Title: Measuring violence in and around licensed premises: The need for a better evidence base

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Abstract

There is clear evidence of the link between alcohol-related violence and licensed premises, particularly with consideration to the night-time economy of urban centres. The relationship between the occurrence of violence and the trading hours of outlets that sell alcohol (alcohol supply points) is a complex phenomenon. This paper highlights, through the use of analysis techniques and findings from an evaluation of the Licensing Act 2003, the lack of consistent information available to those tasked with managing night-time economy areas. It also details the importance of place (individual high risk premises and areas with concentrations of licensed premises), of time (both time of day and day of week), and the value of local contextual knowledge (e.g. the difference between *granted* and actual *used* licensed trading hours) in measuring and interpreting change. The paper outlines a range of information sources that are presently not collated in a consistent format that are crucial to making informed decisions for management of the NTE and areas with licensed premises, and argues that a consistent reliable evidence-base on alcohol supply points is a necessity for managing and policing such areas.

Introduction

Violence in the night-time economy (NTE), particularly in and around licensed premises has been a long standing concern for a range of organisations and individuals. A plethora of legislation and preventative measures have been employed internationally, and in England and Wales one of the major legislative changes was the introduction of the Licensing Act 2003 (hereafter referred to as LA03). This was the first major overhaul of licensing laws in England and Wales for over fifty years and introduced the possibility of applying for twenty-four hour licensing permits. This paper draws directly upon some of the analysis conducted by the authors and colleagues in evaluating the impact of LA03 on violence and disorder in and around licensed premises (Newton et al 2008). However, this paper is not intended to report on the findings of the evaluation of the impact of LA03 on crime and disorder as such findings are widely discussed and reported elsewhere (Hough et al, 2008; Hough and Hunter, 2008; DCMS, 2008; and Hadfield and Measham, 2009).

The purpose of this paper is to reflect on the difficulties in gathering the necessary evidence to conduct such an evaluation, and some of the key insights offered by the methodologies employed. It discusses some of the information currently available to examine crime in and around licensed premises highlighting inconsistencies and the general lack of detail in what is available. It then focuses on the analysis of one source of crime information, police recorded violence against the person (VAP) and how this can be combined with information on licensed premises (pubs, bars and nightclubs only) to provide intelligence on alcohol-related violence that ultimately can facilitate the policing and management of the NTE.

The paper also illustrates some of the analytical techniques used and findings from the evaluation of LA03 (Newton et al, 2008), to demonstrate how these methodologies could be employed locally by policy makers charged with managing the NTE in urban areas. It highlights the influence of time and place, the importance of 'high risk' premises and areas with high concentrations of premises, and how detailed knowledge of changes in hourly and weekly trading hours is needed in order to make management decisions. The paper then draws attention to some of the major gaps in the current evidence base on alcohol supply points. It concludes with a discussion of some additional sources of data available, highlighting some potential avenues for future research and policy direction.

Alcohol-Related Violence

There is a wealth of evidence that indicates a link (although not necessarily causal) between violent offences and alcohol, and this has been found internationally (Graham and Homel, 2008, Hadfield, 2009). In England and Wales, findings from the 2008 British Crime Survey (Kershaw et al, 2008) suggested that victims believed offenders to be under the influence of alcohol in 45% of violent offences, 48% of offences resulting in wounding, 61% of assault with minor injury, and 44% of assault with no injury. The 2003 Offending, Crime and Justice Survey of 18-24 year olds (Matthews and Richardson, 2005) found that 14% of binge drinkers, compared to 7% of regular drinkers, had committed a violent crime within a previous twelve month period. Backhouse (1986) found that one in six cases presenting to the emergency services had injuries that were thought to be alcohol-related.

Taking this a stage further and moving beyond the links found between violence and alcohol, several studies have focussed on violence and alcohol in the NTE, particularly in urban centres in and around licensed premises, during the late night and early morning periods. Jowell et al (2005) found that one in five violent incidents could be expected to occur around pubs or clubs. Hope (1986) reported one quarter of police-attended incidents in one study occurred within a 250 square metre area containing 12 pubs and that offences peaked between 11.00pm and 11.30pm. Lister et al (2000) found 29% of violent offences occurred inside licensed premises and 70% of city centre violence took place between 9.00pm and 3.00am. Hutchinson et al (1998) compiled evidence from 163 Accident and Emergency (A&E) departments in England and Wales and reported that 90% of facial injuries in pubs and bars, and 45% of facial injuries incurred in the street were associated with alcohol consumption. The peak times for assaults were 9.00pm to 3.00am with Friday and Saturday nights being the busiest times.

