
CCTV	Closed-circuit television
CI	Confidence interval
DANTE	Dealing with Alcohol-Related Harm and the Night-time Economy
DARF	Digital Ambulance Report Form
DASHED	Drug and Alcohol Intoxication and Subsequent Harm in the Night-Time Entertainment Districts
DET	Department of Education and Training
EARF	Electronic Ambulance Report Form
ED	Emergency department
ETP	Extended trading permit
GVA	Gross value added
HAH	High alcohol hours
ICD	International Classification of Diseases
LAH	Low alcohol hours
LGA	Local government area

Acronym	Definition
NAIP	National Alcohol Indicators Project
NCIS	National Coronial Information System
NEP	Night-time entertainment precinct
NHMRC	National Health and Medical Research Council
NPV	Net present value
OLGR	Office of Liquor Gaming Regulation
POINTED	Patron Offending and Intoxication in Night-Time Entertainment Districts
PPRA	Police Powers and Responsibilities Act 2000
QACIR	Queensland Ambulance Case Information Reporting
QAS	Queensland Ambulance Service
QCAA	Queensland Curriculum and Assessment Authority
QCAD	Queensland Calls to Assist Dataset
QGSO	Queensland Government Statistician's Office
QPRIME	Queensland Police Records and Information Management Exchange
QPS	Queensland Police Service
SARIMA	Seasonal Auto-Regressive Integrated Moving Average
SD	Standard deviation
SNP	Safe night precinct
SNPSS	Safe night precinct support services
TMR	Department of Transport and Main Roads
TRA	Tourism Research Australia

1. EXECUTIVE SUMMARY

In an effort to reduce deaths, assault and injury associated with alcohol-fuelled violence, the Queensland Government responded to community concerns by implementing a broad-based multi-faceted Policy. Key measures included ceasing alcohol service at 3am and the introduction of mandatory ID scanners in Safe Night Precincts (SNPs). The Queensland Government's Tackling Alcohol-Fuelled Violence Policy (TAFV) 2016 had three broad aims:

1. A safer night time environment, in particular in entertainment precincts;
2. To achieve cultural change around alcohol consumption behaviour which includes more responsible drinking practices within SNPs in Queensland; and
3. A regulatory framework that balances the interests of the liquor industry with a reduction in alcohol-fuelled violence.

The measures introduced in the Policy were based on the successful 'Newcastle intervention', which closed venues at 3:30am. In Newcastle these measures resulted in steady reductions in harms over time (1, 2). Fidelity to Newcastle measures remains poor, in part due to a large proportion of licensed venues that remained open (but not serving alcohol) after 3am.

Key contextual findings from the current study about the levels of harm experienced by patrons in Queensland SNPs include:

- Blood alcohol concentration (BAC) levels measured are substantially higher than those seen in other comparable Australian cities,
- Self-reported experience of physical assault (29% in Fortitude valley) is almost twice that reported in other Australian cities,
- In Fortitude Valley, women tend to experience the greatest levels of harm, particularly unwanted sexual attention in and around licensed venues.

Our evaluation of the TAFV policy has found that introduction of the TAFV legislation has been associated with the following trends:

SAFETY:

- No deaths around licensed venues in a safe night precinct since 2016,
- Significant reductions in ambulance call outs statewide (High alcohol hours vs low alcohol hours ratio: 11% on average per month, 3-6am), and in all SNPs (29% 3-6am),
- A 29% average reduction per month across the state in the rate of serious assaults during 3am-6am, but a 19% increase earlier in the night (8pm –midnight),

- Significant reductions in serious assaults were seen in Fortitude Valley (40%, 3-6am) and Toowoomba SNPs, with stable trends elsewhere,
- Significant reductions statewide in hospital admissions for ocular bone fractures (4% on average per month statewide and 12% in greater Brisbane),
- A levelling out of hospital admissions for alcohol intoxication statewide and in Brisbane,
- Stable trends in emergency department attendances,
- Continuing very low levels of violence outside SNPs,
- No significant displacement of issues to outside SNPs for most of the state,
- ID scanners detected a total of 14,795 banned patrons trying to enter venues,
- The average times taken to scan a patron during weekend nights was between 13 seconds (Fortitude Valley) and 20 seconds (Airlie Beach),
- At least one serious crime (including rape and grievous bodily harm) per week across Queensland has been solved using ID scanner data,
- Very low numbers of successful prosecutions of venues serving unduly intoxicated patrons.

DRINKING CULTURE:

- Pre-drinking levels of SNP patrons remain high and have not changed,
- Education/awareness campaigns were ineffective at reducing intoxication and violence.

IMPACT ON BUSINESS:

- Increased number of liquor licences across Queensland,
- Stable number of people detected attending Fortitude Valley,
- No major changes in the number and type of nightlife venues in the Fortitude Valley SNP,
- Increased number of people using transportation (public transport, taxis, and Uber) during weekend nights in Fortitude Valley over time,
- All live music performances have continued to increase, but the number of *original* live music performances may have continued declining since 2012,
- Some smaller venues have experienced unintended consequences from ID scanning (e.g. reported reductions in midweek trading, having to rescan patrons accessing toilets),
- Tourism has continued to grow strongly statewide, and;
- Acknowledging limitations, the economic evaluation identified an overall benefit of \$16 million of the legislation to the Queensland community, and has returned \$2.30-\$4.59 for every dollar spent.

Overall, there have been promising reductions in some key measures of alcohol-related harm across Queensland, but levels of alcohol consumption and harm remain high. Further refinement and regulation is required to ensure people attending Queensland nightlife return home safely.

Legislative amendments are also required to better balance impact on business. The key barriers to achieving reduced suffering from alcohol-related violence and burden on the community are continued high levels of alcohol consumption and insufficient regulation of the market. Recommendations are made with the explicit goal of reducing alcohol-related violence, injury and other harm.

2. RECOMMENDATIONS

To achieve reductions in the very high levels of alcohol-related harm in Queensland, improve Queensland's alcohol consumption patterns, while balancing the impact on business, the following recommendations are made. Supportive text for recommendations can be found in Sections 8 and Section 9 of the full report. Recommendations are presented in groupings

2.1. IMPROVING QUEENSLAND'S LIQUOR LICENSING TO REDUCE ALCOHOL-RELATED VIOLENCE AND HARM

Recommendation 1: Close all venues in SNPs at 3:30am.

Recommendation 2: Stop the Extended Trading Permits scheme.

Recommendation 3: Retain mandatory networked ID scanners, with amendments;

- a) Reduce the days on which mandatory scanning is required for venues closing before 1am to Friday, Saturday and Sunday nights, as well as late trading public holidays.
- b) Allow venues with external toilet and smoking facilities to 'stamp' patrons to avoid the need for rescanning.
- c) Community clubs be granted exemption from mandatory networked scanning, but remain subject to other restrictions, including the risky venues scheme.
- d) Add an offence to the Liquor Act of making vexatious bans for ID scanner operators/licencees on the scanner network.
- e) Limit the amount of time that venue-based bans remain on the system to six months.
- f) Make banning lists available to all venues in Queensland operating after midnight.

Recommendation 4: Introduce a two-year moratorium on liquor licences for on-licensed premises except for restaurants and licensed cafes where people can only purchase alcohol if they are having a meal.

Recommendation 5: Conduct a Review of SNP boundaries and criteria for inclusion, and introduce annual reviews of SNPs.

- a) Remove Caxton Street as an SNP.
- b) Remove Ipswich as an SNP.

Recommendation 6: Remove funding to the SNP project scheme.

- a) Support for SNP board administration should continue.

Recommendation 7: Introduce a targeted, evidence-based High-Risk Venues scheme.

- a) Queensland government should implement a targeted, evidence-based, high-risk venues scheme which replicates and improves on the NSW Violent Venues scheme to incorporate Last Drinks data from hospitals and ambulance attendance location information.

Recommendation 8: Add a section to the Liquor Act to include a statement that: ‘the licensee/their employee must satisfy themselves that a person is not unduly intoxicated before serving them alcohol or allowing consumption’.

Recommendation 9: The Liquor Act should be amended to ensure that ‘Mistake of fact’ (Section 24 of the Criminal Code) cannot be exploited to avoid responsibility for serving an unduly intoxicated person.

- a) The changes should ensure that the modified Mistake of Fact is a defence rather than an excuse, meaning that the defendant would have to establish the defence on the balance of probabilities rather than the prosecution having to exclude the excuse beyond reasonable doubt. Specifically:
- b) If undue intoxication of a person is material to the charge of an offence against the Act, the operation of section 24 of the Criminal Code is excluded;
- c) In these instances it is for the defence to prove that, at the time of the offence, the relevant person honestly and reasonably believed that the person whose undue intoxication is material to the offence was not unduly intoxicated;
- d) Evidence that the relevant person did not assess the level of intoxication of the person whose undue intoxication is material to the offence is evidence that any belief that the person was not unduly intoxicated was not reasonable.

Recommendation 10: Amend the Liquor Act to include an offence of not complying with Risk Assessed Management plan.

Recommendation 11: Amend the Liquor Act to include, and document, consideration of violence rates, family violence rates and the current density of outlets in any granting of new liquor licenses or changes to existing licenses.

Recommendation 12: The Liquor Act should ensure that all liquor licensing decisions are transparent, that reasons are published for every decision, and that there is timely and easy public access (e.g. posted on the Office of Liquor and Gaming Regulation (OLGR) website) to all submissions and evidence that an applicant seeks to rely upon throughout the proceedings in support of their application.

Recommendation 13: Amend the Liquor Act to make CCTV mandatory for all venues that trade after midnight.

Recommendation 14: Include casinos in trading hour restrictions and mandatory ID scanning or the high-risk venues scheme if implemented.

