

Pilot Study Of Inter-Agency Working To Reduce Binge Drinking And Acute Healthcare Demand

Final Report to the Alcohol Education and Research Council

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Summary

Background

“Binge drinking” and associated harms in terms of health, crime and disorder have been highlighted by the government and media, causing considerable public concern. This research aimed to quantify the number of patient attendances to an urban adult and children’s Emergency Department (ED) that are directly attributable to binge drinking, and investigate ways in which the inter-agency sharing of anonymised information may be used to design, implement and monitor interventions to reduce these harms. We also set out to identify the characteristics of binge drinking and drinkers that lead to emergency healthcare use.

Methods

Intoxicated patients attending either the adult or children’s ED were prospectively identified by nursing staff, and anonymised data collected by a dedicated researcher. Semi-structured interviews were administered to patients following admission to hospital as a result of binge drinking. Collaboration and data sharing between health, police, social services, university experts and local authorities was achieved through the establishment of steering and operational groups with agreed objectives and the formation of a shared, anonymised database relating to alcohol use and harms.

Results

The proportion of patients attending the ED as a result of binge drinking was 4% in adults and less than 1% in children. 70% of patients were male, with a mean age of 30 years, and 72% attended between the hours of 8pm and 8am. The commonest reason for ED attendance was accident (34%), followed closely by assault (30%). 27% of patients had done most of their drinking at home, 36% in a pub and 16% in a nightclub. Only five people took part in a semi-structured interview, and these individuals were not representative of the target population. Inter-agency collaboration proved highly successful: pooling of anonymised data created a much clearer picture of the extent of the problem and immediately suggested strategies for intervention, which could be effectively directed and monitored by the steering group.

Discussion

Our figures appear accurate, but much lower than some previous reports. This may be attributable to a requirement that patients be both objectively intoxicated and attending the ED as a result. Specific issues were identified in relation to “pre-drinking” and “drink spiking”, but the change in licensing law that occurred during November 2005 does not appear to have had a significant impact to date.

The lack of an internationally agreed definition of binge drinking, and ethical and practical difficulties in relation to patient recruitment, reduced the effectiveness of some aspects of this study, but the initiative to achieve inter-agency collaboration and data-sharing was highly successful, with considerable potential for the development and implementation of interventions that will reduce binge drinking and its associated harms.

Conducting effective research in the ED is important but challenging: there are multiple barriers including the severity of patient illness, the speed and pressure of work, complex ethical issues and the attitudes of staff, who and may be difficult to engage.

This study does not support the more extreme claims that have circulated in the British media, concerning a binge drinking “epidemic”. However there clearly is a problem, and on the basis of this pilot study we would recommend further qualitative studies to identify the factors that lead to ED attendance following heavy alcohol consumption, and quantitative research to demonstrate the ways in which effective data-sharing and inter-agency cooperation can successfully modify alcohol-related harms in an urban setting.

Background

Recent research has suggested a sharp increase in “binge drinking” amongst young adults, and the Chief Medical Officer has warned that Britain’s “binge drinking culture” is damaging greater numbers of young people than ever before.[1] A Government report in 2003 put the total cost to the NHS of alcohol related injuries and illnesses at up to £1.7 billion a year, with alcohol-related crime, assaults and disorder costing a further £7.3 billion.[2]

In the 1990s there was a large increase in alcohol consumption amongst young adults after a period of stable drinking patterns during the 1970s and 1980s.[3] Today it is estimated that 5% of young men and 8% of young women aged 18 – 24 are likely to drink at “high risk” levels.[4]

Historically, “binge drinking” referred to a continuous and unrestrained drinking bout lasting at least a couple of days, during which time the individual abandons their usual activities and responsibilities in favour of sustained alcohol consumption.[5] More recently, however, the term “binge drinking” has been used to describe the consumption of a large quantity of alcohol in a single session with the express intention of becoming intoxicated.[6] Unfortunately there is no internationally agreed definition of binge drinking, and the term has gathered political connotations that suggest unrestrained drinking in young people, crime, disorder and risk-taking behaviour.[7]

Alcohol Concern and the European School Survey Project on Alcohol and Other Drugs (ESPAD) have defined binge drinking as consuming more than five drinks on a single occasion.[8,9,]. In the United Kingdom (UK) binge drinking has been defined as consuming more than half the government’s recommended number of units for a week in one session, i.e. more than 10 units of alcohol in a single session for men and 7 units for women.[10] However defining binge drinking is problematic, as a distinction needs to be made between responsible and reckless drinking behaviour. Numerous factors can magnify or diminish the effects of alcohol, such as the duration of a drinking session and the ingestion of food. The Office for National Statistics (ONS) defines ‘heavy’ drinking as eight or more units for men and six or more units for women on at least one day in the week, and this was adopted in the Alcohol Harm Reduction Strategy for England.[6] This definition has been endorsed by Alcohol Concern because “consuming this quantity of alcohol on one occasion could reasonably be expected to lead to intoxication which is a key feature of this type of drinking and places the individual at risk of harm”.[8] Nevertheless, whilst a definition based purely on the quantity of alcohol consumed has statistical appeal, it remains sub-optimal because it fails to take into account the wide range of temporal, social and individual factors that influence drinking.