It is important to emphasise that violent offences are likely to be under reported/recorded in the context of the NTE (Tierney and Hobbs, 2003; Hall and Winlow, 2005). However, what is clearly evident from these and other studies is the importance of the place and time settings within which these violent offences (and associated alcohol consumption) occur. This is a fundamental issue for the management of the NTE and one that will be returned to throughout this paper.

The Growth of Urban Centres and the Licensing Act 2003

As highlighted above, problems of violence associated with alcohol and the NTE in urban areas is not a new phenomenon. In England and Wales there is a large volume

of literature that seeks to explain the apparent growth of alcohol related offences in the NTE. Hobbs et al (2003) describe how a new generation of drinkers, aged 18-30, both male and female have become commonplace in town and city centres. This was not necessarily a change in trends of long standing heavy drinking in the UK (Measham, 2006; Tierney, 2004), but rather, a shift in those partaking in such activity and its location linked to broader land use changes in town and city centres. In respect of the latter, Zukin (1995) and Hadfield (2006) point to the rise of public-private entrepreneurial partnerships and decline of manufacturing, which coincided with a remodelling of the urban centre (O'Connor and Wynne 1996). This included local regeneration programmes and the relaxation of previous regulatory mechanisms to encourage flows of corporate capital and provide the rapid growth of entertainment hubs, particularly in older deprived industrial centres. In 2002 it was estimated (MINTEL, 2003) that the nightclub market in the UK was worth £1.7 billion, and in 2007 it was estimated that the UK brewing and pub sector generated £28 billion of economic activity (BBPA 2008).

Amidst growing concerns over violence and the NTE, it is perhaps unsurprising that much attention and policy focus has shifted towards addressing this. Indeed, a range of policies have been debated and piloted in order to address problems of alcohol related violence (Tierney, 2004), including those aimed at tackling this more specifically in the NTE of urban centres.

In England and Wales a variety of legislation and a range of local measures have been introduced, and one of the key changes was the LA03. This was introduced amongst much political and media controversy (Newton et al 2008; Hadfield and Measham

2009) and it brought about the potential for licensees to apply for up to 24 hour trading licenses. More information about the specific changes brought about LA03, and evaluations of its impact are provided elsewhere (DCMS, 2008; Hough et al 2008, Hough and Hunter, 2008; Newton et al 2008; Newton and Hirschfield 2009; and Hadfield and Measham 2009).

This paper is not intended to be a discussion of the impact of the LA03 and indeed there is still debate as to what actual impact it has had (ibid). Furthermore, many of the evaluations of LA03 predate more recent events which may have further influenced alcohol related violence in and around licensed premises. These include the Smoking Ban (Hadfield and Measham, 2009), the growing evidence about the influence of pre-loading (Hughes et al, 2007), the shift in the location of drinking from urban centres to venues closer to home suggesting that drinkers are taking advantage of the extended hours in the suburbs (Hadfield and Measham, 2009), and the impact of the current economic climate, for example estimated pub closures increasing from two per week from 2000 to 2005 to five per week in 2008 (BBPA 2008).

The focus of this paper is to identify how existing data sets on violence recorded by the police can be brought together with information on outlets that supply alcohol to the public, (i.e. alcohol supply points) to gain a better understanding of the relationships between the two and the policy implications for those tasked with reducing violence in the NTE.

The extent and quality of the evidence base on alcohol supply points and their relationship with violence and disorder is particularly relevant to policy makers and practitioners who manage the NTE, both in terms of short term tactical decisions and longer term strategic planning. There are many stakeholders including, for example, town and city centre managers, licensing authorities, the police, environmental services (street cleansing and noise monitoring) trading standards, crime and disorder reduction partnerships, licensees, the security industry, local public transport operators, and voluntary local interventions such as best bar none and pub watch (Portman Group, 2002).

