

Did the 'lockout law' reforms increase assaults at The Star casino, Pyrmont?

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Aim: To examine trends in non-domestic assault in Pyrmont and The Star casino since the February 2014 reforms contained in the Liquor Amendment Act 2014 (popularly known as the 'lockout laws') were implemented in central Sydney.

Method: Time series analysis, police narrative analysis.

Results: The number of non-domestic assaults recorded at The Star casino increased following the introduction of the 'lockout and last drinks laws'. In absolute terms, the increase was fairly small; slightly less than two additional assaults per month. In 2015, 49 per cent of assaults in the suburb of Pyrmont occurred in The Star casino premises. In the majority (71%) of incidents the victim of the assault was a patron at the casino but more than one in 10 (15%) were taxi drivers. In 30 per cent of incidents the assault occurred while the offender was being evicted from the casino or after he or she had been evicted.

Conclusion: The February 2014 reforms may have increased the number of assaults in Pyrmont, particularly at The Star casino. The increase, however, is much smaller than the decreases in assault recorded in the Kings Cross and Sydney CBD entertainment precincts following the reforms.

Keywords: The Star casino, lockout laws, assault, time series, Pyrmont, alcohol, violence

Introduction

As is now well known, on 21 January 2014 the New South Wales (NSW) State Government announced new restrictions (hereafter referred to as the February 2014 reforms) on licensed premises to curb alcohol-related violence.¹ The new restrictions (contained in the Liquor Amendment Act, 2014) imposed by the State Government took effect on 24 February 2014² and included:

1. 1.30am lockouts³ at hotels, registered clubs, nightclubs and karaoke bars in two designated areas: the Sydney CBD Entertainment Precinct and Kings Cross Precinct;
2. 3.00am cessation of alcohol service in venues in these Precincts;
3. A freeze on new liquor licences and approvals for existing licences across the Sydney CBD Entertainment Precinct and continuation of the existing freeze in the Kings Cross Precinct⁴;
4. A ban on takeaway alcohol sales after 10.00pm across NSW;

5. The extension of temporary and long-term banning orders issued to designated 'trouble-makers' to prevent them entering most licensed premises in the Kings Cross and Sydney CBD entertainment precincts;
6. The introduction of a new risk based licence fee for all licensed premises in which the annual fee payable by a particular venue depends upon its licence type, compliance history and trading hours;
7. The suspension of on-line responsible service of alcohol training.

In our first report on the effect of the February 2014 reforms (Menéndez, Weatherburn, Kypri, & Fitzgerald, 2015) we reported evidence that the February 2014 reforms reduced the incidence of non-domestic assault in the Kings Cross and Sydney CBD Entertainment Precincts but that there was a comparatively small and, at the time, non-significant increase in the number of assaults in The Star casino and surrounding streets (Menéndez et al. 2015, Appendix B). The purpose of this brief is to see whether this increase has been sustained and to provide more

information about the spatial distribution of assaults in the Pymont area.

We do this by:

1. Mapping the location of non-domestic assaults in Pymont in 2015 which were known to occur at a precise address
2. Time series analysis of the number of recorded incidents of non-domestic assault occurring at The Star casino or in surrounding streets from January 2009 to December 2015
3. A qualitative review of all non-domestic assault incidents recorded as occurring in Pymont in 2015

The area of interest

Figure 1 below shows the suburb of Pymont, which is the focus of analysis in this report. Pymont is outside the Sydney CBD Entertainment and Kings Cross Precincts and is thus not subject to the lockout and last drinks elements of the February 2014 reforms. Sydney's only casino, The Star is also located in Pymont. The map shows the number of non-domestic assaults recorded by police during 2015 and the locations in which they occurred. The purple line surrounding the casino is referred to below as The Star casino precinct. It is important to note that Figure 1 does not include assaults that were recorded by police as having occurred in Pymont but whose precise location is not known (n = 50 or 32%).⁵

It is apparent from Figure 1 that the vast majority of assaults in Pymont with a known location occurred in The Star casino premises⁶ (n = 63). Two incidents occurred on the streets surrounding the casino.

The only other point of note is the Pymont Bridge Hotel, which accounted for eight per cent of police-recorded assaults during 2015 (8 incidents).