In the UK it is known that when young people reach the age of 15 – 16 years more than half admit to some form of “binge” drinking, and this frequently continues into early adulthood.[11] Awareness of the health risks associated with alcohol consumption appears to have little impact on behaviour.[12] Young adults perceive their drinking in positive ways, and use alcohol to celebrate and enjoy events. They are also exposed to positive images associated with alcohol consumption through the development of youth orientated drinks.[13] Thus when adulthood is reached the continuing use of alcohol and positive reinforcement from peers can mean that the negative and simplistic messages that often feature in alcohol awareness programmes are easily overridden by personal experience.[14]

Binge drinking is associated with physical and social harm to drinkers and those around them.[15] In nearly half of all violent incidents in 2001/2002, victims believed offenders to be under the influence of alcohol.[16] There is evidence that the UK has developed a culture of tolerance towards excessive drinking which is distinctly different to South Mediterranean drinking cultures.[17] However efforts are being made to change this, and a current UK Home Office proposal states that if individuals commit offences as a result of irresponsible drinking then they will no longer be treated as minor offences, simply because they were under the influence of alcohol.[18] Furthermore, the Alcohol Harm Reduction Strategy for England, published by the Prime Minister's strategy unit on 15th March 2004, contains measures to address the range of harms caused by alcohol misuse in England.[6] These include specific legislation to tackle alcohol related crime, such as the Licensing Act 2003 (fully implemented in November 2005, during this research study) and the Criminal Justice and Police Act, 2001, which makes it easier for local authorities to restrict anti-social public drinking in specified places, to close down unruly licensed premises and to further restrict drunkenness on licensed premises. However despite this change in government strategy, there persists a strong public perception of a spiralling trend towards binge drinking, particularly within urban areas,[7] and further research is required to accurately determine the prevalence of binge drinking whilst developing methods to effectively control the associated harms.

One important consequence of binge drinking is an increase in Emergency Department (ED) attendance, particularly on Friday and Saturday nights. Alcohol Concern comment that while people see binge drinking as being just about personal choice, the reality is that our already over-stretched emergency services are being left to cope with the consequences of weekend excesses.[19] A recent UK survey showed that nearly 1% of patient attendances to an inner city emergency department came directly from nightclubs, usually between midnight and 8am at weekends. 38% were conveyed by emergency ambulance, 57% had been assaulted and most had been drinking.[20]

Binge drinking is, therefore, a prime concern for both health and police services, but formal collaboration between these two agencies has not been investigated or evaluated, despite government efforts to encourage inter-agency working at a local level. A recent initiative in Cardiff, however, demonstrated that the judicious sharing of information about locations and times of violence derived from emergency department patients was a powerful and effective means of targeting police and other local resources to bring about violence reduction.[15] These principles, proven to be effective against violent crime, may well hold true for excessive and harmful alcohol use.

Objectives

The objectives of this pilot study were:

1. To quantify the number of patient attendances to the Emergency Departments of the Bristol Royal Infirmary and Bristol Royal Hospital for Children that are attributable to “binge drinking”.
2. To identify the characteristics of binge drinking and drinkers that lead to Emergency Department use.
3. To investigate ways in which anonymous information on binge drinking, leading to Emergency Department attendance, can be successfully collected and usefully provided to the Avon and Somerset Constabulary in order to reduce binge drinking within the city of Bristol.

It is hoped that the data derived from this research will inform a larger project designed to develop, introduce and monitor the effectiveness of a series of interventions to reduce binge drinking and associated harms within an urban environment.

Methods

This single centre study was undertaken in the Emergency Departments of the Bristol Royal Infirmary and the Bristol Royal Hospital for Children, both part of the United Bristol Healthcare Trust. These departments serve an inner city population, particularly Bristol City Centre and waterfront where there is a high concentration of nightclubs and bars. The combined Emergency Department (ED) attendance is approximately 85,000 new patients per annum. This study commenced in Sept 2005 for an initial period of four months, and spanned the change in licensing laws that occurred in November 2005.

Objective One

In order to quantify the number of patients attending as a result of binge drinking a robust method of detection was required. Measurement of blood alcohol, either directly or by breath testing, was considered but discarded as ethically unacceptable. It was also apparent that simply asking people how much alcohol they had drunk would lead to under- or over-reporting (not least because of the variety of strengths and volumes in which alcohol is sold), as well as highlighting the lack of an accepted binge drinking definition. It was therefore decided that nursing staff would be asked to identify patients who, in their view, were intoxicated on arrival at the ED, and where their attendance could be reasonably attributed to this intoxication. Inevitably, this approach relied on the judgement of professional staff, but it was felt that such staff would often be in a better position to judge intoxication and impairment than the patient themselves, and would also be able to identify individuals in whom intoxication was apparent and a significant factor, thereby compensating for the age, sex and biological variability in individuals.

Once patients had been identified as intoxicated, a reliable method of data collection was required. Unfortunately the current level of information technology available in most EDs is insufficient to permit computerised data entry, and a manual method was therefore employed. A small sticker was designed, and nursing staff were asked to apply this to the notes of every intoxicated patient attending the ED during the study period. The addition of this sticker, printed in a bright colour, made the notes readily visible to the project’s research assistant,

who could then examine these notes further. To minimise nursing workload, and improve compliance, the sticker contained two simple questions (Figure One)

Figure One: Sticker used for data collection. When a tick was placed in box B1, B2 or B3 the member of staff was also asked to enter the names of the pub, club or street where the patient had done most of their drinking on the dotted line provided.