2.2. IMPROVING COMMUNITY INFORMATION ON ALCOHOL-RELATED HARM

Recommendation 15: Introduce last drinks questions to Emergency services across Queensland:

- a) Police
 - i) *Where did you consume your last drink?*
- b) Emergency Departments
 - i) *Where did the event occur? (to be asked as a routine administration question)*
 - ii) *How many alcoholic drinks have you consumed in past 12 hours? (to be asked by clinical or administrative staff)*
 - iii) *Where did you consume your last drink? (to be asked by clinical or administrative staff)*
- c) Ambulance
 - i) *How many alcoholic drinks have you consumed in past 12 hours?*
 - ii) *Where did you consume your last drink?*

Recommendation 16: Improve the collection of Alcohol sales data:

- a) Liquor suppliers who do not provide comprehensive and accurate data within three months of request should be subject to a substantive penalty.
- b) The OLGR should be given powers under the liquor act to audit liquor suppliers' records to ensure that data provided is accurate.
- c) The OLGR should conduct random audits of 5% of the data provided annually.

2.3. INCREASING PATRON ACCOUNTABILITY

Recommendation 17: Increase of minimum police bans to 1 month with an option of up to 6 months.

2.4. REDUCING ALCOHOL AND DRUG-RELATED HARM IN QUEENSLAND

Recommendation 18: Introduce a Minimum Unit Price on alcohol across Queensland.

Recommendation 19: Trial the introduction of government support scheme for original live music played before 10 pm.

Recommendation 20: Create a health promotion scheme whereby National Health and Medical Research Council guidelines for low-risk drinking are prominently posted on all points of sale in Queensland.

Recommendation 21: Conduct a trial of the 'clubs against drugs' program.

Recommendation 22: Commission a comprehensive independent review of the Alcohol and Other Drug school education program.

- a) This review should be led by the Department of Premier and Cabinet and explicitly cover issues of implementation and monitoring, along with the development of an ongoing impact assessment and regular reporting.
- b) Every school in the state should identify specific individuals as the responsible anti-violence and alcohol and other drug officer, and this person should be listed on reports to the government and on school websites.
- c) Every school should have a publicly-available plan for alcohol and other drug education and anti-violence outlined on the school website.
- d) The Department of Education should be required to collect and keep records of the content delivered in each school which document the elements presented, and the year levels and classes delivered to.
- e) The Department of Education should report to the Department of Premier and Cabinet annually on the compliance within schools.
- f) A review of program content and delivery should be conducted every 3 years by suitably qualified independent evaluators which includes a range of impact measures to be specified by the review.
- g) Similarly, a comprehensive review of the teaching package should be conducted by suitably qualified, independent, drug education experts, to ensure best practice given the existence of an extensive literature on what works in school-based drug education.

Recommendation 23: A review of anti-violence strategies and campaigns should be conducted to inform a whole of government approach to violence. The review should be overseen by an independent expert advisory committee.

Recommendation 24: Implement an alcohol awareness campaign which conforms to best evidence and does not use 'responsible drinking' wording.

- a) Mass media campaigns should be included as key components of comprehensive approaches to improving population health behaviours.
- b) Sufficient funding must be secured to enable frequent and widespread exposure to campaign messages continuously over time, especially for ongoing behaviours
- c) Adequate access to promoted services and products must be ensured.
- d) Changes in health behaviour might be maximised by complementary policy decisions that support opportunities to change, provide disincentives for not changing, and challenge or restrict competing marketing.
- e) Campaign messages should be based on sound research of the target group and should be tested during campaign development.
- f) Outcomes should undergo rigorous independent assessment and peer-reviewed publications should be sought.

2.5. ENSURING FUTURE RESPONSES TO ALCOHOL-RELATED VIOLENCE ARE EFFECTIVE AND EFFICIENT

Recommendation 25: The Department of Health should be required to set up an independent expert research steering committee to oversee the commissioning and reporting of any monitoring all evaluation research. This steering committee should have veto rights, and membership should include suitably qualified people (Ph.D. or MD) with backgrounds in medicine, public health, alcohol and other drugs and social welfare, along with relevant department representation.

Recommendation 26: The Queensland Government Statistician's Office (QGSO) should amend sampling and reporting practices for the Queensland Preventative Health Survey

- a) Younger age groups should be oversampled to provide more representative information of this key demographic for harm, especially alcohol-related harm.
- b) To aid better transparency of survey responses the QGSO should publicly release detailed information on the response rates for the Queensland Preventative Health Survey for past and future surveys, as reported by the National Drug Strategy Household Survey.

Measures to be reported include:

- i) the denominator was used for determining the response rate;
- ii) the number of people who answered the phone
- iii) the number of people that didn't answer the phone.
- iv) the number of incomplete calls

Recommendation 27: Commission ongoing Independent evaluation and monitoring of alcohol-related harm in Queensland.

- a) This should include an independent, expert evaluation of the impact of the opening of the Queen's Wharf Brisbane casino that is publicly available, and led by an independent steering group.

3. SAFE NIGHT PRECINCT SUPPORT SERVICES RECOMMENDATIONS

Additional funding was granted through the Department of Communities for safe night precinct support services (SNPSS). A separate evaluation of these services was conducted in 2017, funded by the Department of Communities and led by Prof Miller. The recommendations from the SNPSS evaluation report are included here.

Recommendation 28: Support Services funding should be scaled according to number of venues and levels of harm.

- a) Levels of harm should be measured using ambulance attendance and police-recorded serious assaults.

Recommendation 29: Conduct recurrent evaluations to monitor Support Service improvement and new risks and opportunities.

Recommendation 30: Evaluation should be conducted every two years and the reports be publicly available to monitor performance on investment.

Recommendation 31: Consider funding for Support Services via a levy on venues.

Recommendation 32: Recurring funding should be provided to train Support Service personnel.

Recommendation 33: The government should conduct quarterly site visits in order to hold individuals and Support Services accountable.

Recommendation 34: Support Services personnel should be required to wear high-visibility clothing in order to stand out in the night-time environment.

Recommendation 35: It is suggested that all rest and recovery services have a stable presence in the main thoroughfare of their SNP.

Recommendation 36: A review should be conducted of radio networks in SNPSS, with the aim of making use of the networks mandatory for all parties involved, including police.

Recommendation 37: Universal data collection, a minimum dataset, and storage methods across Support Services is suggested.

Recommendation 38: There should be a universal set of guidelines across SNPSS's to dictate how Support Services should operate.

4. BACKGROUND

This project, *Queensland Alcohol-related violence and Night Time Economy Monitoring (QUANTEM)* utilises a mixed methods cross-sectional study incorporating nine data collection methods to assess the impact of the Policy on patterns of consumption and alcohol-related harms in Queensland.

This final report presents a preliminary analysis of some of the data elements outlined above, describing trends across Queensland and across a sub-sample of five SNPs (i.e. Fortitude Valley, Cairns, Surfers Paradise, Toowoomba, and Townsville).

This report follows an earlier interim report to government (3), which identified that trends appeared to remain stable, and that the use of extended trading permits had meant that SNPs had not effectively replicated the successful Newcastle measures (2, 4) in terms of closing venues at 3:30am. This was identified as being especially important in relation to the ability of the measures introduced to change drinking culture, as seen in Newcastle, as venues can remain open to 5am.

A key development since the earlier interim report has been the introduction of mandatory ID scanners in July 2017.

4.1. EVALUATION PROCESS AND TIMELINES

The TAFV legislation was enacted in the Queensland Parliament on 15 February 2016. Trading hours restrictions came into force on 1 July 2016, and mandatory ID scanners were introduced on 1 July 2017. The Department of Premier and Cabinet released a Request for Tender on 16 April 2016, with submissions due 5 May 2016. The research team was advised that they had been awarded an Australian Research Council Linkage grant on 6 May 2016. Tender submission was awarded to the Deakin University-led team on 16 May 2016. The final report was contracted to be submitted on 31 October 2018. The project was postponed until 2 April 2019, due to the delayed access to key datasets, including hospital admissions data, car crash data, and comparison data from other jurisdictions.

The evaluation was sent for review (1 March 2019) to two independent, anonymous peer reviewers, selected and managed by Prof Michael Farrell, Director of the National Drug and Alcohol Research Centre. The reviews and the research team responses are available in Appendix 16 of the main report.

5. METHODS

Detailed methods are provided in the full report, and in a published peer-reviewed paper (5). The main elements include:

1. Administrative data analysis (police, ambulance, hospital, liquor licensing, alcohol sales);
2. Patron interviews (including follow-up surveys);
3. Key informant interviews;
4. Structured venue observations;
5. Precinct streetscape and business mapping;
6. Foot traffic counting;
7. ID scanner data;
8. Live music performances (APRA and Facebook events)
9. Population survey results
10. Education campaign assessments
11. Tourism data and survey; and
12. Economic evaluation.

5.1. STUDY AREAS

In 2014, Queensland established SNPs under the Newman Liberal National Party Government's Safe Night Out Strategy. Across Queensland there are currently 15 documented SNPs, including: Airlie Beach; Brisbane central business district (CBD); Broadbeach CBD; Bundaberg CBD; Cairns CBD; Fortitude Valley; Gladstone CBD; Inner West Brisbane (including Caxton Street); Ipswich CBD; Mackay CBD; Rockhampton CBD; Sunshine Coast (Caloundra, Maroochydoore, and Mooloolaba); Surfers Paradise CBD; Toowoomba CBD; and Townsville CBD (for maps of the SNPs please see <https://www.business.qld.gov.au/industries/hospitality-tourism-sport/liquor-gaming/liquor/safe-night-precincts/maps>). While the report extensively covers all SNP data for administrative data sets, the study focuses on five purposively selected SNPs: Fortitude Valley (an inner city suburb of Brisbane), Cairns, Surfers Paradise (Gold Coast), Townsville and Toowoomba. A subsample of areas were targeted for patron interviews, precinct mapping and venue observations. Fortitude Valley and Surfers Paradise are the largest nightlife precincts in the state. Cairns is a tourist destination in the far north of the state, Townsville is a large urban city and Toowoomba has few tourists and is an inland community. Further, to assess state-wide impacts of the Policy, a comparison of Queensland administrative data (state wide and for specific precincts) was also undertaken.

6. RESULTS

The key significant findings are presented below. Please see the full report for a comprehensive set of results. Overall, the data suggests that there were significant reductions in ambulance attendances statewide, and improvements in safety in some areas, especially in relation to more severe cases such as serious assaults and hospital admissions. This was primarily in the larger population areas of South East Queensland. Statewide, there was a time-specific reduction across the state in the rate of serious assaults during 3am-6am for each intervention point, but there were small increases earlier in the night. Trends remained stable for much of Queensland.