The trend in assaults in Pymont and The Star casino

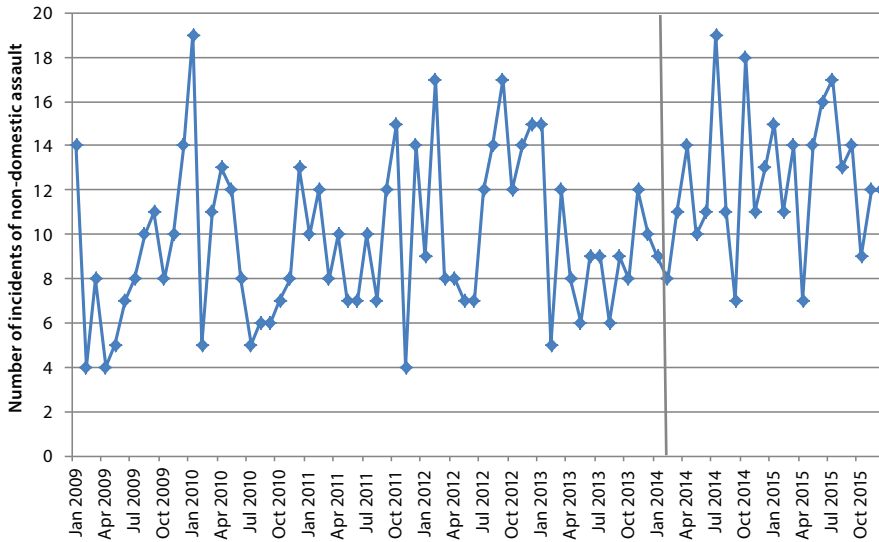
Figure 2 shows the trend in the number of police-recorded non-domestic assaults in Pymont in the period leading up to and following the introduction of the February 2014 reforms. The vertical line marks the point where the reforms came into effect. We treat March 2014 as the start of the lock-out period. The monthly number of assaults seems somewhat higher following the reforms than before but the effect is not especially pronounced.

As noted earlier (see Figure 1), a large proportion of the assaults occurring in Pymont during 2015 occurred in what we describe as The Star casino precinct.⁷ Figure 3 shows the trend in the number of police-recorded assaults in this precinct⁸ between January 2009 and December 2015.

Figure 1. Incidents of non-domestic violence related assault in Pymont by premises type, January to December 2015



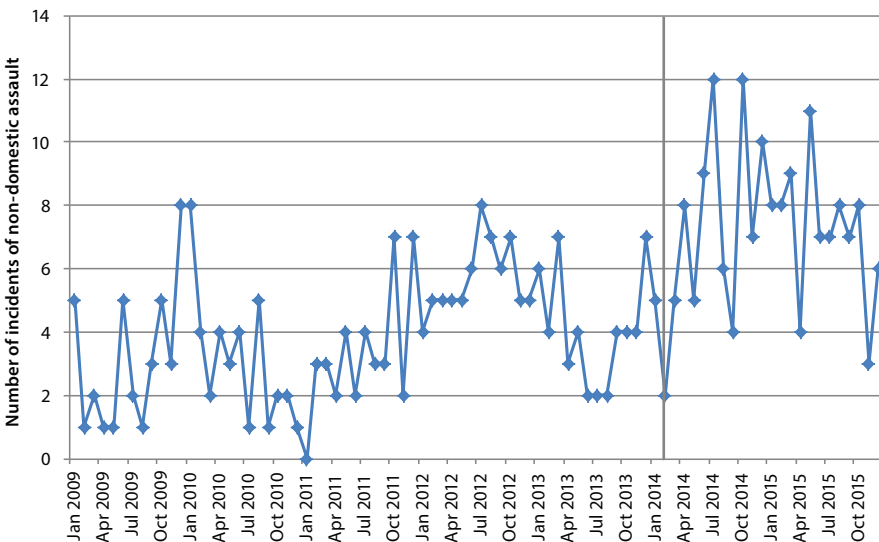
Figure 2. Monthly number of non-domestic assaults in Pymont suburb (Jan 2009 to Dec 2015)



There appears to be an abrupt jump in the number of assaults following the January 2014 reforms. Figure 4 shows the trend in the number of assaults in Pymont, with assaults in The Star casino precinct excluded.

It is clear that the slight upward trend in assaults evident in Figure 2 is essentially driven by assaults in The Star casino precinct. In the next section of this report we describe the methods used to assess whether the change in assaults in The Star casino precinct, shown in Figure 3, is statistically significant. We then present the results of our narrative analysis and end with a brief discussion of our findings.

Figure 3. Monthly number of non-domestic assaults at the Star Casino (Jan 2009 to Dec 2015)



Is the increase in assaults at the Casino statistically significant?