These interest groups particularly need to know what is happening within individual premises in particular, the influence of factors on violence such as time of day, day of week, geographical location, and local trading hours. All these have a bearing on those who make decisions about community safety and in the granting and revoking of licenses in urban centres. This also has wider implications for the health service (Primary Care Trusts and the NHS, including A&E departments and the ambulance service), on alcohol consumption away from urban centres (for example potential impacts on domestic violence) and on those with other interests in urban centres (for example planners, regeneration officers and those involved with promoting tourism).

Monitoring Violence in and around Licensed Premises

The above discussion has shown that at present there is a clear need to examine violence in the NTE, particularly in and around licensed premises. A range of data sources exist that could be utilised for this (Portman Group, 2002) and these include the following: police data (including recorded crime, calls for service, custody data

and other intelligence); licensing information (from local authorities); environmental services (street cleansing, noise complaints); CCTV incident logs; incident monitoring data from public transport operators and British Transport Police; trading standards (underage sales test purchasing); ambulance attendance records; and A&E attendance and Hospital Episode Statistics (HES).

There are a number of obstacles to producing an evidence base for managing NTE areas using the full range of available data. There are difficulties in accessing and sharing this information despite the statutory requirements of the Crime and Disorder Act 1998 for organisations to share data for the purposes of crime reduction. These stem from the fact that much of this information is not collected nationally or in a consistent format. Licensed premises, which include not only pubs and clubs but also restaurants, corner shops, off licences and supermarkets, have specific geographical locations, opening times during which alcohol is available and in the case of pubs and clubs have capacities in terms of the number of people they can accommodate.

However there is no single source of consistent data on these outlets.
This reflects the fact that their capture, quality assurance, maintenance and up-dating is not the responsibility of any single agency. Licensing authorities do maintain records but what is captured, the specification and format of the variables and how such data are stored is highly variable. Unlike the recording of criminal offences where there is an array of Home Office offence categories or indeed the registration of births and deaths or morbidity that is classified using the WHO International Classification of Diseases, there are no standard codes or conventions for recording alcohol supply points

Thus the granting and renewal of licenses and the targeting of appropriate crime and harm reduction measures is happening in the absence of a robust evidence base. This impairs any attempt to gain a strategic overview of the timing and location of the availability of alcohol, the proximity of the various outlets to each other (pubs, corner shops, restaurants, etc) and how these related to land use and demographics (e.g. transport routes, deprived areas) and to crime and disorder.

Much of this was reflected in the numerous difficulties encountered in obtaining consistent and accurate data on licensed premises across five case study areas in the evaluation of LA03 (Newton et al, 2008) Some minimum data necessary for the evaluation was difficult to capture, including addresses and current licensing hours. Moreover there were large gaps when trying to find information on licensing hours pre LA03, on the capacity of each licensed premise and on licensing conditions. Such information is crucial in order to compare changes in the timing of alcohol supply from different outlets with changes in crime levels. As a result of these limitations, the analytical techniques discussed below feature the use of just two sources of information, namely, police recorded violence against the person and licensed premises records.

Research Questions

The aim of this paper is to reflect on the available evidence base on violence and alcohol supply points, on methodological and analytical challenges, on gaps in the current knowledge base, and on the need for better information. Given the available data, the application of different analytical techniques along with their strengths and weaknesses can best be illustrated by focusing attention on violence associated with

individual premises and across areas with high concentrations of licensed premises, sometimes referred to 'pub clusters' within town and city centres. The extent to which VAP varies by time of day, day of week, and local trading hours can then be examined. More specifically, the following research questions are explored:

- How important are concentrations of VAP at 'high risk' premises?
- How does time of day and day of week influence VAP and how does this vary near licensed premises and in areas with high concentrations of premises?
- How important are local trading hours on VAP?
- What are the implications of these findings for policy makers?
- What additional evidence is required to manage licensed premises in the NTE?