6.1. PATRON EXPERIENCE IN QUEENSLAND SNPS

Table 1 discusses the findings from patron interviews across Queensland. More in-depth discussions and comparisons follow.

Table 1 Summary of patron interviews data

Measure	Cairns	Fortitude Valley	Surfers Paradise	West End	Overall sample
Demographics					
% Female	42.6	43.1	45.7	36.7	42.6
Age (median)	23	21	20	25	22
Drinking behaviour					
Actual BAC (median)	0.087	0.077	0.086	0.065	0.079
Highest BAC reading ^a	0.289	0.300	0.290	0.270	0.300
% Pre-drinking	77.4	85.7	87.7	63	78.3
Median number of pre-drinks	4	5	6	2	5
Self-reported substance use and top three drugs used (n, %)					
Any illicit/pharmaceutical drug use	120 (11.8)	288 (11.5)	73 (25.8)	42 (12.7)	523 (12.7)
Ecstasy	36 (3.5)	123 (4.6)	51 (18.0)	10 (3.0)	220 (5.3)
Cannabis	33 (3.2)	98 (3.9)	18 (6.4)	20 (6.1)	169 (4.1)
Methamphetamine	11 (1.1)	39 (1.6)		4 (1.2)	58 (1.4)
Cocaine			14 (4.9)		
Saliva drug swab^b (n, %)					
Amphetamine	15 (15.5)	33 (15.8)	3 (8.8)	0 (0.0)	51 (14.2)
Methamphetamine	6 (6.2)	19 (9.1)	8 (23.5)	2 (10.5)	35 (9.7)
Cocaine	4 (4.1)	11 (5.3)	1 (2.9)	0 (0.0)	16 (4.4)
Opiates	0	2 (1.0)	0 (0.0)	0 (0.0)	2 (0.6)
Cannabis	13 (13.4)	13 (6.2)	3 (8.8)	5 (26.3)	34 (9.4)
Experiences of aggression and harm^c (n, %)					
Verbal aggression	259 (28.3)	721 (33.9)	101 (39.5)	72 (24.9)	1153 (32.2)
Physical aggression	238 (26.1)	612 (28.7)	82 (31.7)	55 (18.6)	988 (27.4)
Unwanted sexual attention	210 (23.3)	739 (35.3)	94 (37.8)	63 (22.0)	1107 (31.3)
Experienced alcohol-related injury or accident	114 (12.0)	303 (14.7)	42 (16.6)	40 (13.6)	499 (14.1)
Anti-social behaviour^c (n, %)					
Damaged property	11 (3.0)	35 (3.5)	6 (3.9)	10 (4.7)	62 (3.6)
Drove a vehicle	40 (10.9)	112 (11.6)	21 (13.8)	26 (12.2)	199 (11.7)

Note. ^aBAC readings >0.30 were excluded from the data. ^b360 participants completed a drug swab. ^cIn past three months

6.2. ALCOHOL INTOXICATION

Patrons attending selected SNPs across Queensland (i.e. Cairns, Fortitude Valley and Surfers Paradise) were interviewed and administered breathalyser tests. Overall, 2075 people were breathalysed across all sites. Table 2 reports median blood alcohol concentrate (BAC) levels and the range.

Table 2 BAC levels across Australian cities

Study and city	Collection period	<i>n</i>	Median BAC	BAC Range
QUANTEM – Fortitude Valley	06/2016-06/2018	2359	0.077	(.000-.300)
QUANTEM – Cairns	08/2016-06/2018	964	0.087	(.000-.289)
QUANTEM – Surfers Paradise	09/2018-06/2018	260	0.086	(.000-.290)
QUANTEM – West End ^a	10/2018-06/2018	293	0.065	(.000-.279)
DASHED – Canberra	04/2015-12/2015	876	0.051	(.000-.254)
DASHED – Hobart	04/2015-11/2015	719	0.064	(.000-.299)
POINTED – Geelong	11/2011–06/2012	1235	0.067	(.000-.230)
POINTED – Melbourne	11/2011–06/2012	1890	0.048	(.000-.328)
POINTED – Perth	11/2011–06/2012	1185	0.066	(.000-.290)
POINTED – Sydney	11/2011–06/2012	1683	0.033	(.000-.350)
POINTED – Wollongong	11/2011–06/2012	699	0.066	(.000-.277)

Note. ^a West End in a Non-SNP comparison site.

The median BAC levels documented in this study are consistently higher than those previously reported from patrons in other cities, such as Melbourne, Sydney, Geelong and Newcastle, despite using almost identical methods (2, 6, 7).

Figure 1 presents the BAC distribution trends by month and year of interview. The median BAC was consistently moderate in range (i.e., .050-.100). Trends appeared relatively stable across time, with some fluctuation across months.

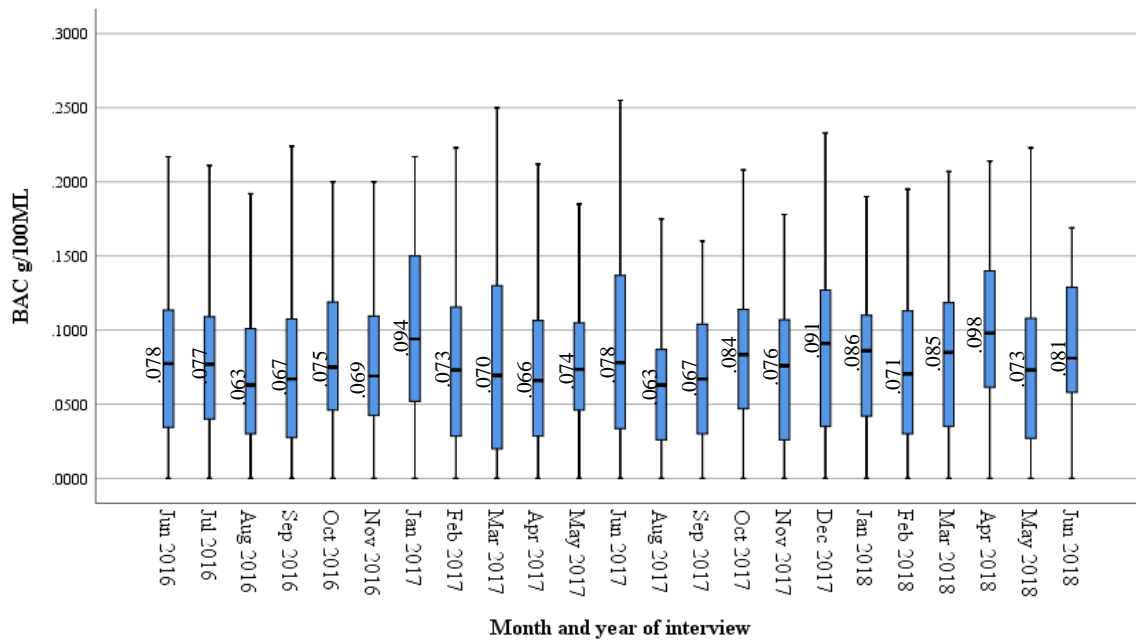


Figure 1 BAC distribution by month and year of interview – Fortitude Valley (N = 2358)

6.2.1. SELF-REPORTED EXPERIENCE OF AGGRESSION

Given that the majority of assaults go un-reported to police (8), self-reported experience of assault from street intercept interviews is an important measure to understand the level of harm experienced by people attending nightlife precincts.

Fifty-five percent of patron interview participants in Fortitude Valley (over 40% in Cairns and over 55% in Surfers Paradise) reported being involved in verbal aggression, physical aggression or unwanted sexual attention in or around licensed venues in the three months prior to interview. Table 3 reports these findings in comparison to prior research using the same methods (2, 7, 9). Much higher proportions of interviewees in Queensland reported experiencing physical aggression in the past three months compared to other cities surveyed in Australia.

Table 3 Proportion of interviewees who report being involved in aggression in and surrounding night-time entertainment precincts in the previous three months across sites

Study and site	Physical aggression %	Verbal aggression %	Unwanted sexual attention %	Sexual aggression %
QUANTEM – Fortitude Valley	29	34	35	
QUANTEM – Cairns	26	28	23	
QUANTEM – Surfers Paradise	31	39	37	
QUANTEM – West End	19	25	22	
DASHED – Canberra	17	30	28	
DASHED – Hobart	16	33	26	

Study and site	Physical aggression %	Verbal aggression %	Unwanted sexual attention %	Sexual aggression %
POINTED – Geelong	16	14		3
POINTED – Melbourne	8	8		1
POINTED – Perth	9	5		1
POINTED – Sydney	13	11		1
POINTED – Wollongong	7	8		1
DANTE – Geelong	16			
DANTE – Newcastle	15			

This was especially the case for younger people. Over a third of 18-19 year olds interviewed in Fortitude Valley experienced physical violence in the past three months, suggesting that they are much more likely to experience harm than their older counterparts. Rates were especially high for young women, who bear the brunt of unwanted sexual attention in nightlife settings.

6.2.2. SELF-REPORTED HARM

Archival data under-reports alcohol-related harm because many people experiencing violence or harm do not report issues to police, or even attend the Emergency Department (10, 11). Invariably, a proportion of people will consult with private health providers or never seek help at all. Table 4 reports the harms and anti-social behaviour reported by patrons interviewed on the street (2, 7, 12). Patrons interviewed on the streets reported similar levels of harm compared to other cities in Australia that have been studied using the same methods.