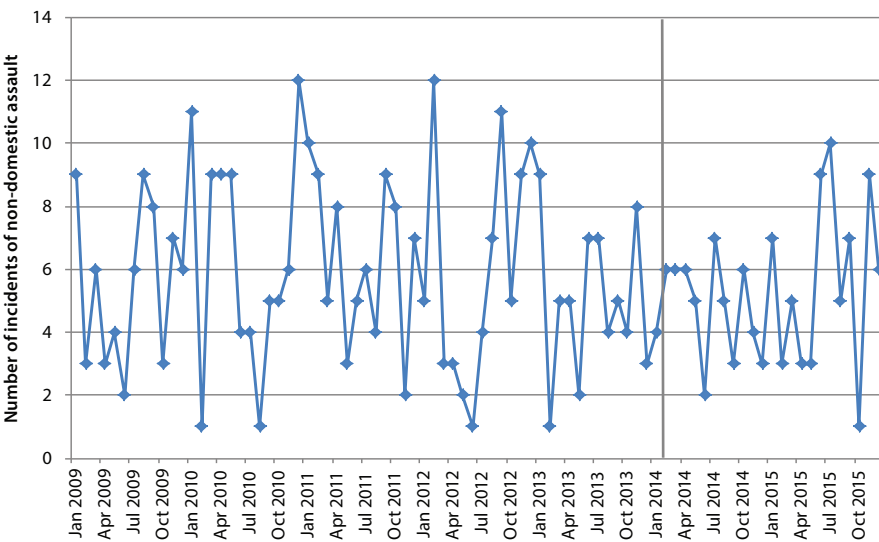
Method

Interrupted time series analyses were conducted using the monthly number of non-domestic assaults in The Star casino precinct (shown in Figure 3, Chatfield, 1989; McDowall, McCleary, Meidinger, & Hay, 1980). We define January 2009 to February 2014 as the 'pre-lockout period' (n=62 months) and March 2014 to December 2015 as the 'lockout period' (n=22 months).

To test the effect of the February 2014 reforms an ARIMA regression analysis of assaults over this period was carried out using SAS (Version 9.4). The model contained binary terms to capture the higher levels of assault normally observed in the months of January, October and December. It also contained a term capturing any underlying trend in assaults. The effect of the February 2014 reforms was captured through the inclusion of a separate binary term. It is this term which is the focus of the analysis. We wish to know whether, controlling for seasonal variation and any underlying trend, the introduction of the February 2014 reforms was associated with a change in the level of assaults.

Inspection of the residuals from this initial model showed that there was a significant seasonal autoregressive relationship at a lag of 12 months

Figure 4. Monthly number of non-domestic assaults in Pymont suburb (excluding the Star Casino (Jan 2009 to Dec 2015)



(AR12). This AR12 term was included in the final ARIMA time series model. Examination of the residuals from the final model using autocorrelation function (ACF) and partial autocorrelation function (PACF) plots found that all statistically significant autocorrelation had been accounted for. This was confirmed by Ljung-Box Q tests. The Akaike information criterion (AIC) equalled 350.8.

Results

The results of the ARIMA time series model are shown in Table 1. Inspection of the second row shows that the term capturing the underlying trend is significant and positive, indicating that there is a growing trend over the period in question. Note, however, that the coefficient measuring this trend (0.038) is quite small. In effect there is an increase of about 0.04 of an assault per month over the whole seven year period. As expected, the terms capturing the higher levels of assault in January, October and December are also significant. The crucial result, however, is shown in the third row of the table. The coefficient (1.844) for the effect of the lockout laws is positive and indicates that the introduction of the February 2014 reforms resulted in an increase of nearly two additional assaults per month in The Star casino precinct, compared with the pre-lockout law period ($p = .003$).

Table 1. ARIMA time series model of non-domestic assaults in The Star casino precinct, January 2009 - December 2015

	Estimate	Standard Error	p value
Constant	2.323	0.384	< .001 *
Underlying trend in assaults	0.038	0.011	< .001 *
Lockout laws (post vs. pre)	1.844	0.621	= .003 *
January	1.086	0.528	= .040 *
October	1.866	0.527	< .001 *
December	1.586	0.529	= .003 *
Autoregressive Seasonal (Lag 12)	-0.444	0.111	< .001 *

Narrative Analysis

The results in the preceding section show that the number of assaults in The Star casino precinct was significantly higher in the post-lockout period, even after controlling for seasonal effects and any pre-existing trend. To obtain a clearer picture of the circumstances surrounding these assaults we now turn the analysis of police narratives.