Data and Methodology

For this analysis two data sets were captured. The first was police recorded violence against the person for a three year period (November 2003 to November 2006). This contained information on the location, the date and the time of the offence, and a text based description (based on modus operandi). It also included a flag for alcohol-related offences and a flag for in or at a licensed premise. The second data set used was information on licensed premises. This included address and current granted licensing hours by day of the week. Information on capacity, former trading hours (before LA03), and licensing conditions were also supplied but in inconsistent formats and often with incomplete fields. The licensed premises data was geo-coded to match the address to its geographical location (based on the Ordnance Survey National Grid). These data were then imported into a Geographical Information System which was then combined with a statistical programme (SPSS), to produce a number of new variables that were necessary for the research. This was done for all five case study

areas of the LA03 evaluation, namely Blackpool, Birmingham, Croydon, Guildford and Nottingham (see Newton et al, 2008 for descriptions of each area).

Resource Target Tables (RTTs) are an innovative technique for identifying how much of a problem (violence) is concentrated in varying proportions of licensed premises. This analytical technique explores the extent to which individual premises contribute to overall VAP levels in an area, and can be used to prioritise resources (for example at the top ten or top fifteen premises for VAP). They give an indication of the extent to which the offences are concentrated at particular licensed premises.

Proportional change tables were produced to examine temporal displacement or changes in the time of day of VAP offences. The time of day of VAP offences were divided into twenty-four hourly intervals, and percentages of VAP were calculated per hour. Thus, for the LA03 evaluation, proportional change values were calculated to examine the proportion of VAP in each hourly interval before and after LA03. In addition to calculating the proportional changes across each of the five case study areas in their entirety, change was also calculated in buffer zones adjacent to licensed premises, and in broader areas with concentrations of licensed premises (i.e. 'pub hot spots'). In order to achieve the former, 50m concentric buffer zones were produced using the GIS software, and all VAP offences within 50m of licensed premises were examined. This was then calculated proportionally by time of day. NNH hierarchical clusters (see Newton et al 2008 for a more detailed methodological description) were also used, to generate areas with a concentration of premises. Again VAP offences within this area were examined by time of day intervals to examine proportional change. These new zones were produced to determine whether any changes found in

the timing of VAP offences in these the new zones were similar to those for the entire case study area, or whether such changes were magnified or reduced effect within these new zones.

In addition to examining change in the timing of VAP offences by location, proportional change tables were also generated for weekday and weekend offences. This was to determine if there were any differences post LA03 in the proportion of offences occurring during the week and at weekends. Again this was repeated across all five case study areas.

In order to examine the influence of local context, fieldworkers were used in each of the five case study area (see Newton et al 2008 for more detailed description of selection of premises visited). Due to limited resources, they could only visit up to 15 premises per case study area. This was to ascertain whether there were any differences between the licensing hours granted and the licensing hours used. Former hours (before LA03) were examined to find the number of additional hours '*used*' per week and these were aggregated into the following three categories rounded up to the nearest hour (no additional hours used, 1-5 additional hours used, and 6 plus additional hours used). The number of VAP offences at each of these premises was then calculated for before and after LA03. In addition the number of additional hours '*granted*' for each premise was estimated, although this was limited by information on former hours (see discussion below). These were aggregated by no additional hours, 1 to 8 hours, and more than 9 hours (trading hours were rounded up to the nearest hour The number of VAP offences at each premise was then aggregated into these categories of additional hours granted. This allowed comparison between

additional hours '*used*' and additional hours '*granted*' and changes to the number and percentage of VAP offences pre and post LA03.

Caveats

There are a number of limitations to the analysis that should be considered in the context of this research, beyond those that apply to the use of police recorded crime data and its known under-reporting (Kershaw et al, 2008). In the construction of the RTTs, due to the format of the data, offences are attributed to premises if they occurred inside or directly outside a premise (linked by premise name in the recorded crime data). The limitations of this are that offences may occur on street corners adjacent to a number of pubs, or a door security person may refuse entry to an intoxicated person and this may be recorded as an offence at this premise, or persons may drink in multiple venues. In addition, the police also used flags to indicate alcohol related offences. The selection of premises visited by fieldworkers in each case study area to examine actual used trading hours of premises was not random, thus there may be an element of bias in the choice of these 15 premises. Premises selected were those thought to have a relatively high risk of violence and were generally located in areas with a concentration of premises. In addition some crucial information such as the capacity of premises, and the former opening hours of premises was not available consistently for all five case study areas for this research. Such information is crucial to improve the reliability and robustness of the analysis.