Academic Department of Emergency Care Alcohol Consumption Study			
In your view is this patient:		Where did they do most of their drinking?	
A1: Drunk & Incapable	<input type="checkbox"/>	B1: Pub	<input type="checkbox"/>
A2: Drunk & Accident	<input type="checkbox"/>	B2: Club	<input type="checkbox"/>
A3: Drunk & Assault	<input type="checkbox"/>	B3: Street	<input type="checkbox"/>
A4: Drunk & Self Harm	<input type="checkbox"/>	B4: Home	<input type="checkbox"/>

During the first month of the project staff were educated in the use of the sticker, and it was then introduced into routine use during months two, three and four. Education and support were provided to ED staff throughout the study, and all patient notes were reviewed by the research nurse to ensure that no potential patients were missed, and to provide immediate feedback and encouragement to all of the staff involved.

Data from the stickers were extracted into an Excel™ (Microsoft Corporation, USA) spreadsheet for further analysis using descriptive statistics. These data were anonymised at the point of extraction to allow ethical sharing with the police. The data collected for the study were compared with routinely collected ED attendance figures.

Objective Two

We wished to gain an understanding of the factors associated with binge drinking and subsequent ED attendance or hospital admission. It was proposed to address this through the administration of a semi-structured interview to consenting individuals following ED attendance or hospital admission as a result of binge drinking. Unfortunately, however, the initial ethics committee submission for this aspect of the project was rejected as a result of concerns that interviewing patients after a single episode would risk “labelling” ordinary individuals as “binge drinkers”. A second ethics committee application was therefore submitted, indicating that only those patients who had been admitted to hospital as a result of binge drinking, and who had attended the ED previously as a result of alcohol excess, would be approached. This second application was approved, but severely limited the available patient population. Nevertheless, eligible patients were approached and, where consent was obtained, interviewed during the study period.

The inclusion criteria for this part of the study were therefore as follows:

- Adult patient admitted to the Bristol Royal Infirmary (BRI) following heavy alcohol use
- Eligible patients must have also attended the Emergency Department of the BRI as a result of alcohol excess at least once in the preceding 24 months
- Patient may have been admitted drunk and incapable, or with injuries (accidental or assault) following heavy alcohol use

With the following exclusion criteria:

- Under 18 years of age
- No attendance to the Emergency Department of the BRI as a result of alcohol excess during the preceding 24 months
- Unable to give informed consent
- Injuries or other condition precluding interview
- Declines to take part

The NHS Research Governance Framework was adhered to throughout the study. This included the provision of informed consent, voluntary participation, confidentiality and anonymity. Ethics approval was obtained from the Swindon Research Ethics Committee.

Objective Three

The third objective was to achieve active collaboration and data sharing between health (both emergency healthcare and public health), police, social services, university experts and local authorities. Two groups were therefore established: a larger steering group comprising representatives from all these agencies, and a smaller operational group comprising policing, emergency healthcare and public health. These groups met several times during the pilot project to develop a shared, anonymised database relating to alcohol use and its associated harms in order to:

- Describe and delineate the scale of the problem
- Inform tactical decisions within the agencies involved
- Inform strategic and planning decisions relating to alcohol within the city
- Monitor progress over time and the effectiveness of any interventions

Results

Objective One

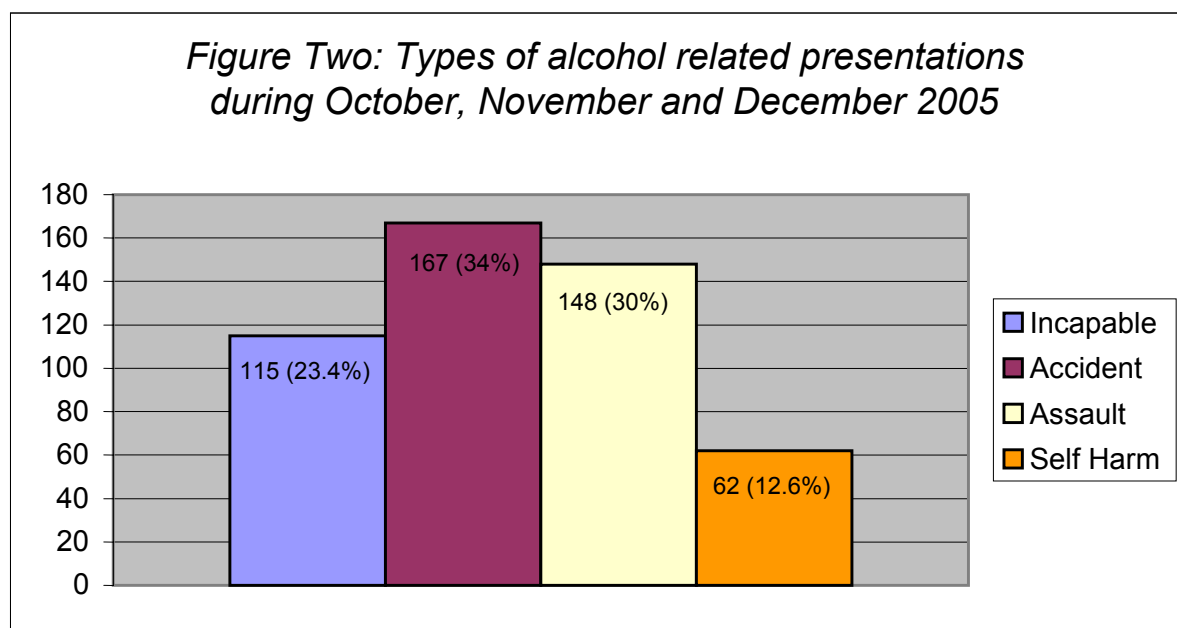
The incidence of intoxicated adult patients attending the ED as direct result of alcohol consumption was as follows:

- October 2005: 114 patients (2.3%)
- November 2005: 174 patients (3.8%)
- December 2005: 204 patients (4.1%)

Identified patients were categorised into four groups:

- Drunk and incapable
- Drunk and accidentally injured
- Drunk and involved in assault
- Drunk and self-harmed

The number of patients falling into each of these groups during the study period is shown in Figure Two. Accidental injury was the commonest problem, closely followed by assault. Less than one quarter of the identified patients had become unconscious or incapable as a result of drinking to excess, and a smaller number of patients had self-harmed.