Method

Each time police record a criminal incident they complete a narrative description of the circumstances surrounding the incident. To gain a deeper understanding of the circumstances surrounding the incidents of assault recorded in the suburb of Pymont, narrative descriptions of all 154 non-domestic assaults recorded by police as having occurred in Pymont in

the calendar year 2015 were extracted from the police database (COPS) and classified on a number of dimensions. The narrative review gives a more complete picture of the role of the casino and other factors in assault in Pymont as we are not limited to information contained in fixed fields coded by police.⁹ Full details of the classification and coding scheme are provided in Appendix 1. In summary, the questions sought to be addressed in the narrative analysis were as follows:

1. Did the incident happen in/at the Star casino?
2. Was the offender dropped off in Pymont by a party boat¹⁰?
3. Who informed police about the incident?
4. Who was the victim?
5. Who was the offender?
6. Was the offender refused entry to The Star casino?
7. Was the victim evicted from The Star casino?
8. Was the offender evicted from The Star casino?

Results

The majority (66%) of assaults in Pymont were common assaults (the least serious form of assault), occurred on either Saturday or Sunday (73%) and were judged by police to be alcohol-related (73%). The offender(s) were known to have been dropped off in Pymont by a party boat in less than five per cent (4.5%) of incidents.

Almost one-third ($n = 48$) of the 154 incident narratives examined stated that the incident occurred inside the casino. A further one in five occurred either directly outside the casino or at the entrance to the casino, particularly at the casino taxi rank ($n=14$, or 9%). The majority of those incidents that did not occur inside or at the entrance to the casino, occurred either outside on the street or footpath; somewhere else in Pymont (26%); at another licensed premises (8%); or at some other business/commercial premises, such as a fast food restaurant or convenience store (8%). Five incidents were recorded as occurring on-board a party boat on the harbour (3%).

Table 2: Location of non-domestic assaults (Pymont)

Incident location	Number of incidents in 2015	
The Star	Inside casino	48
	Casino taxi rank	14
	At the entrance	9
	Street outside casino	5
	Total	76
Street/footpath	40	
Other licensed premise	13	
Business/Commercial	12	
Residential	7	
Party Boat	5	
Unknown	1	
Total assaults in Pymont	154	

When the incident occurred at the casino, the majority (71%) of victims were other casino patrons, but more than one in 10 (15%) were taxi drivers. In 30 per cent of casino assaults the incident occurred while the offender was being evicted from the casino by security or after he or she had been evicted.

Conclusion

Our results confirm a statistically significant increase in the number of non-domestic assaults recorded at The Star casino following the commencement of the 2014 reforms. This suggests (but does not prove) that the February 2014 reforms may have increased the number of assaults in Pyrmont and, in particular, at The Star casino.

As noted in our first report on the 2014 reforms (Menéndez, Weatherburn, Kypri, & Fitzgerald 2015), however, the increase in assaults at this site is not very substantial. In absolute terms, there are about two additional assaults per month at The Star casino than there were prior to the 2014 reforms. This increase is very small compared with the reduction in assaults found in the Kings Cross and CBD entertainment precincts following the reforms. In the Kings Cross Entertainment Precinct there were 13 fewer assaults per month in 2014 than in 2013. In the Sydney Entertainment Precinct there were 30 fewer assaults per month in 2014 than in 2013.

The finding that few of the assaults being recorded in Pyrmont involved persons dropped off in Pyrmont by party boats is important because some of those spoken to during the course of this research highlighted party boat revellers as a likely cause of the increased number of assaults in the area. Changing the arrangements under which party boats dock at The Star casino is not likely to affect the number of assaults in the Pyrmont area.

Notes

1. A more detailed description of the reforms can be accessed in the second reading speech to the Bill (Second-Reading Speech, Liquor Amendment Bill 2014; Hansard, 30th January, 2014 [http://www.parliament.nsw.gov.au/prod/parliament/nswbills.nsf/0/bb87f6864d9693c1ca257c6f007fec0e/\\$FILE/2R%20Crimes%20and%20Liquor.pdf](http://www.parliament.nsw.gov.au/prod/parliament/nswbills.nsf/0/bb87f6864d9693c1ca257c6f007fec0e/$FILE/2R%20Crimes%20and%20Liquor.pdf) and here: http://www.olgr.nsw.gov.au/news_New_Initiatives_Announced.asp.
2. Although we refer to the reforms as the February 2014 reforms, it should be noted that further restrictions were placed on 18 July 2014 under the CBD Plan of Management.
3. A 'lockout' law is a law which permits licensed premises to continue serving alcohol to people on the premises past a specified hour but which prohibits anyone seeking to enter or re-enter the premises after that hour.
4. This change only applied to higher risk premises.
5. For instance an assault incident maybe simply recorded as occurring on 'Pirrama Road' but without a street number or any other landmark being recorded. These assaults have necessarily been omitted from the map.