Results

A policy technique often employed in managing areas with licensed premises is to focus on, for example, the top ten or top fifteen premises for VAP offences. For this research RTTs were used to examine the concentration of offences by premise across each of the case study areas. Table 1 summarises the concentration of VAP offences recorded at individual premises, and for the group of fifteen premises in each case study area with the highest levels of VAP. The time period examined here was the twelve months post LA03 (25th November 2005 to 24th November 2006).

This shows that in two of the case study areas, the top three premises alone accounted for over 40% of all VAP recorded at all premises. The top 15 premises for VAP (less than 10% of all premises) in these case study sites contained over 65% of all VAP in the entire area. In both case study sites over 40% of premises had no VAP offences recorded during this 12 month period. In the other three case study areas the top three premises accounted from more than 15% of offences, and the top 15 over 40% of offences (the top 15 premises represented less than 15% of all premises). Over 35% of premises had no offences.

Clearly this demonstrates how a small proportion of premises account for a large proportion of VAP offences, which clearly has implications for the targeting of prevention resources. It is important to note the caveats regarding the use of police flags to link VAP to individual premises as discussed earlier. However, despite this, clearly there are concentrations evident, with a small number of premises accounting for the majority of VAP offences.

Table 1: Summary Resource Target Table (RTT)/The Top 15 premises for violence in each case study area (November 2005 to November 2006)

	Cumulative percentage of offences				
Premise rank	Birmingham	Blackpool	Croydon	Guildford	Nottingham
1	6.4	17.1	13.1	19.4	6.8
2	11.2	30.6	19.4	38.5	13.2
3	15.5	42.1	25.4	44.5	17.1
4	19.5	45.7	31	50.5	20.9
5	23.5	48.4	34.3	54.8	24.1
6	26.6	50.6	36.9	59	27.1
7	29.4	52.6	38.8	62.9	29.6
8	32.2	54.3	40.7	66.8	32.1
9	35	56	42.2	70	33.9
10	37.7	57.5	43.7	71.7	35.5
11	40.2	58.9	45.1	73.1	37.1
12	42.5	60.4	46.6	74.6	38.6
13	44.5	61.9	48.1	76	39.9
14	46.4	63.1	49.6	77.4	41.1
15	48.4	64.3	51.1	78.8	42.4
Number of premises with no offences	76	92	85	45	113
Total number of premises	194	193	235	102	280
Percentage of all premises in top 15	7.7	7.8	6.4	14.7	5.4
Percentage of premises with no offences	39.2	47.7	36.2	44.1	40.4

Such concentrations have been found in research elsewhere and such concentrations at licensed premises are one example of 'risky-facilities (Clarke and Eck, 2005). Wellsmith (2008) goes beyond this, highlighting how although a licensed premise can be viewed as a risky facility, some premises are at much greater risk than others and that perhaps the term should be restricted to those 'riskiest' of the at risk facilities. This has clear implications for the targeting of crime prevention resources and interventions. Moreover, when these premises were plotted against hot spot maps (Newton et al 2008) for VAP in each of the case study areas, it was evident that all these top 15 premises were situated in the hot spot areas. This further demonstrates

the importance of the 'riskiest premises' and their relationship to VAP in an area, and the importance of targeting resources at these premises.

With reference to LA03, it is important to note that the figures reported here are very similar to those found in the baseline period (before LA03), and indeed changes are within plus or minus 3%. Also when examining the number of premises that appeared in the top 15 in both the baseline period and post Act (see Newton et al 2008) it was evident that in four of the five case study areas there were over 10 premises in the top 15 premises for VAP baseline and post implementation (in one area this was 13 out of 15). This suggests that although one of the new police powers from LA03 was the power to close problematic premises for 24 hours, and eventually to revoke their license, the majority of the 'riskiest premises in the case study areas were still open in the first twelve months post LA03.

Beyond examining high risk premises, the literature suggests that time of day, location, and the clustering of premises are all important in the context of violence in the NTE. Proportional tables were constructed to examine if there was any temporal displacement post LA03, and if this was concentrated in particular areas. The results of this are shown in Table Two. Note this table is for selected time periods within each case study area (for full tables see Newton et al 2008).