Table 4 Proportion of interviewees who have experienced alcohol-related harms and involvement of risk behaviours in the past three months across sites

Study and site	Alcohol related injury	Driven under the influence of alcohol	Committed property damage while intoxicated	Been refused entry to a venue	Been refused service in a venue	Been ejected from a venue
QUANTEM - Fortitude Valley	15%	8%	3%	15%	14%	13%
QUANTEM - Cairns	11%	9%	2%	11%	11%	10%
QUANTEM - Surfers Paradise	16%	11%	4%	7%	16%	15%
DASHED - Canberra	13%	17%	3%	14%	6%	9%
DASHED - Hobart	18%	15%	4%	13%	6%	8%
POINTED - Geelong	17%	18%	9%			
POINTED - Melbourne	12%	16%	4%			
POINTED - Perth	14%	13%	2%			
POINTED - Sydney	13%	11%	3%			
POINTED - Wollongong	16%	15%	6%			

6.3. ARCHIVAL DATA SUMMARY

Table 5 reports the summary findings for the major archival data sources analysed. The data presented highlights the wide range of findings both across the state, and throughout the night in different precincts. Serious assaults during High Alcohol Hours (HAH: 8pm-6am, Friday and Saturday) recorded by police are the most reliable form of police generated data to assess violence trends (13).

Table 5 Percentage change in average monthly figures in archival data

Location/data	ARIMA	% change compared to available data pre-policy	% change compared to previous 2 years ^a
Statewide			
Serious assaults (rate per 100,000)			
8pm-midnight	↑	-9.52	18.75
Midnight-3am	–	-15.00	14.61
3am-6am	↓	-36.59	-29.73
8pm-6am	–	-16.17	9.31
Ambulance call-out data (HAH:LAH ratio)			
8pm-midnight	↓	-6.67	-3.45
Midnight-3am	↓	-12.94	-2.63
3am-6am	↓	-20.00	-11.11
Hospital admissions (rate per 10,000)			
Alcohol intoxication	–	19.83	-0.89
All injuries	–	8.64	4.45
Ocular floor fractures	↓	-12.11	-4.02
ED presentations (HAH:LAH ratio) ^c			
Injury/poisoning	–	-3.47	0.70
Intoxication	–	-23.67	-5.47
Fortitude Valley			
Serious assaults (count)			
8pm-midnight	↓	-15.05	-5.39
Midnight-3am	–	-7.97	9.92
3am-6am	↓	-40.16	-40.00
8pm-6am	↓	-19.42	-10.33
Common assaults (count)			
8pm-midnight	–	-29.94	-31.58
Midnight-3am	–	-25.81	-7.79
3am-6am	↓	-46.53	-37.40
8pm-6am	–	-33.53	-23.17
Hospital admissions (rate per 10,000)			
Alcohol intoxication	–	22.56	5.24
All injuries	–	8.07	5.19
Ocular floor fractures	↓	-21.93	-12.64
Ambulance call-out data (HAH:LAH ratio)			
8pm-midnight	–	-6.54	9.89
Midnight-3am	–	-18.09	0.00
3am-6am	–	-41.42	-27.21
Brisbane (CBD)			
Serious assaults (count) ^c	n/a	-7.92	15.47
Common assaults (count) ^{c, d}	n/a	231.58	200.00
Ambulance call-out data (HAH:LAH ratio)			

Location/data	ARIMA	% change compared to available data pre-policy	% change compared to previous 2 years ^a
8pm-midnight	n/a	2.08	-2.00
Midnight-3am	n/a	-30.51	-25.45
3am-6am	n/a	-43.24	-32.26
Cairns			
Serious assaults (count) ^c	–	-35.69	0.00
Common assaults (count) ^c	–	-40.83	-11.64
Ambulance call-out data (HAH:LAH ratio)			
8pm-midnight	–	5.41	1.30
Midnight-3am	–	-41.30	-28.95
3am-6am	–	-44.44	-25.53
Surfers Paradise			
Serious assaults (count) ^c	–	-27.81	-24.76
Common assaults (count) ^c	–	-21.25	-6.17
Ambulance call-out data (HAH:LAH ratio)			
8pm-midnight	–	-15.94	-4.92
Midnight-3am	↓	-30.77	-12.90
3am-6am	↓	-39.29	-29.17
Toowoomba			
Serious assaults (rate per 100,000) ^{c, e}	↓	-35.66	1.22
Common assaults (rate per 100,000) ^c	–	-20.86	-0.54
Ambulance call-out data (HAH:LAH ratio)			
8pm-midnight	↑	63.64	58.82
Midnight-3am	–	42.55	52.27
3am-6am	–	-21.43	4.76
Townsville			
Serious assaults (rate per 100,000) ^c	–	-7.23	11.59
Common assaults (rate per 100,000) ^c	–	-44.80	-1.43
Ambulance call-out data (HAH:LAH ratio)			
8pm-midnight	–	-10.67	-24.72
Midnight-3am	–	-12.80	41.56
3am-6am	–	-10.20	83.33

Note. ↑ Significant increase; ↓ Significant decrease; – No significant change

^a July 2014 to June 2016

^b Trend demonstrated a U-shaped curve, therefore, ARIMA modelling detected an increasing trend, however, absolute values are lower than previous years

^c 8pm-6am Friday and Saturday nights

^d Count of assaults is very small, interpret with caution

^e There was a large peak in serious assaults 2011-2013/14, contributing to the overall change; the absolute numbers began to climb again in recent years

6.4. POLICE-RECORDED ASSAULTS

Serious assaults in SNPs during HAH followed a downwards trend between 2009 and 2017, with downwards trends also suggested in the 3-6am timeslot (see Figure 2). There was a 30% reduction in the average monthly rate of in serious assault statewide 3am-6am, but a smaller increase 8pm-midnight of 19%.

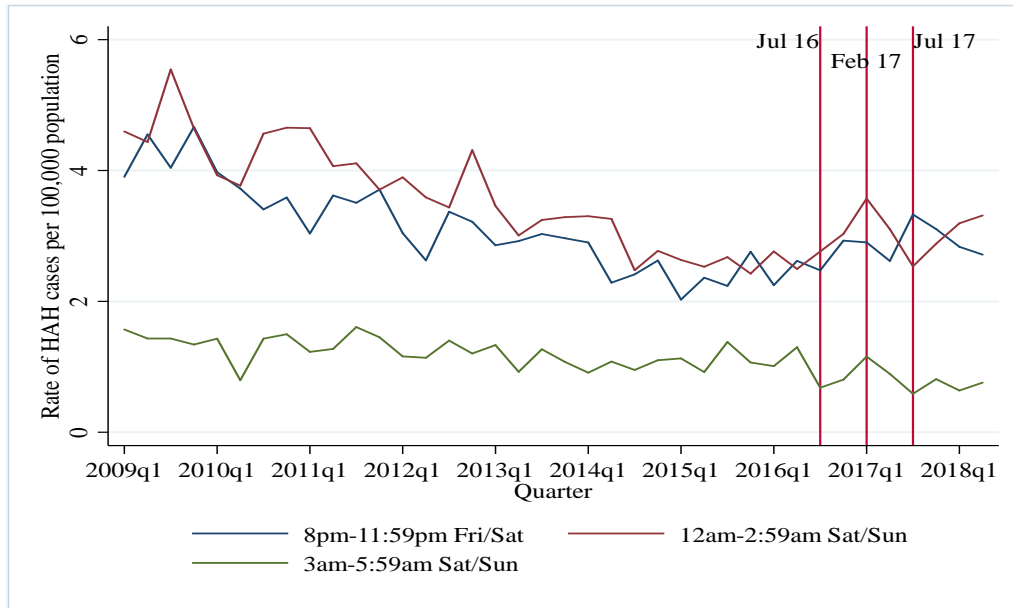


Figure 2 Rate of serious assault during HAH per 100,000 population, Queensland

6.4.1. FORTITUDE VALLEY

As shown in Figure 3, the count of serious assault in Fortitude Valley declined from 2016 in all three HAH categories. ARIMA modelling indicated significant declines in each HAH category (see Full report). There was a 40% reduction on average per month in comparison to the 2 year period prior to the TAFV legislation for the 3-6am time period and a 5.4% reduction 8pm-midnight.

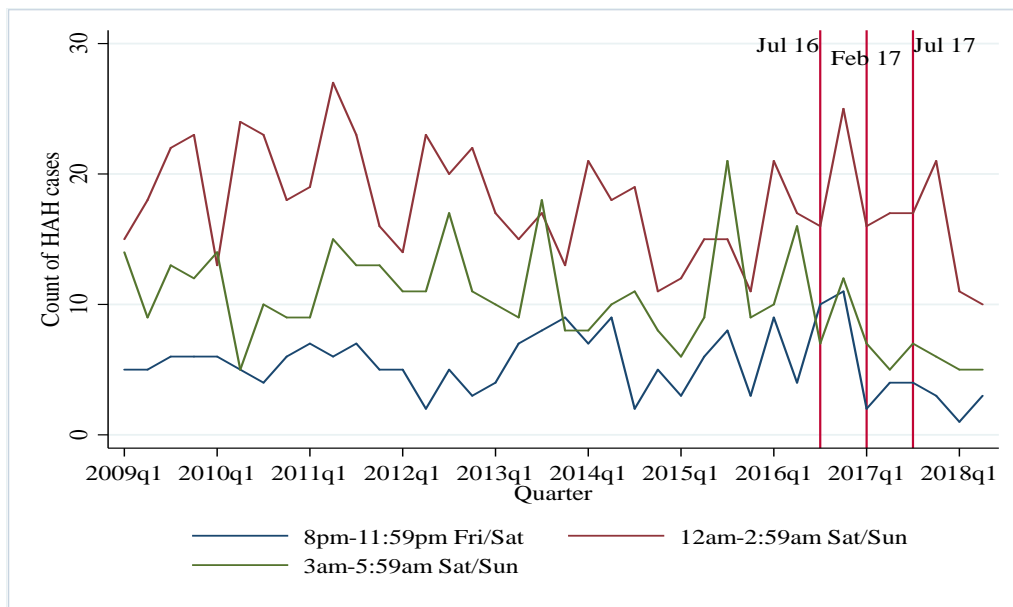


Figure 3 Count of serious assault during HAH, Fortitude Valley

6.5. AMBULANCE CALL-OUTS

The models use data series based on the ratio of the high alcohol hours presentations to low alcohol hours (LAH) presentations to try to adjust for any underlying factors that might bias our results. Figure 4 illustrates the trend of HAH/ LAH for alcohol-related ambulance call-outs, showing a modest significant decrease during and after the liquor legislation changes.