70% of patients were male, and the mean age was 30 years.

72% of identified patients attended between the hours of 8pm and 8am.

27% of patients had done most of their drinking at home, whereas 36% had done most of their drinking in a pub and 16% in a nightclub. An additional 3% of adults had done most of their drinking on the street. In 18% patients were unable to accurately supply this information.

The study included the Emergency Department of the Bristol Royal Hospital for Children, where children under the age of 16 years are treated. On average there were 2.5 attendances

per month due to alcohol (usually children who were drunk and incapable following alcohol excess). This is an attendance rate of less than 1%. In the adult emergency department of the Bristol Royal Infirmary (treating patients 16 years and over) 13 persons aged 16 or 17 attended the ED as a result of alcohol excess during the month of December (0.3% of all patient attendances, and 6.4% of those attending as a result of alcohol).

Objective Two

During the three month study period eight eligible patients were identified, of whom five consented to be interviewed (four men and one woman).

Two patients were known to be chronic alcohol users, one of whom had been assaulted, whilst the other had fallen over whilst drunk and sustained a head injury.

The female patient was a 20 year old student who had been dropped on her head by a friend. She had attended various Emergency Departments on three previous occasions following a range of drinking accidents, which she attributed to not being able to “handle her drink”. She described herself as “a bit of a lightweight who never actually drinks that much”, however on the night in question she had consumed: one beer; half a bottle of wine; some vodka punch; some cider; a cocktail (estimated 14 units of alcohol).

The fourth participant was a male aged 31 years who had been assaulted on his way home from a Christmas party. He had consumed 4 pints and reported that although he used to drink to excess, he no longer drinks heavily.

The final patient was a 19-year-old male who had been assaulted whilst waiting for a taxi on his way home after a night out with friends. He stated that he had consumed 12 pints, which is usual for him when he goes out once or twice a week.

No patient had knowingly taken advantage of any “happy hour” promotions. It was unfortunately not possible to identify any consistent patterns from such a small patient sample.

Objective Three

During the course of the study four inter-agency meetings occurred: one meeting of the steering group and three meetings of the operational data management group. As planned, these meetings included representatives from health (both emergency healthcare and public health), police, social services, a local university with specific expertise and local authorities.

It was apparent from the outset that there was much to be gained by working in partnership to share data and consider appropriate interventions to reduce irresponsible alcohol consumption and thereby:

- Improve individual health, with a reduction in emergency department attendance
- Improve public health, by reducing the long-term consequences of alcohol use
- Reduce crime, assault and disorder
- Improve public confidence in the city centre and night-time economy

By pooling anonymised data between health and policing it became immediately possible to build a much clearer picture of the extent of the problem and develop possible strategies for intervention.

It is known that only 20% of assault victims report their crime to the police,[16] so the addition of Emergency Department data provided further valuable information on the pattern of alcohol use leading to crime, disorder and ED attendance. Furthermore, when the health and police datasets were compared a striking concordance was noted, in that the three city centre premises causing most trouble for the police were also those causing most attendances at the Emergency Department:

Premises One (Nightclub: Capacity 1,650)

The most featured club in the study. 10 ED attendances in the months of October and November (5 assaults, 2 intoxicated, 1 spiked drink and 2 accidents). Fourteen 999 calls and eight violent offences logged by the police during the same period. However following intervention by the police at the end of November, no further ED attendances were logged during the month of December, suggesting that this police intervention was highly effective.

Premises Two (Bar with late licence: Capacity 600)

Recognised trouble spot. 8 ED attendances during the three months of the study (3 accidents, 3 intoxicated, 2 assaults). 2 of the ED attendances were in underage drinkers. Twenty-three 999 calls and eight violent offences logged by the police during the same period. Police action discussed and planned by the operational group.

Premises Three (Pub and club: Capacity 1,100)

8 ED attendances during the three months of the study (3 assaults and 5 accidents). Seventeen 999 calls and nine violent offences logged by the police during the same period. Attendances noted to be on the increase month by month.

Of additional note, one further nightclub had only three recorded ED attendances, but all were serious assaults (including one stabbing). This was also in accord with police knowledge of the premises. With regard to underage drinking, the numbers were too small to identify a definite trend, but premises two was the worst offender, and it was anticipated that over a longer period of time a clearer pattern would emerge.

The inter-agency meetings identified several areas for further co-operation and development. It was proposed that complementary data from health and policing be presented at Licensing Committee hearings, with the ultimate sanction of withdrawing the license from a troublesome premises. Before such action would be taken, however, it was agreed that joint health and policing meetings should be held with the managers of problem premises to discuss the issues and agree strategies for improvement. A similar approach has been shown to be effective when dealing with violent crime in Cardiff during the Targetting Alcohol-related Street Crime (TASC) initiative.[15]

Both the steering and operational groups identified areas for further research, such as the factors associated with binge drinking and the movement of drinking groups around the city centre. It was also apparent that the inter-agency meetings would be ideally placed to monitor the impact of any intervention or series of interventions on emergency healthcare, crime and disorder. This would readily facilitate the development and testing of intervention strategies on the basis of hypotheses generated from the shared data collected.