6. In the map, incidents were assigned to The Star casino if they had at least one of the following on their police record: 1. the premises type was 'Casino', 2. a location name or landmark of The Star, some variation of this, or a location known to be within The Star casino such as the Lyric Theatre, 3. an address of 80 Pyrmont Street, Pyrmont. The 63 incidents assigned to The Star casino on the map generally do not include incidents occurring on the street or public spaces directly outside the casino.
7. Note also that here, and elsewhere in the paper the term, The Star casino, is used to describe all enterprises on that site including restaurants, bars, gaming areas, entertainment venues, night clubs, theatres and hotel accommodation.
8. The Star casino precinct includes the streets surrounding the block that the casino is on, including any residential, commercial or other premises on that block.
9. The number of incidents allocated to The Star casino precinct in Figure 3 is slightly higher than was shown in Figure 1. Figure 1 only considered assaults with a complete addresses which unfortunately excluded a third of all Pyrmont assault. Figure 3 assumes that all incidents which might have occurred within The Star casino precinct did occur there. For instance all non-domestic assaults recorded on Pirrama Road, Pyrmont without a street number or landmark are assumed to have occurred on the streets surrounding The Star casino, thus placing them within The Star casino precinct. The narrative review in this paper justifies this practice. However, in order to be certain of our results, the time series analysis described here was repeated on The Star casino dataset which excluded all the assaults with an uncertain location with consistent results.
10. The narrative review gives what we consider to be the most accurate indication of non-domestic assaults at The Star casino as it is based on the most comprehensive information. The narrative review found 76 assaults occurred at The Star casino in 2015. This is higher than was shown in the map in Figure 1 (n= 63 and just incidents with a precise address) and lower than the count in Figure 3 (n=86) which included incidents with imprecise addresses and related to The Star casino precinct which includes surrounding streets.
11. A party boat is a harbour cruise boat.

References

- Chatfield, C. (1989). *The analysis of time series* (4th ed.). London: Chapman & Hall.
- McDowall, D., McCleary, R., Meidinger, E.R., & Hay, R.A. (1980). *Interrupted time series analysis*. Newbury Park: Sage Publications.
- Menéndez, P., Weatherburn, D., Kypri, K., & Fitzgerald, J. (2015). *Lockouts and Last Drinks: The impact of the January 2014 liquor licence reforms on assaults in NSW, Australia* (Crime and Justice Bulletin No. 183). Retrieved from the NSW Bureau of Crime Statistics website: <http://www.bocsar.nsw.gov.au/Documents/CJB/CJB183.pdf>.

Appendix

Appendix 1. Narrative analysis coding scheme

Variable	Description	Codes
Casino	Did the incident happen in/at the casino?	0=no; 1=yes
Casino_loc	Where at the casino the incident occurred	0=inside; 1=casino taxi rank; 2=at the entrance; 3) street outside casino
Party_boat	Was the poi dropped off by a party boat?	0=no; 1=yes
Reporter	Who informed police?	0 = Licensee/manager of licensed premises; 1 = Staff of licensed premises (including bar staff, security, receptionists from clubs, and hired musical acts such as DJs); 2 = Victim (except where the victim was a member of staff); 3 = Witness; 4 = Member of public not involved in the assault (eg. a concerned family member); 5 = Police officer who was present at the time of the assault; 6 = Other (including ambulance officers, hospital staff or the perpetrator of the assault); 7 = Unknown
Victim	Who was the victim?	1= patron, 2= person trying to enter premises (prospective patron), 3 = security guard, 4= police, 5=bar staff, 6 = bar manager/licensee, 7 = person walking past/person unconnected to premises, 8 = taxi driver, 9 = unknown, 10 = other
Offender	Who was the offender?	1= patron, 2= person trying to enter premises (prospective patron), 3 = security guard, 4= police, 5=bar staff, 6 = bar manager/licensee, 7 = person walking past/person unconnected to premises, 8 = taxi driver, 9 = unknown, 10 = other
Vic_refused_entry	Was the victim ever refused entry to the premises?	0=no; 1=yes
POI_refused_entry	Was the POI ever refused entry to the premises?	0=no; 1=yes
Vic_evicted	Was the victim ever evicted from the premises?	0=no; 1=yes
POI_evicted	Was the POI ever evicted from the premises?	0=no; 1=yes