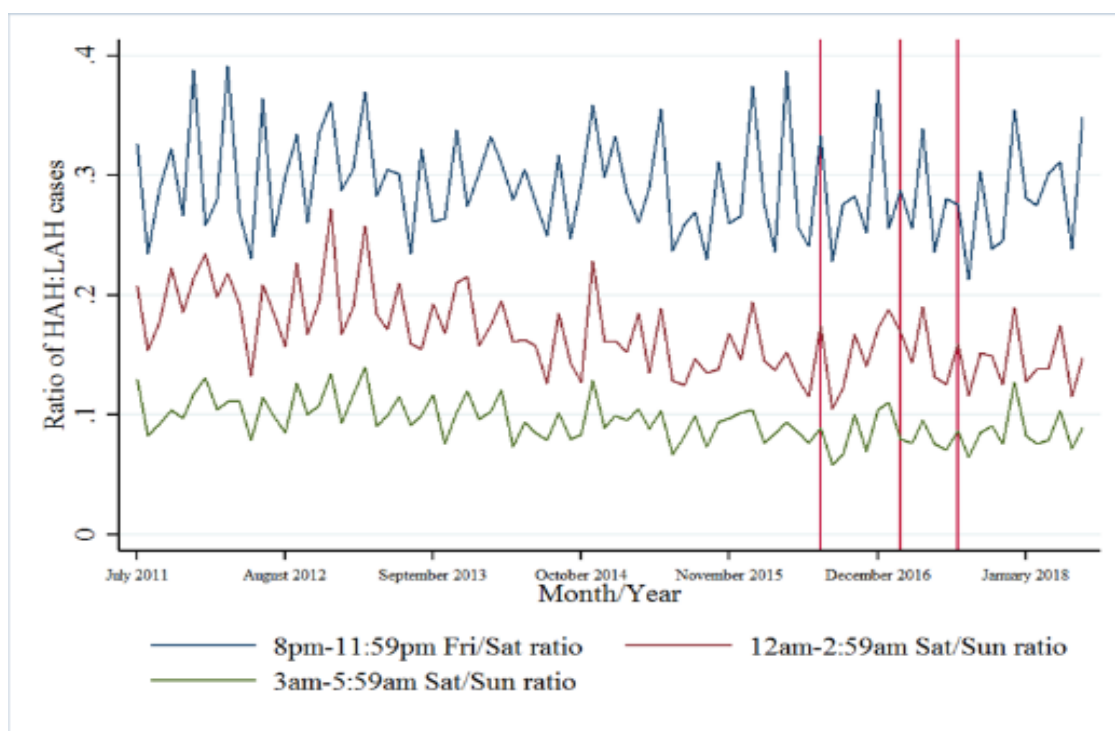


Figure 4 Rate of monthly alcohol-related ambulance call-outs, Queensland July 2011- June 2018

6.6. EMERGENCY DEPARTMENT ATTENDANCES

Figure 5 shows the raw series for total ED presentations for injuries or poisonings for the three different time periods under analysis (Friday and Saturday nights). Time-series models examining the impact of the policy interventions on presentations in each of these three time periods found stable trends across the later hours and a small increase in the 8pm to midnight time slot across the state. There were also no significant effects for any of the policy implementation points for intoxication related presentations during any of the three high alcohol hours periods examined.

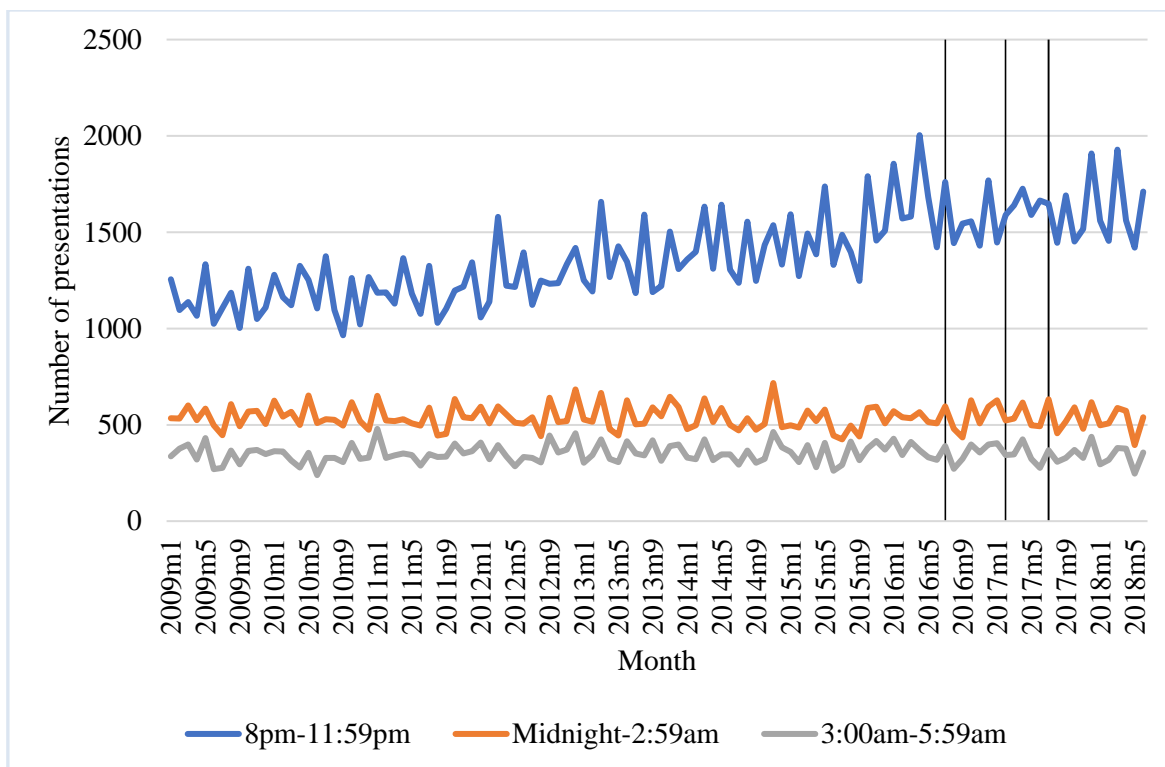


Figure 5 Monthly count of injury and poisoning-related ED presentations, Friday and Saturday nights, Queensland

6.7. HOSPITAL ADMISSIONS

Hospital admissions represent the most serious cases of alcohol-related harms, the greatest harm to the individual, and the greatest proportional drain on health resources. Data for alcohol intoxication and injuries consistent with alcohol-related violence are presented below.

6.7.1. ALCOHOL INTOXICATION ADMISSIONS

The rate of alcohol intoxication admissions among 16-65 year olds has increased since 2009, but levelled off after the introduction of the TAFV legislation (Figure 6), levelling off. Time-series modelling demonstrated an approaching significant ($p=0.057$) decline.

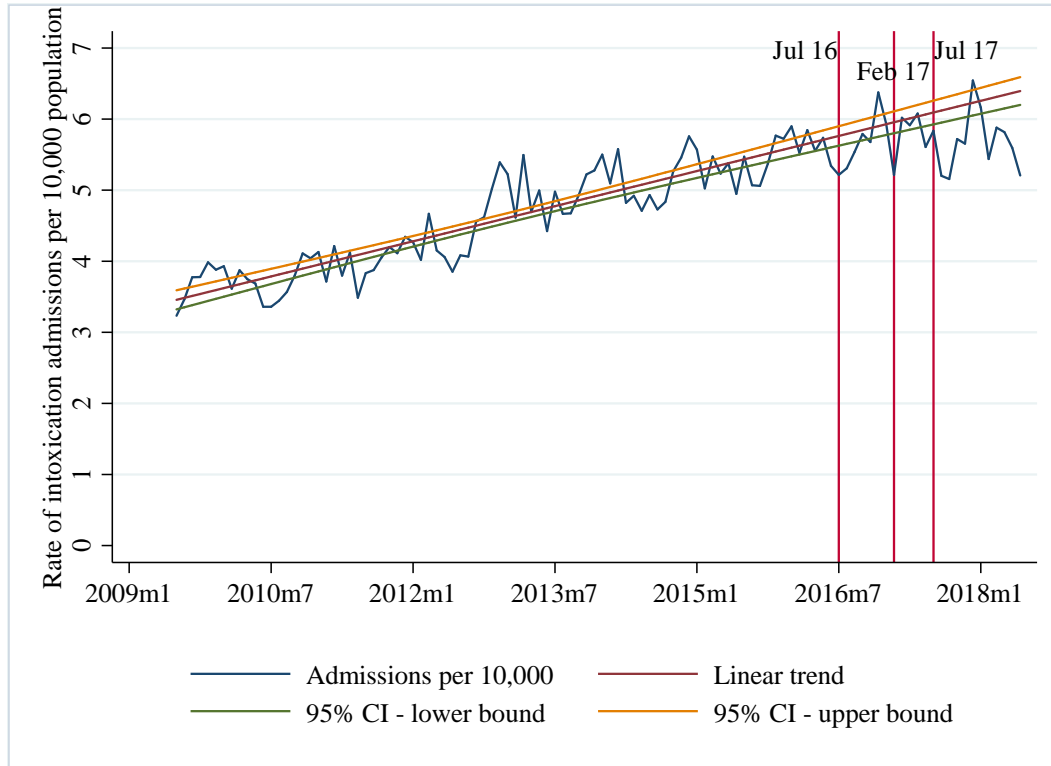


Figure 6 Monthly rate of alcohol intoxication hospital admissions among 16-65 year olds per 10,000 population, Queensland

6.7.2. ALL ALCOHOL-RELATED INJURIES

Figure 7 shows the statewide rate of skull and facial fractures, hand and wrist fractures, plus intracranial injury admissions among 16-65 year olds demonstrated a slow increase from 2012 onwards. Time-series modelling indicated no significant impact of the policy intervention variables.