Discussion

Compliance And Cooperation From Staff

To introduce the research, individual teaching was carried out among nursing staff to explain their role within the project. Compliance from staff was variable, and despite initial enthusiasm it was challenging to motivate staff in a busy ED to incorporate a further procedure into the assessment process. To back-up staff assessment the research assistant hand-searched all of the notes during November and December, to retrospectively identify any patients who had initially been missed. This led to an increase in the proportion of patients identified as attending the ED as a result of binge drinking from 2% in October to a stable 4% in November and December, and it seems likely that 4% is a true and accurate figure for our adult ED. However the hand-searching process was labour intensive, and unsustainable in the longer term, though it is possible that improvements in information technology will allow the more efficient collection of computerised data in future. The only way to further improve data collection would be to have a dedicated researcher stationed in the ED 24 hours a day, but this was clearly impractical within the scope and resources of this pilot study.

“Night duty apathy” accounted for a large proportion of poor compliance. This was potentially a significant problem since most intoxicated patients attended during the night shift. At peak times overnight the ED staff are often very stretched, and therefore reluctant to participate in “yet another audit”, however staff motivation improved considerably when it was explained that the long-term aim of the project was to reduce the number of attendances attributable to alcohol excess.

Defining The Population

There are numerous definitions and no consensus as to what constitutes binge drinking. Consuming five drinks in one sitting is a fairly common definition, but this fails to take into account the duration of the session, the social context and other factors, such as food consumption. In the perception of the British public and media, binge drinking appears to indicate heavy and/or rapid alcohol consumption with the express intention of becoming intoxicated, and is associated with young adulthood, risk-taking behaviour and social disorder.[7] However the subjective nature of this concept, and the lack of a widely accepted definition, creates substantial problems when undertaking research. We felt that the formal measurement of blood or breath alcohol levels would be unethical, and so relied on the professional opinion of experienced nursing staff in the ED. This appeared robust and gave rise to stable and reproducible figures, which reflected the number of patients who were clearly intoxicated and whose attendance was likely to be causally related to alcohol consumption. Thus, our results appear to represent the group that the general public would recognise as “binge drinkers”, and this is supported by the patients’ age and sex distribution.

An obvious weakness of this approach is the extent to which a patient’s ED attendance is causally linked to alcohol use. People can be assaulted or suffer accidents at any time of the day or night, regardless of whether alcohol has been consumed. Indeed, many people drink responsibly during weekend evenings, but may still need to attend an ED for reasons unrelated to alcohol use. This issue also required clinical judgement, and as a result the patients identified were those whose decision-making, co-ordination or attitudes were apparently impaired, rather than those who had simply consumed a quantity of alcohol. However patients that attended the following day after drinking heavily and sustaining an

injury or accident the night before were also included in the study, since their attendance was attributable to alcohol intoxication.

Over the three months of data collection the most common presentation was drunk and accident, closely followed by drunk and assault. However it can sometimes be difficult to differentiate between these two, because patients may be reluctant to disclose that they have been fighting, or may not clearly recall the events leading up to an injury. Similarly, an injured person may not wish to disclose the true cause to the police, so it is likely that some degree of overlap exists.

During the study we successfully collected basic postcode information for all identified patients (data not shown). This indicated which areas of the city were associated with ED attendance in relation to alcohol, and could be further utilised to construct a socio-economic profile of the relevant patient groups.

Ethics Committee Restrictions

In the process of seeking ethics committee approval, substantial limitations were imposed on the qualitative component of this study (objective two). The ethics committee to which an initial application was made rejected our proposals because they were concerned that a patient might be labelled as a “binge drinker” following a single attendance to the ED, and when their alcohol consumption was incidental. Committee members commented that they would not wish to be approached to enter this study if they had accidentally twisted their ankle after a few glasses of wine. This reflects the issues relating to causality that are discussed above, and the stigma attached to “binge drinking” in the UK.

This response from the ethics committee was both unexpected and disappointing. An appeal was considered, but was not pursued in view of the limited time and resources available to the study. It would also have diverted resources away from the other study aims, jeopardising their success. Instead a second application, specifying that patients would only be eligible for recruitment if they had previously attended the ED as a result of alcohol excess, was approved, but led to a very low recruitment rate. Numbers were further restricted by the delay in gaining ethics committee approval and patient refusal. Unfortunately, repeat attenders did not appear to be typical of the young binge drinking population that was the focus of our study, and were more likely to be older with chronic alcohol problems or combined intravenous drug and alcohol use. As a result, it would be fair to say that this objective was not successfully realised, though the problems associated with this line of research were highlighted, and are now much better understood. In particular, the ethical complexities that arise when recruiting patients within a healthcare setting (in which clinical staff have a primary duty of care to the patient), and the difficulty of obtaining valid informed consent from intoxicated persons, substantially hamper effective binge drinking research within this environment.

Given that Bristol city centre contains tens of thousands of drinkers during a weekend evening, many drinking heavily, the key issue may not be the number of people that present to the ED, but the number of people that do not. Studying the attitudes and behaviour of people in the city centre may therefore offer an alternative approach that is less hampered by ethical complexities. Certainly those people who come to the attention of emergency healthcare or policing services represent the “tip of an iceberg”, in that the vast majority of people engaged in heavy drinking on any particular day do not experience any immediate harm, and for every ED attendance or arrest made many other individuals will have sustained more minor injuries

or been involved in less serious incidents of crime or disorder. The issue is further complicated by the fact that some of the larger nightclubs employ first aid, or even nursing, staff to deal with minor injuries on the spot. No figures exist for these lesser events, and their number can only be extrapolated from the data that are recorded.