In all five case study areas, there was evidence of temporal displacement post LA03 in the proportion of offences occurring at particular times of day. In three of the five case study areas this change represented a shift to later time periods, for example in Nottingham there was a reduction in the proportion of VAP for the period 2.00am to

3.00am and increase in VAP for 3.00am to 4.00am. In Guildford there were two temporal displacements to later periods, reductions in the period 11.00pm and midnight and increases midnight through 1.00am, and also reductions from 1.00am and 2.00am and increases for the period 2.00am to 3.00am. In Croydon there were increases between midnight and 1.00am, and reductions from 1.00am to 2.00am. From the fieldwork conducted (Newton et al 2008) it was found that all these temporal shifts were highly reflective of local policy changes to trading hours within each case study area.

Table Two: Time of Day Proportional Change Tables for Selected Time Periods (pre and post LA03)

Time of day	Cluster		0-50m		Case study area	
	Proportional Change	Volume change	Proportional Change	Volume change	Proportional Change	Volume change
	Birmingham					
0100-0159	-3.6	-28	-5.6	-70	-3.6	-112
0200-0259	-5.6	-53	-4.6	-54	-4	-123
0300-0359	4.6	78	3.8	66	2.2	91
	Blackpool					
0100-0159	-1.5	-71	-2.1	-37	0.1	-68
0200-0259	-4.8	-145	-6.1	-100	-2.7	-214
0300-0359	6.1	117	6.6	104	3	114
0400-0459	1.9	37	2.8	44	1.1	45
	Croydon					
0000-0059	1.4	-8	1.5	-11	0.8	-14
0100-0159	-3.7	-48	-3.9	-60	-0.3	-66
	Guildford					
2300-2359	-6.3	-36	-9.4	-27	-2.7	-30
0000-0059	3.1	35	5.8	24	3.3	84
0100-0159	-1	2	-2.2	-5	0.8	29
0200-0259	4.7	41	9.2	33	3.5	77
	Nottingham					
0200-0259	-3.2	-47	-3.3	-36	0.1	30
0300-0359	3.1	78	4.4	95	0.9	87

A key finding from this analysis was that temporal displacement was most pronounced in particular geographical areas, both within 50m of licensed premises and in cluster areas (with concentrations of licensed premises). For example, in both Birmingham and Blackpool, the reduction in the proportion of VAP offences between

2.00am and 3.00am across the whole of the study area was less than that found within 50m of licensed premises, and the increase found between 3.00am and 4.00am was much greater in the cluster area and within 50m than compared to the rest of the study area. These pronounced changes near to premises were reflective of the findings in all the case study areas, and this emphasises the importance of time and location. Moreover it suggests that it is necessary to monitor licensing hours and their relationship to violence at a very small spatial scale in order to better manage the NTE.

When examining temporal displacement, it is also important to consider day of week, particularly with respect to VAP. Table Three shows proportional change in VAP by time of day separately by weekday and weekend (see methodology for how these were constructed) and uses the same time periods as used in Table Two.

It is evident from Table Three that changes post LA03 were more marked at weekends, and in some areas weekday and weekend changes actually went in different directions. In Birmingham, for example, the reductions evident in the proportion of VAP between 1.00am and 3.00am were greater at weekends, and the increases found between the time period 3.00am and 4.00am were higher at the weekend. In Blackpool the reductions evident between 2.00am and 3.00am were greater at the weekend, and the 3.00am to 5.00am increases only occurred at weekend, during the week there were actual reductions in the proportion of VAP at these time periods.

Table Three: Weekday/Weekend Proportional Change Tables for Selected Time Periods (pre and post LA03)

Time of day	Weekday		Weekend	
	Proportional change	Volume change	Proportional change	Volume change
	Birmingham			
0100-0159	-2.5	-33	-4.2	-78
0200-0259	-0.7	-2	-6.3	-122
0300-0359	0.6	13	3.4	76
	Blackpool			
0100-0159	0.2	-12	0.3	-12
0200-0259	-0.3	-21	-0.6	-35
0300-0359	-0.3	-15	0.2	-8
0400-0459	-0.1	-8	0.3	2
	Croydon			
0000-0059	0.5	-4	1.4	-10
0100-0159	-0.4	-26	0	-40
	Guildford			
2300-2359	-2	-9	-3.3	-22
0000-0059	2.3	29	4.2	54
0100-0159	1.4	17	0.4	12
0200-0259	3.2	33	3.8	43
	Nottingham			
0200-0259	0.5	20	-0.3	10
0300-0359	0.8	33	0.9	53