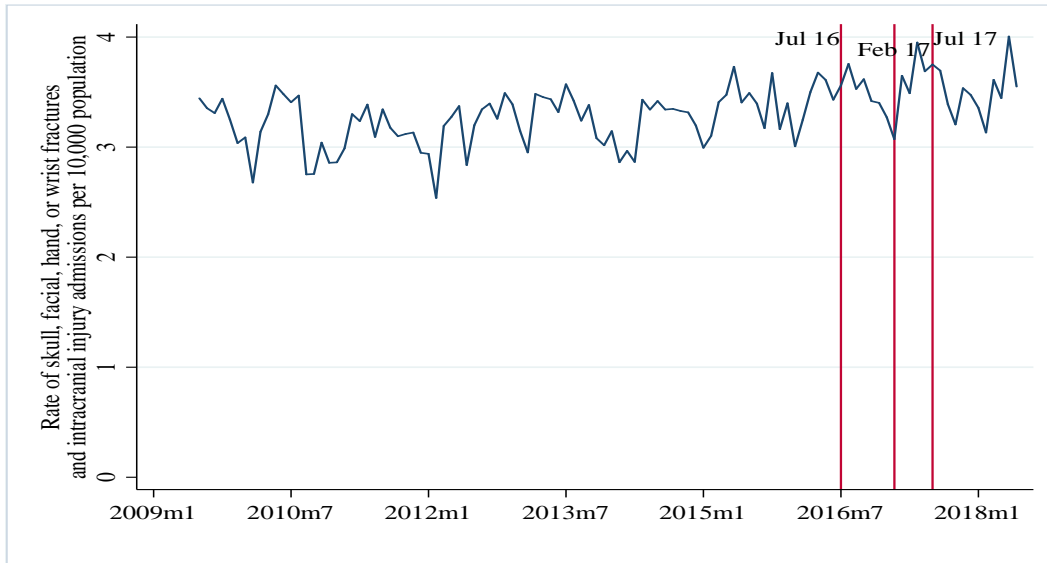


Figure 7 Monthly rate of skull and facial fractures, hand and wrist fractures, and intracranial injury hospital admissions among 16-65 year olds per 10,000 population, Queensland

6.7.3. OCULAR FLOOR FRACTURES

Figure 8 shows the rate of ocular floor fracture admissions statewide (ICD 10 code S02.3) among 16-65 year olds demonstrated a relatively stable pattern over the time period. Time-series modelling indicated a small, but significant decline in the rate of admissions for each policy intervention variable.

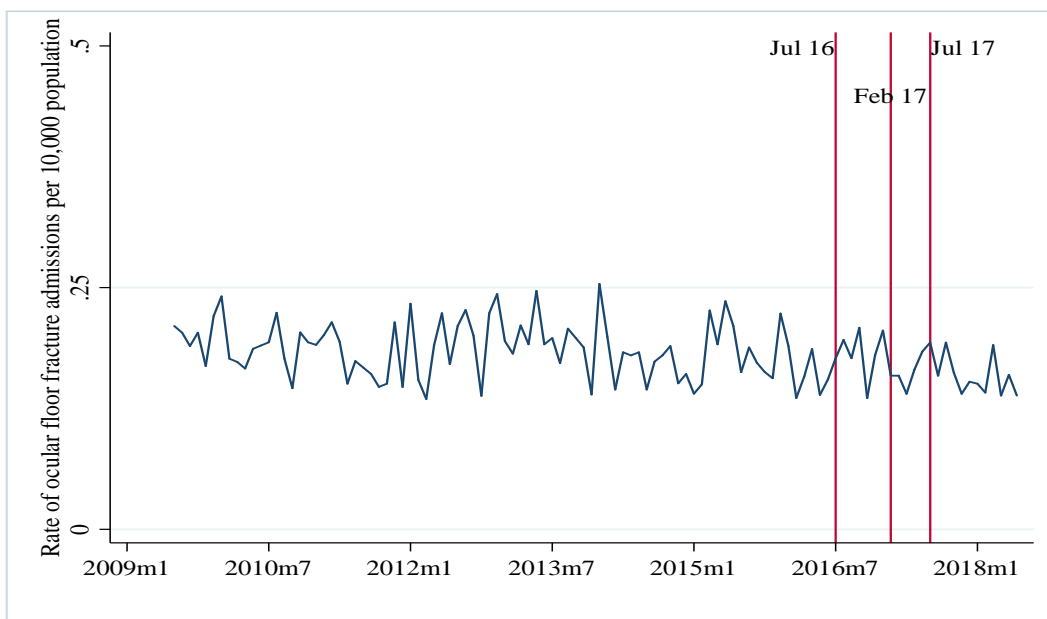


Figure 8 Monthly rate of ocular floor fracture hospital admissions among 16-65 year olds per 10,000 population, Queensland

6.7.4. INTRACRANIAL INJURY

Figure 9 shows the count of intracranial injury admissions (ICD codes S06.0 to S06.9) among 16-65 year olds at two major Brisbane hospitals demonstrated fluctuations over the time period. Time-series modelling indicated a significant decrease post July 2017.

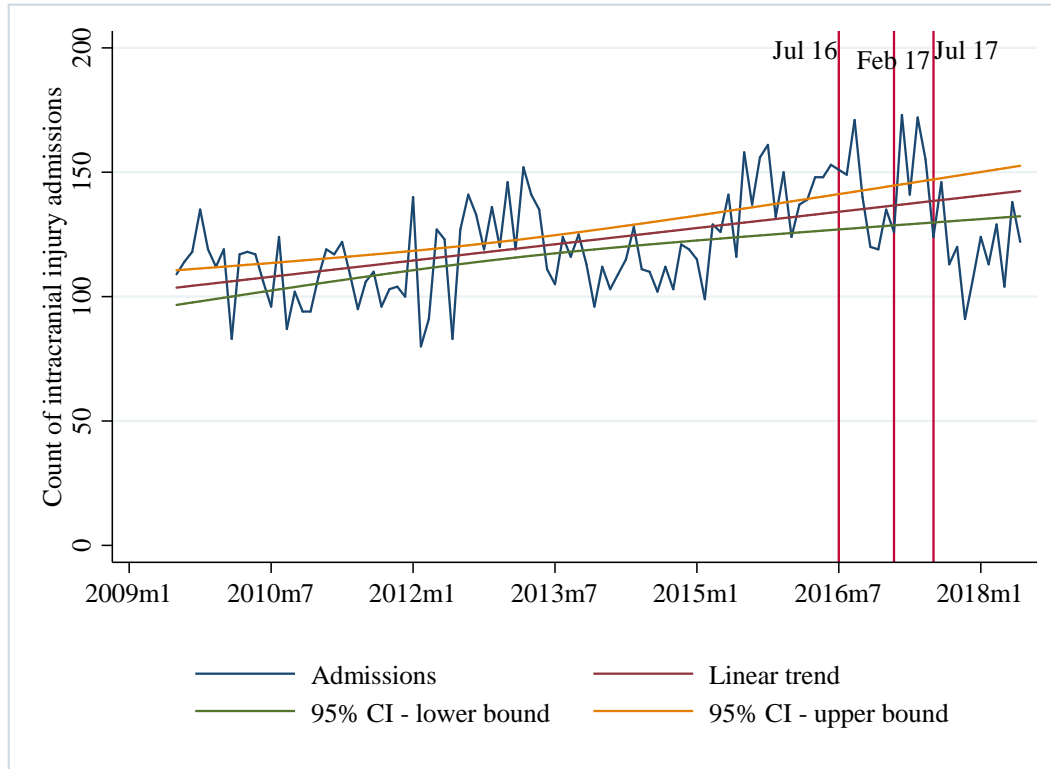


Figure 9 Monthly count of intracranial injury hospital admissions among 16-65 year olds, Brisbane

There were no other significant changes in hospital admissions in Queensland in the study period.

6.8. FOOT TRAFFIC

An innovative element of this study was the use of a device to count foot traffic in two key sites in Queensland: Fortitude Valley and Cairns. Figure 10 shows how the average amount of unique mac addresses recorded during HAH each week fluctuated across the time period, with notable seasonal trends. Time series analysis found no significant change in the average amount of foot-traffic as a result of the July 2017 ID scanner introduction ($p=.512$).

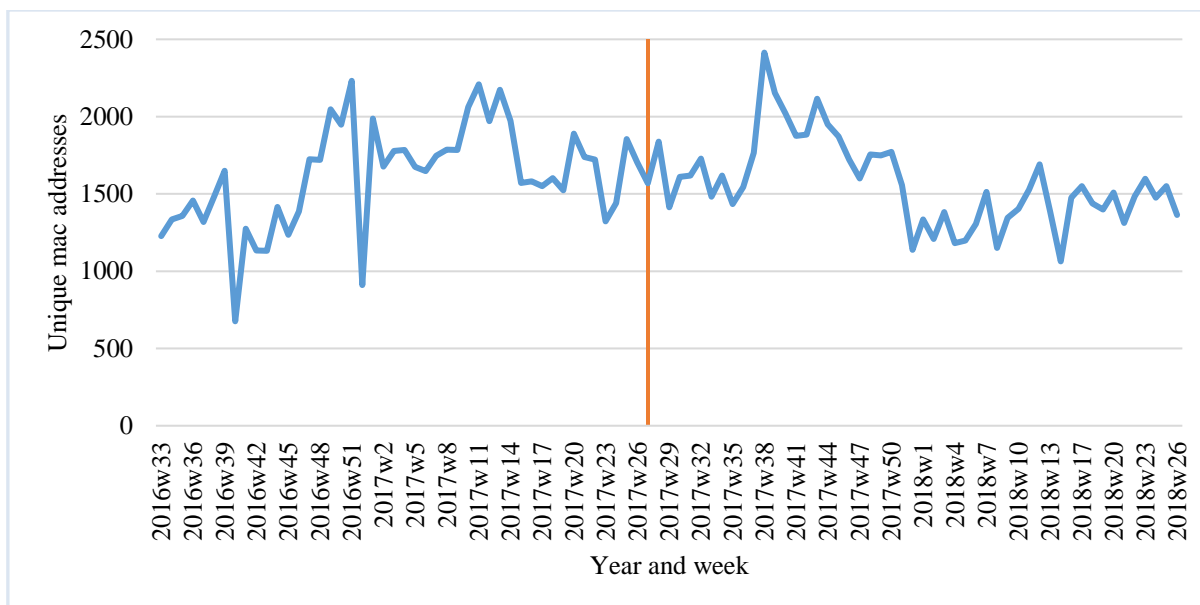


Figure 10 Foot Traffic per Week Fortitude Valley

6.1. TRANSPORT DATA

A range transport data was sourced from all possible providers. The arrival of Uber has heralded substantial change in the way people arrive and depart SNPs in Queensland and Australia. The introduction of Uber in Queensland in October 2012, and its legalisation in September 2016 means that specific datasets such as taxi ranks or public transport do not paint the overall picture accurately.