Patient Recruitment

The reaction of patients who were approached to take part in the qualitative aspect of this research (objective two) was not always positive. Approaching a patient the morning after, when they had sobered up, was frequently unsuccessful. Problems identified were: feelings of physical illness (hung-over), embarrassment, shame, anger, fatigue or pain from injuries.

Nevertheless, there are some potentially positive outcomes from the feelings that may arise following ED attendance as a result of alcohol intoxication. High quality evidence indicates that the “health warning” of ED attendance creates a “teachable moment” in some drinkers, which if rapidly exploited by a trained worker using brief intervention techniques, can reduce subsequent alcohol consumption and ED attendance.[21] This is a powerful argument for establishing such trained alcohol workers and robust referral routes in an ED, since the subsequent health benefits are likely to prove highly cost effective, particularly in the younger age groups.[22] However in our small sample size the younger patients tended not to connect the consumption of alcohol with their attendance, and did not feel that they had a drinking problem. The patients who did recognise that their drinking was problematic tended to be the chronic alcohol users, who had previously received help for their drinking.

Pre Drinking

We noted an important trend towards “pre-drinking” at home, to achieve a certain level of intoxication, prior to going out to pubs and clubs in the city centre. For example, in the month of December, 24% of patients attending the ED as a result of binge drinking stated that they had done most of their drinking at home. This could be because supermarkets and off licences offer discounted beverages substantially cheaper than pubs, clubs or restaurants. It is possible that the recent changes in licensing laws will exacerbate this problem, with cheap alcohol available 24 hours a day. Pre-drinking was noted to be commoner amongst younger drinkers, presumably because of limited financial means and potential difficulties in being served in pubs and clubs. Pre-drinking can cause significant intoxication early in a drinking session, and is problematic for the management of pubs and clubs, who do not know how much alcohol their patrons have consumed before entering their premises.

In working with the police, it was noted that they view a certain number of venues as “feeder pubs”: these premises tend to have a smaller capacity but a high turnover of clients. Cheap drinks promotions are common, and drinkers may start their evening here, with the aim of becoming rapidly intoxicated, without excess expenditure, before moving on. One well known “feeder pub” in Bristol has a capacity of 450, but may have four times this number of people through their doors in a single night.

The majority of people who self-harmed in association with alcohol use did most of their drinking at home. This is probably due to the solitary nature of most self-harm acts.

Capacity

Bristol has a diverse nightlife, and it also has a wide variety of drinking establishments. This must be taken into account when considering the data collected: it is unfair to simply measure the number of incidents occurring in a premises without taking capacity into account. In

September, a new “super club” opened in Bristol, consisting of 5 bars and 2 nightclubs, with a capacity of approximately 3,000. Other authors have adjusted for capacity when identifying “problem premises”, [15] and we would concur with this approach. We propose that the rate of crime, disorder or acute healthcare use be expressed as the number of incidents per 100 person capacity within a specified time frame. By presenting the results in this way it is possible to distinguish large clubs with a good record (such as the “super club” mentioned above) from small pubs with a poor record. Interestingly, some large clubs in Bristol City Centre did not feature at all in either police or health statistics during the study period. Further analysis of the features of “problem premises” in comparison to trouble-free venues is suggested, building upon previous work relating to bars. [23]

What’s in a name?

During the course of this study one nightclub was highlighted as a persistent offender, with many alcohol-related assaults occurring inside and immediately outside the venue. The media became involved, showing closed-circuit television footage of a particularly gruesome assault. The police attempted to revoke the club’s license, under the legislation in force before November 2005, but an eleventh-hour change in club management and name prevented this. The newly named and managed club has seen a significant fall in incidents, demonstrating the effectiveness of adverse publicity and direct police action.

Spiked Drinks

During the course of this study we noted an increasing trend for young people to report that their drink had been “spiked” as an explanation for their state of intoxication. Concerns regarding sexual assault in young women, extensively publicised by the media, have led to this claim being made in almost every young woman who presents drunk and incapable to the ED. Friends will often report that an astonishing quantity of alcohol has been consumed (perhaps in excess of 30 units), but nevertheless maintain that this is normal consumption for that individual, and a drink must have been “spiked”. Similar issues have been noted by the police, but where high quality research has been conducted the rate of apparent drink spiking, in female victims of sexual assault, is less than 1%. [24] In Bristol, testing of allegedly spiked drinks by the police has produced very similar results. [25] It therefore seems reasonable to conclude that although drink spiking remains a possibility, the main “date rape” drug is alcohol itself, sometimes combined with recreational drugs that are intentionally ingested by individuals.

Nevertheless, drink spiking remains a convenient way of explaining a state of extreme intoxication, or embarrassing series of event. For example, a 29-year-old male patient presented to the ED having consumed two bottles of spirits, which caused him to vomit and feel unwell. However he maintained that his drink had been spiked as he had never before felt unwell following alcohol consumption.

Inter-agency working

Perhaps the most successful part of this research work was the inter-agency working and anonymised data sharing achieved under objective three.