This highlights that changes in levels of VAP in the five case study areas post LA03 are more complicated than would first appear. It demonstrates the need to examine any changes to policy or licensing hours against VAP by specific location, by time of day, and by day of week. Moreover seasonal trends in VAP (Hird and Ruparel, 2007) suggest that it is also important to consider this by month. Furthermore, in some areas special events such as St Patrick's Day, football matches, and live concerts may all influence VAP and knowledge of this is crucial to the management of urban centres.

Thus far the analysis has focussed on influence of individual outlets and clusters of premises, on time of day and day of week and their influence on VAP. Earlier in this paper the importance of local knowledge was emphasised in understanding and managing NTE areas. To demonstrate this further, some results from the LA03

evaluation are further reported and summarised in Table Four. This shows the difference between additional extended trading hours and VAP, based on information provided by licensing authorities on additional hours granted, and local fieldwork in individual premises to ascertain actual hours used.

Table Four: VAP and Additional Hours 'Used' and 'Granted' by Premise (pre and post LA03)

Additional hours (used) per week	Number of premises	VAP (average baseline)	VAP (post LA 03)	Percentage Change	Additional hours (estimated applied) per week	Number of premises	VAP (average baseline)	VAP (post LA03)	Percentage Change
Blackpool					Blackpool				
None	2	32	14	-56.3%	None	24	13	2	-84.6%
1 to 5	6	196	95	-51.5%	1 to 8	67	111	67	-39.6%
6 plus	6	96	129	34.4%	9 plus	70	377	242	-35.8%
Total	14	324	238	-26.5%	Total	161	501	311	-37.9%
Birmingham					Birmingham				
None	2	39	46	17.9%	None	74	162	161	-0.6%
1 to 5	3	46	42	-8.7%	1 to 8	44	96	95	-1.0%
6 plus	3	17	31	82.4%	9 plus	67	135	126	-6.7%
Total	8	102	119	16.7%	Total	185	393	382	-2.8%
Croydon					Croydon				
None	4	11	9	-18.2%	None	40	25	19	-24.0%
1 to 5	6	37	16	-56.8%	1 to 8	83	102	85	-16.7%
6 plus	2	31	24	-22.6%	9 plus	46	149	112	-24.8%
Total	12	79	49	-38.0%	Total	169	275	216	-21.5%
Guildford					Guildford				
None	2	31	18	-41.9%	None	35	5	8	60.0%
1 to 5	7	59	35	-40.7%	1 to 8	49	152	163	7.2%
6 plus	3	46	63	37.0%	9 plus	18	31	37	19.4%
Total	12	136	116	-14.7%	Total	102	188	208	10.6%
Nottingham					Nottingham				
None	1	5	5	0.0%	None	36	38	28	-26.3%
1 to 5	5	62	49	-21.0%	1 to 8	98	169	149	-11.8%
6 plus	1	10	11	10.0%	9 plus	127	442	406	-8.1%
Total	7	77	65	-15.6%	Total	261	649	583	-10.2%
ALL FIVE AREAS					ALL FIVE AREAS				
None	11	118	92	-22.0%	None	209	243	218	-10.3%
1 to 5	27	400	237	-40.8%	1 to 8	341	630	559	-11.3%
6 plus	15	200	258	29.0%	9 plus	328	1134	923	-18.6%
Total	53	718	587	-18.2%	Total	878	2006	1700	-15.3%

When examining additional hours *granted*, four areas showed reductions in VAP at premises for all three categories of additional hours granted per week (none, one to eight, and nine or more). In one area there was little change. Across all premises combined across all five areas (N=878) there were reductions post Act in the number of VAP offences at premises with no additional estimated hours, one to eight estimated additional hours granted per week, and more than nine additional estimated hours granted per week.