Combined data to identify total Uber drop-offs and patrons alighting in each locations was recoded in Figure 11 a) on Friday and Saturday nights from 8:00pm to 6:00am (HAH). Figure 11 b) reports boardings and pick-ups. While this combined data does not provide a precise measure of the numbers of people arriving in each location, it does provide a valuable source of information regarding the numbers of people arriving per year using different modes of transport. However, it is clear from both graphs that the number of people arriving at the SNPs and leaving them has increased over time, regardless of the TAFV legislation. This is an important consideration for interpreting the harm data, as it means that there are more people attending areas which would normally predict a higher incidence of harm outcomes.

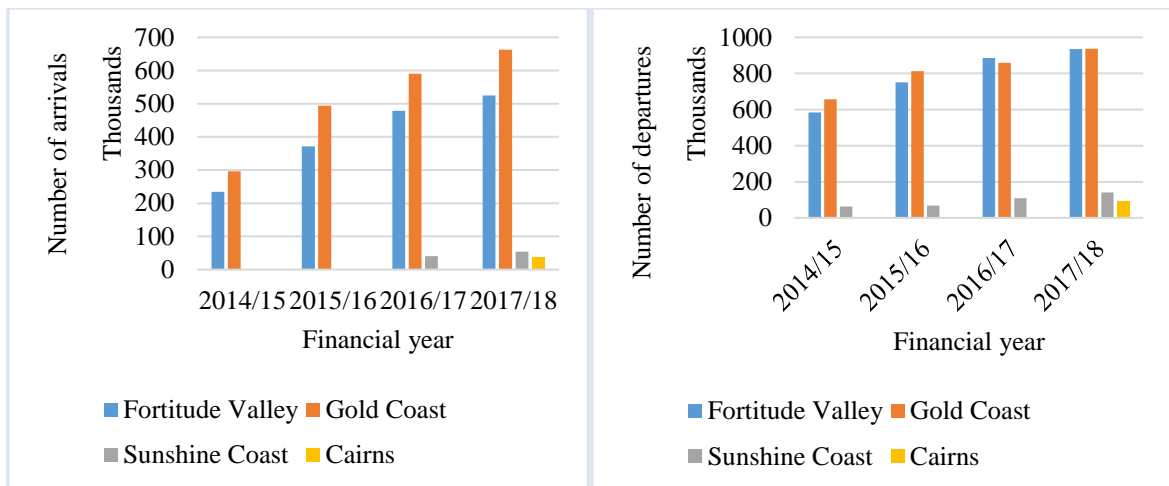


Figure 11 The combined number of high alcohol hours public transport a) alightings and Uber drop-offs in Fortitude Valley, Gold Coast, Sunshine Coast and Cairns by financial year, and; b) Uber pickups, public transport boardings and taxi rank fares in Fortitude Valley, Gold Coast, Sunshine Coast and Cairns by financial year

6.2. LICENSING AND IMPACT ON BUSINESS

One indicator of impact is any changes in the number of licensed venues in Queensland. Table 6 reports the total number of liquor licences operating across Queensland since 2013. It demonstrates that there has been an increase in the overall number of licences every financial year. Most SNPs saw growth in major categories such as hotels or, and were mostly stable in minor categories such as wine producers. Some minor categories are not reported here, but are in the full report.

Table 6 Total number of liquor licences operating across Queensland

Licence Type	30/06/13 - 30/06/14	30/06/14 - 30/06/15	30/06/15 - 30/06/16	30/06/16 - 30/06/17	30/06/17 - 30/06/18
Commercial hotel	1306	1309	1322	1351	1359
Detached bottle shop	802	807	812	814	822
Commercial other—bar	50	53	67	77	84
Commercial other—producer/wholesaler	192	214	233	257	228
Commercial other—subsidiary off premises	82	79	82	95	110
Commercial other—subsidiary on-premises	3851	4111	4343	4719	5020
Commercial special facility	110	110	104	97	94
Community club	919	909	896	887	877
Community other	451	446	446	436	429
Nightclub (x = prior to the introduction of nightclub license category)	x	x	76	78	77
Wine producer	147	142	138	138	140

6.2.1. ENFORCEMENT DATA

Investigation enforcement outcomes data was obtained from 1 July 2014 to 30 June 2018 from the Office of Liquor and Gaming Regulation, including prosecutions (fine and convicted) for breaches of alcohol service to an intoxicated adult, alcohol service to a minor and Responsible Service of Alcohol (RSA) certification offences. The total number of convicted prosecutions relating to the three above offences are presented in Table 7.

Table 7 Liquor Act convicted prosecutions

Financial Year	Alcohol service to intoxicated adult	Alcohol service to minor	RSA certification breach	Total per FY
2013/14	1	0	0	1
2014/15	9	0	0	9
2015/16	5	1	1	7
2016/17	8	0	0	8
2017/18	3	1	1	5

The data shows that while the OLGR have been active, the number of successful prosecutions of venues serving intoxicated patrons has remained comparatively low.

6.3. SAFE NIGHT PRECINCT OPERATIONAL GRANTS

SNP boards can apply for grant funding of up to 250,000AUD per year for each SNP from the Queensland state government. Twenty-nine grants have been approved since the inception of the program, worth over 1.5 million AUD in funding. None of the funding SNP boards received in operational grants significantly decreased the occurrence of serious assaults within SNP boundaries, nor was there any robust or independent evaluation.

6.4. LIVE MUSIC DATA

For this summary, only the Fortitude Valley SNP data is presented to demonstrate the value of this data. Figure 12 and Figure 13 illustrate the changes over time in the number of live music venues and performances in Fortitude Valley. Joinpoint analysis indicated no significant change in the number of live music performances related to the TAFV legislation. Figure 13 shows an increase in live music venues in Fortitude Valley from 2001, levelling out from 2015.

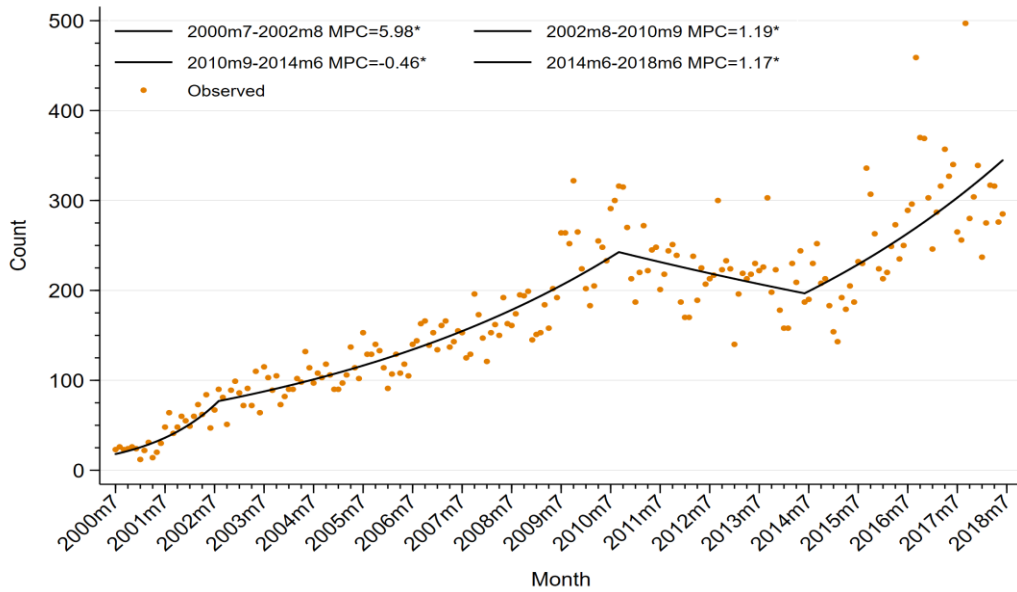


Figure 12 The number of live music performances in Fortitude Valley between the 2001 and 2018 financial years (July 2000- June 2018)

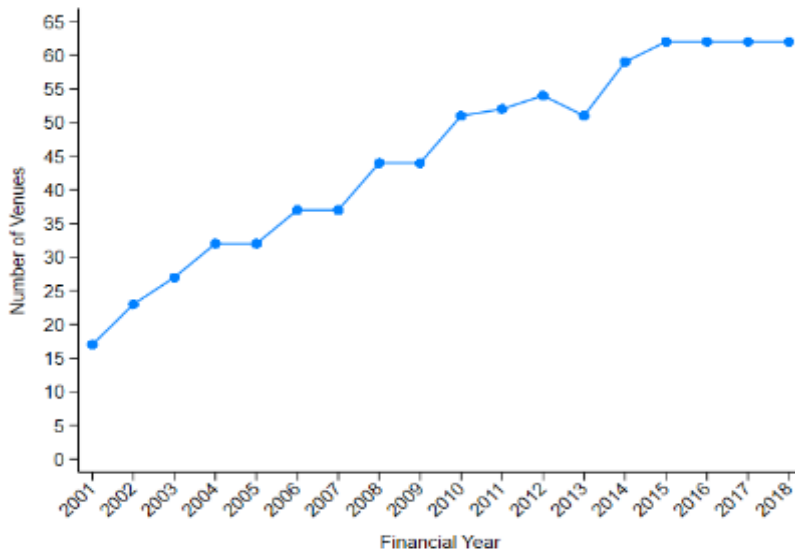


Figure 13 The number of live music venues in Fortitude Valley between the 2001 and 2018 financial years (July 2000- June 2018)

Overall, there have been substantial increases in the live music scene in Fortitude Valley over time. There has not been any significant changes in the number of venues hosting live music, nor the number of live music events since the introduction of the TAFV legislation.