We initially convened a high level multi-agency steering group to consider shared problems in relation to binge drinking. This very successful meeting included senior doctors from emergency care and public health, senior police officers and crime analysts from the local constabulary, a director of commissioning on behalf of the local Primary Care Trusts, representatives of social services and the local council as well as the chair of the licensing

committee and an academic expert on alcohol. This meeting identified key objectives and plans for action, integrated with other initiatives in the city, which were then carried out by a smaller operational group, consisting mainly of representatives from health and policing. Key objectives are listed in the results section, but principally relate to the sharing of anonymised data and the gathering of relevant information to develop, implement and monitor targeted interventions designed to reduce crime, disorder and acute healthcare use as a result of binge drinking in the city centre. Unfortunately, within the limited timescale of this pilot project it was not possible to specifically test intervention strategies, but the effectiveness of data sharing and the potential for information gathering and intervention were clearly demonstrated. In particular, we were surprised at the precise concordance between health and policing data in relation to “problem premises”, the potential utility of feeding back to premises managers and, if this proved unsuccessful, using the combined data to inform a formal review of a premises license under recently enacted legislation.

Changes in the licensing laws

During this study a change in the UK licensing laws was enacted.[6] This was accompanied by a great deal of media publicity, and concerns that it would lead to uncontrolled drinking with considerable societal disruption. However we observed no increase in incidents after the change was enacted, and similarly the police have recorded no increase in crime or disorder. Although it is still early days, and drinking habits may take time to change, it is encouraging to note that the widely predicted catastrophe has not yet come to pass. In the ED we have observed a gradual extension of the time period during which the most heavily intoxicated persons present, now reaching as far as the middle morning, but no increase in overall numbers. It seems likely that the legislative intention, to avoid a concentration of intoxicated individuals spilling onto the streets and competing for limited services (principally taxis and fast food outlets) at a specific closing time may have been realised, however it will be important to look at the year-round figures and long-term health effects.

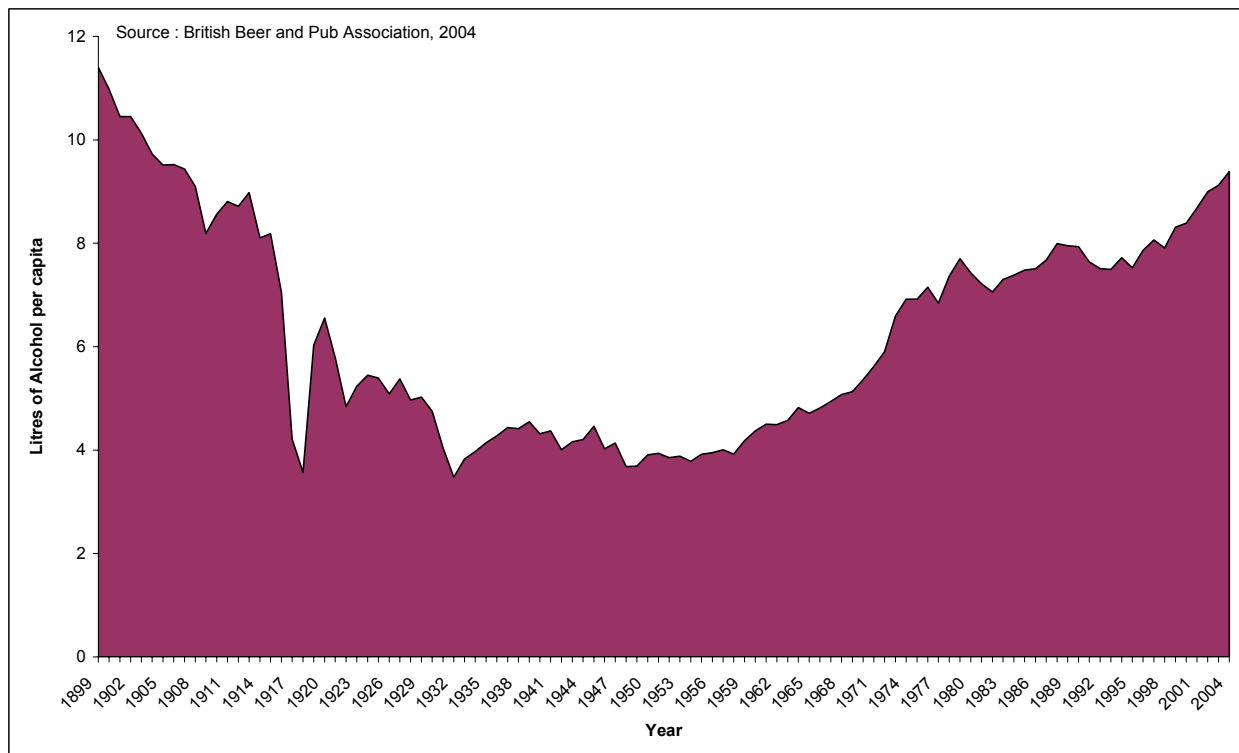
Media coverage of binge drinking

An important backdrop to this research has been intense media interest in binge drinking, and the potential effects of this on individuals and urban spaces. Some sections of the media have appeared to compete in finding the most lurid and alarming tales. Even the British Broadcasting Corporation (BBC) distributed a survey to UK Emergency Departments seeking information and anecdotes of alcohol excess (such as the youngest recorded “binge drinker”).[27]