However, when examining additional hours *used* per week, as identified from fieldwork visits, a different picture emerges. In four of the five case study areas, there were reductions or no changes to the level of VAP at premises using no additional hours per week, and a similar picture was found for those using one to five additional hours per week. However, at premises using six or more additional hours per week, there were increases in the percentage of VAP at these premises in four of the five case study areas. Across all premises visited across all five case study areas (N=40) there was a 20% reduction in VAP offences. However, those premises with none, or one to five additional hours experienced reductions in VAP, and those with six or more hours experienced increases in VAP post LA03.

Here it is important to re-emphasise the limitations of using the premise flag in attributing VAP offences to individual premises. Additionally there may be some bias in the non random selection of premises visited by fieldworkers. Due to the nature of the fieldwork and the selection of premises, and limitations in the use of the police flag for attributing VAP to individual premises, statistical tests (such as those conducted by Chikritzhs and Stockwell, 2002) were not carried out. The findings

emphasise that in order to make informed decisions for managing the NTE, it is important to have local knowledge about the actual hours premises are trading, and how this influences VAP. Clearly as this may be continually changing this presents a problem for policy makers, but efforts to access and share the most up to date information should be made.

Discussion of Findings and Implications for Policy

This paper has highlighted the importance of timely information on alcohol supply points, particularly for managing areas with licensed premises. It has highlighted the link between alcohol and violence, particularly with respect to the NTE and urban centres.

By analysing two data sets, namely, police recorded VAP and information on licensed premise location and opening hours, it has demonstrated some of the difficulties presented to analysts when attempting to measure the extent of alcohol related violence in the NTE. Furthermore, it has highlighted the importance of place (individual high risk premises and areas with concentrations of licensed premises), the importance of time (both time of day and day of week), and the value of local contextual knowledge (e.g. the difference between *granted* and actual *used* licensed trading hours) in measuring and interpreting change.

Furthermore there is a range of additional information on licensing that is not currently collated consistently, including capacity and licensing conditions. These are crucial to making informed decisions for management of the NTE and area with licensed premises.

This paper has focussed solely on two forms of licensed premise (pubs or bars and nightclubs). It has not considered alternative alcohol supply points (including others with on premise consumption such as restaurants and social clubs) nor those with off premise consumption (supermarkets and off licenses, for example). It has also concentrated on just one type of crime (VAP), and not considered criminal damage, sexual offences, drink driving, other alcohol-related offences and incivilities such as disorder and anti-social behaviour. There are also limitations in using police recorded offences (VAP). For example, between the five case study areas, flags for alcohol related offences ranged from 7% of all VAP offences in one area up to 40% of all VAP offences in another. This is clearly more likely to be related to the subjectivity of the officer recording the offence, and inconsistencies in the recording practices, than actual differences between the case study areas. Moreover, increased police enforcement may actually result in an increase of VAP offences. Thus police recorded crime on its own cannot be used as a reliable measure of alcohol-related crime and disorder.

A number of supplementary data and intelligence sources have been suggested including information from the Primary Care Trust NHS (particularly accident and emergency attendances at hospitals and other HES data, information from the ambulance service, local authority (e.g. street cleansing volumes and noise complaints), trading standards information such as under-age test purchases, information from local public transport operators (bus and train operators), and data from British Transport Police and so on. There are a range of problems in accessing these data (including obstacles to sharing despite the requirements of the Crime and

Disorder Act 1988), and most importantly, there is a paucity of research into how these data can be consolidated into single consistent and reliable source for the purposes of managing the NTE.

There are a range of local factors that make management of NTE areas a complicated and difficult process, including characteristics peculiar to individual premises (management style, clientele, drinks promotions, for example), cultural factors (drinking circuits, binge drinking and heavy drinking, for example) and broader influences such as the impact of market forces (particularly where the large brewing firms are concerned) and the infrastructure of the NTE (including lack of facilities for late night transport). One feature often cited in the UK literature and legislation is the notion of an urban centre reaching saturation point. However, what is less apparent in the guidance is what evidence is needed in order to make informed choices on this. What is also evident is the need for intelligence on alcohol supply points to keep pace with the rapidly changing context of the NTE, on a weekly or even daily basis. Faced with such a range of complex and inter-related influences on the NTE, and the existence of varied legislative and policy tools available to those seeking to manage the NTE, the necessity for a clear reliable consistent evidence base becomes undeniable.

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