6.5. TOURISM DATA

Figure 14 demonstrates the estimated number of international visitors, aged above 15 that travelled to Queensland, Brisbane, Gold Coast, Tropical North Queensland and Townsville in each financial year between 2009-10 and 2017-18.

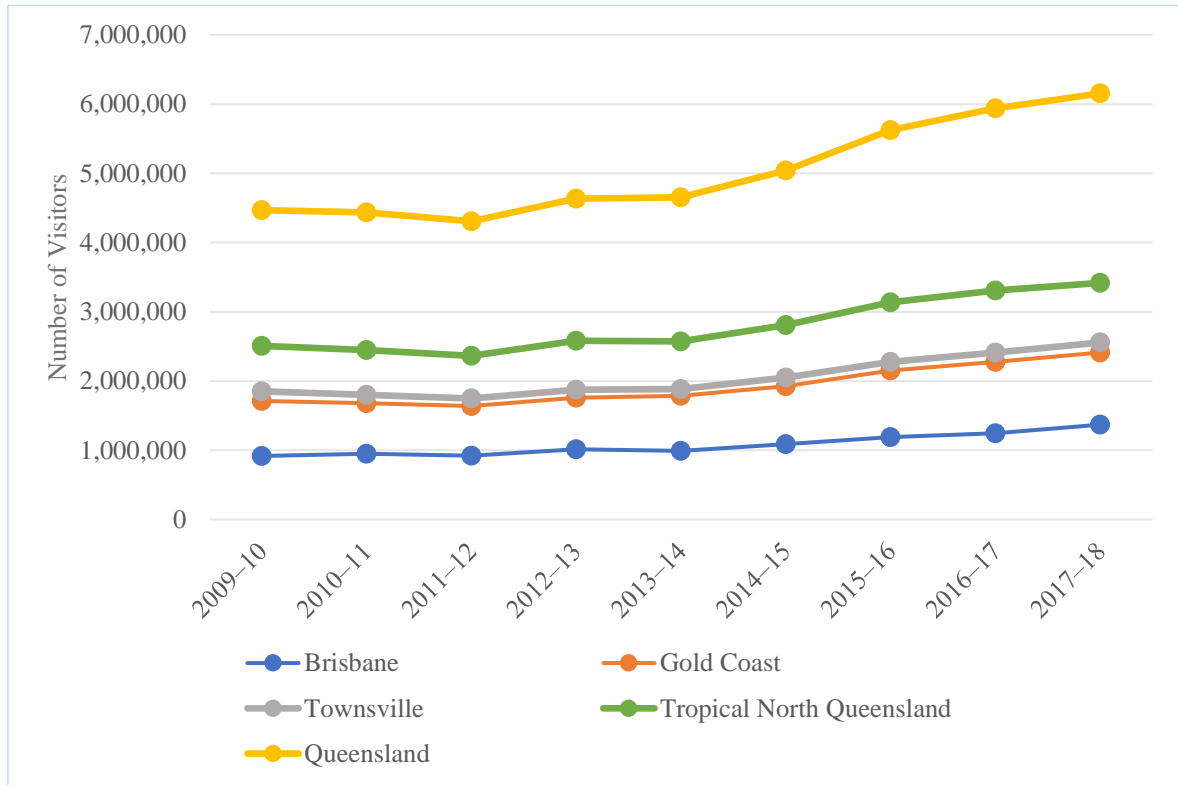


Figure 14 Number of international visitors to Queensland

Source: <http://www.qgso.qld.gov.au/subjects/industry-development/tourism/tables/international-visitors-qlt-tourism-region/index.php>

Similar data for domestic visitors similarly showed increases in all locations since the introduction of the TAFV legislation. There were also increases in the Gross Value Added by tourism, and the number of people employed by tourism in Queensland.

6.6. SCHOOL EDUCATION CAMPAIGN

As a part of the TAFV legislation, the Queensland government committed to continuing an education campaign in schools as a part of a community-wide education and awareness campaign to change the state's culture around alcohol and violence. While assessing the impact of awareness campaigns is notoriously difficult, it was in theory possible to measure the extent to which school education had been implemented and document its perceived impact. However, as the education scheme pre-existed the policy (operating since 2014), it was not possible to conduct any pre-policy

interviews with students or staff. Further, very poor response rates to a pilot survey, and extreme delays from identified schools meant that survey methods were deemed unfeasible and abandoned due to combined lack of scientific validity and prohibitive cost. The only relevant data available was data from the Department of Education and Training web platform on the number of people who accessed their specific AOD education program. It was concluded that this data was unable to provide the most basic insight into whether the program was being used and which schools were accessing it. Further, it was impossible to determine the quality or impact of this measure and thus substantial improvements are recommended.

6.7. AWARENESS AND EDUCATION CAMPAIGNS

As a part of the TAFV legislation, the Queensland government commissioned a number of awareness campaigns related to alcohol consumption and violence.

6.7.1. THE WHAT'S YOUR RELATIONSHIP WITH ALCOHOL? CAMPAIGN

The 'What's your relationship with alcohol?' campaign aimed to drive awareness and get Queenslanders to stop and think about their drinking habits and alcohol consumption. The campaign was performed successfully in terms of its reach to the general population. However, as with previous campaigns, it appears that stated intentions of the population do not translate into identifiable objective trends. Further, it is clear that the campaign evaluation identified significantly worsening trends in the most problem drinkers, which is in line with the previous peer-reviewed evidence which shows that 'responsible drinking' campaigns, so strongly advocated for by the alcohol industry (14, 15), can actually validate bad drinking practices (16), are used to promote the product by industry (15), and worsen the drinking practices of young people (17).

6.7.2. DANNY GREEN'S STOP THE COWARD'S PUNCH CAMPAIGN

The TAFV also supplied funding for Danny Green's Stop the Coward's Punch Campaign (CPC). Advertisements branded with the QG logo appeared on taxi backs and on digital panels from 11 January 2016 for a period of two weeks. Thirty seven panels were placed in 26 shopping plazas, a panel was also placed in each of 26 sporting clubs and 29 venues also hosted panels as well. Data was not available for the amount of television or other coverage, nor was any evaluation conducted.

6.8. ECONOMIC EVALUATION

The economic evaluation is designed to estimate costs and benefits of the policy intervention in Queensland in the short- and middle-term. The financial, economic and social impacts associated

with the policy were examined by using a pre- and post-intervention analysis to identify the costs and benefits. The total average costs, benefits, net present value of the policy and benefit-cost ratio of the key ingredients of policy intervention are summarised in Table 8, which included a sensitivity analysis considering that the compliance and legal officers are likely to have spent 50% of their work on tasks associated with the new legislation.

Table 8 Benefit, cost, NPV and BCR sensitivity analysis using 50% of implementation cost to the government

Cost/benefit indicator	2016-17	2017-18	Total (2016-18)
PV costs (\$'000)	-1,592	-1,894	-3,485
PV benefit (\$'000)	3,127	12,866	15,993
Total NPV (\$'000)	1,97	10,297	11,517
Benefit-cost ratio	1.96	6.80	4.59

Note. The results were presented in 2018 dollars

The net benefit (NPV) that we can identify with the available data was between \$9.0 and \$11.5 million during 2016 and 2018 with a benefit-cost ratio in a range of 2.30 to 4.59. This suggest that the policy has returned the government in terms of \$2.30-\$4.59 for every dollar spent.

7. CONCLUSIONS

Promising reductions in ambulance call-outs, serious assaults, and hospital admissions have been documented, although alcohol-related harm across much of the state has remained stable. Each incident prevented represents substantial benefit to the individuals involved and their families, local communities, workers dealing with trauma, as well as a reduced financial cost to the community. Different areas in Queensland have experienced varied consequences associated with the legislation, often due to their already existing differing levels of harm and consumption.

These findings are even more promising when considering two key factors: 1) that the number of venues selling alcohol has increased each year, which is normally a factor for increased harm, and 2) there has been an increase in the number of people travelling to the major SNPs, which would again normally be associated with increased harm.

Harms such as serious assault, injury and serious intoxication associated with nightlife in Queensland is very substantial, and some figures indicate that harm, especially experience of physical assault, is almost two times higher than reported in other eastern states (2, 7, 12). Younger people (18-19 years old), and especially young women, tend to experience the greatest levels of harm, particularly unwanted sexual attention in and around licensed venues.

There remains high levels of drinking and intoxication in the nightlife precincts. This is especially worrying given the national trend of declining drinking levels in young people across Australia. It suggests that the underlying drivers of drinking and violence in Queensland represent a much greater challenge than other jurisdictions, requiring stronger interventions.

The restrictions on hours of alcohol sold introduced in the TAFV legislation were based on the successful Newcastle intervention, which closed venues at 3:30am and saw a reduction of 37% in assaults recorded by police after 18 months (18). Fidelity to the Newcastle measures remains poor. The precinct mapping data from Fortitude Valley shows that up to 60% of venues open at 4am in April 2017 were still open after 4am in July 2018 (though not necessarily serving alcohol).

Sections of the alcohol industry are doing better, most have been unaffected, and some may have been adversely affected. However, most of that decline in business documented has been shown to be part of a trend which started well before the TAFV legislation was enacted. Regulation as seen in Newcastle changed the business environment and businesses thrive there, but some of the businesses that were based on harmful drinking models either adapted or closed. Regardless, the number of people attending SNPs has remained stable or increased, and tourism in Queensland has continued to flourish. Live music performances are increasing, although support is recommended.

To summarise, while the policy has seen some promising reductions in deaths, assaults, and serious injuries from drinking in SNPs, the levels of harm remain higher than most of the country and warrant further action. These reductions have not significantly harmed business, and have resulted in an overall economic benefit to the community. The number of people arriving in and departing from Fortitude Valley has continued to substantially increase every year. The recommendations made are for the purposes of further reducing alcohol-related violence as the main goal.

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