At the time that the change in licensing laws was enacted reporters and film crews were sent to Emergency Departments and city centres, and some even joined ambulance crews, to film scenes of intoxication. These no doubt occur, but in our study do not approach the often quoted figure that 30-40% of all ED attendances are directly attributable to alcohol consumption [22,28,29]. This discrepancy may be due to differences in the identification and classification of alcohol users: as outlined above there is a considerable difference between a person who has sustained an accident after a single glass of wine, and a person who has been involved in a fight at a taxi rank after drinking 10 pints of strong lager. Furthermore, we have only included those with acute intoxication, and not those who attend the ED as a result of the longer-term problems of alcohol use, though these are unlikely to account for such a large discrepancy. In fact, whilst it is true that per capita consumption of alcohol is rising, the UK has not yet returned to the level of drinking seen in the early part of the 20th century (Figure Three), so excessive consumption of alcohol can hardly be seen as a new phenomenon. There is clearly a problem, and the longer-term health effects of young drinkers currently consuming

to excess is likely to be highly significant in the future,[30] but we believe this issue should be viewed in a wider context. For example, we have previously shown that 3% of the patients attending our adult ED are there as a direct result of illegal drug use.[31] This is very similar to the 4% figure for alcohol found in this study, and indicates that illegal drug use is considerably more hazardous than alcohol consumption, because many more people use alcohol than illegal drugs.

Figure Three: Alcohol consumption per head of population over the last century



The results of this study therefore quantify, explore and provide an approach to the proactive management of binge drinking, but also challenge the popular media image of emergency departments overrun and overwhelmed by a new tide of young binge drinkers. Alcohol and drunkenness are not new phenomena in the United Kingdom, and have been well-known to emergency services for many years. Interventions are welcome and timely at both national and local levels, but it would appear that current public perceptions and media reports are not supported by the data collected during this study.

The Challenges Of Emergency Department Research

This study has clearly illustrated the difficulties facing researchers who undertake work in a busy Emergency Department. Complex ethical issues arise when recruiting and studying patients in this environment: there is limited decision-making time for potential participants, and many of those eligible may be impaired by the nature of their illness or injury, the drugs administered by healthcare professionals (e.g. morphine) or alcohol or illegal drugs used prior to ED attendance (as illustrated by this study).[32] Patients themselves may be poorly disposed to research if they are severely ill, or suffering the adverse effects of alcohol or drugs. Ethics committee concerns and restrictions can significantly hamper research, particularly if there is a poor understanding of the emergency care environment. Recently this has been further compounded by EU Directive 2001/20/EC, which has had a significant

impact on the conduct of research in incapacitated persons, by requiring prior informed written consent before subjects can be recruited to clinical trials of medicinal products. This has led to substantial difficulties in establishing high quality trials in emergency care,[33] and the development of recommendations for changes to the EU Directive that will allow such research to proceed under clearly defined conditions.[34] In the UK a suitable legal framework now exists, under the Medicines for Human Use (Clinical Trials) Regulations 2004. This allows a personal legal representative (PeLR) or professional legal representative (PrLR) to consent on behalf of an incapacitated patient,[35] but the framework appears to be inconsistently applied, with areas of potential confusion and a lack of central guidance.[36,37] Good relations with local ethics committees, clear central guidelines disseminating the above framework and perhaps the development of specialist ethics committees familiar with emergency care research may all help to address these issues in the future.

In addition to this, it can be challenging to motivate ED staff, who are perpetually busy delivering direct clinical care and see themselves as life-savers rather than social workers or researchers. This problem is exacerbated if consecutive, rather than convenience, sampling is employed because staff will tend to abandon research activity when they become busy with clinical care. It is also particularly difficult to collect data through the night, when morale tends to be low: this was a particular problem for our study because alcohol-related attendances peak overnight, requiring considerable effort to obtain reliable data. Such problems are best overcome by ensuring the engagement and participation of staff from the outset, with emphasis on tangible benefits to both patients and the ED working environment. However accurate data is only likely to be obtained with a fully automated system (which is rarely available at present), or through a dedicated researcher who is not required to deliver patient care. Such a researcher, however, needs to be familiar with the relatively chaotic and fast-paced nature of emergency care delivery in order to work effectively and gain staff co-operation, and for this reason we successfully seconded a research nurse directly from the ED staff.

Future Research

There is a great deal that remains unknown regarding the behaviour of individuals and groups drinking in an urban environment, and this is a highly promising area for future qualitative and quantitative research. With additional funding to expand the duration and scope of this study such research could begin, and be closely informed by the practical considerations of emergency healthcare and city centre policing. This would ensure that the outputs are genuinely relevant, and also subject to immediate testing in a real environment. It is known that direct feedback to premises managers, and some forms of additional incentive, can reduce the harms associated with heavy alcohol use,[38] but the effects of proactive media publicity, the powers available under new licensing laws and practical measures in areas of high concentration drinking remain largely unexplored.

Conclusion

“Binge drinking”, particularly amongst young people, is a subject of considerable concern to government and the public, with associated harms to individuals and society. We have quantified the number of patient attendances to an inner city adult and children’s Emergency Department that are directly attributable to binge drinking, and found this figure to be in the region of 4% of all ED attendances for adults, and less than 1% for children under 16 years. This is lower than previous reports, possibly due to a requirement that included patients be both objectively intoxicated and attending the ED as a result of this intoxication.

A qualitative study of the characteristics of binge drinking and drinkers that lead to emergency healthcare use, though potentially highly valuable, proved less successful than anticipated due to problematic ethical restrictions.

Pilot work to investigate ways in which anonymised healthcare information can be collected and shared with the police, in order to reduce binge drinking in an urban setting, proved highly successful, with great promise for effective intervention and monitoring in the future.

We would urge caution in relation to current media reports describing an “epidemic” of binge drinking, and recommend further qualitative studies to identify the factors that lead to ED attendance following heavy alcohol consumption, and quantitative research to demonstrate the ways in which effective data-sharing and inter-agency working can successfully modify alcohol-related harms in an urban setting.

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