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1.0 Introduction
Concerns regarding the use of drugs to modify a person’s behaviour for criminal intent are not a new phenomenon\textsuperscript{1-3}. Accounts detailing the use of ‘knockout drops’ go back to the beginning of the late 1800s when chloral hydrate, used to cause the sedation and amnesia of victims, became known as ‘Mickey Finn Specials’ after the bartender who became notorious for using this method to pilfer from unsuspecting patron’s pockets\textsuperscript{4-6}. More recently, a 37 year old woman was found guilty of a similar crime; having administered flunitrazepam (the active ingredient in Rohypnol) to her targets she simply waited for them to lose consciousness before helping herself to designer clothes, watches and cash\textsuperscript{7}.

Fears of manipulative men drugging their sexual victims have also been pervasive in Western society\textsuperscript{5,8}. Recent media attention of drink spiking and associated sexual assault have grabbed the public imagination with headlines warning of the danger. In Britain, The Times newspaper denounced gamma hydroxybutyrate (GHB) as “potentially very dangerous” and by 1996, flunitrazepam was receiving similar coverage, with one Sunday newspaper claiming “hundreds of women are being attacked each year under the influence of a date rape drug which is freely available in Britain”. Such media attention has not been isolated to the UK. In the US, GHB received publicity on the Oprah Winfrey Show, resulting in a national panic about the utilisation of this drug in sexual assaults\textsuperscript{8} and on 6\textsuperscript{th} March, 1996, President Clinton referenced flunitrazepam as being “associated with date rape”\textsuperscript{9}.

Whilst the media portrayal of drink spiking could be criticised for overplaying the magnitude of this behaviour, reports of individuals being surreptitiously administered drugs are certainly on the increase. In Britain, incidents of drug-facilitated rape reported to The Roofie Foundation (a British charity established to provide an information service for victims of drug-facilitated sexual assault) increased from 39 in 1990 to 935 in 2002, a 24-fold increase over the 13 years in question\textsuperscript{10}. This year, the Forensic Science Service (FSS) predicts that it will receive 600 suspected drug-facilitated rape cases, whilst it acknowledges that the majority of samples sent for analysis contain a high level of alcohol rather than other drugs\textsuperscript{11}. Many such offences, however, go unreported or are reported too late to collect forensic evidence, with amnesia being a side affect of many drugs associated with drug-facilitated sexual assault. The extent to which drugs are used to sexually assault another is therefore difficult to quantify.

1.1 Aims of the Study
The aim of these related studies was to garner information relating to surreptitious drugging from a number of sources to address the following issues:

1. What national protocols exist regarding GHB and drink spiking.
2. What policies exist within Accident and Emergency Departments to treat someone who staff believe may have been spiked.
3. What is written in the scientific literature regarding drink spiking and how does this information compare and contrast to what is reported in the media.
4. What are the subjective experiences of individuals who have been personally affected by either being spiked or being present when someone else has.
5. To test the validity of commercially available kits, which are marketed as aids for the public to test their drinks, in situations where they suspect their drink may have been tampered with.
References


2.0 Identification of National Policies Relating to Drink Spiking
Sara Edwards and Caryl Beynon

“Spiking is becoming all too familiar to doctors in casualty departments, who are regularly treating people suffering from traumatic effects of what can be a devastating experience”
(Hornby, Liverpool Echo, 8th November 2004)

2.1 Introduction
Recreational use of GHB has increased in recent years amongst the clubbing population of a number of countries including the UK\(^1\), Spain\(^2\), the US\(^3,4\) and Australia\(^5\). Across the US and Europe, there has been an increase in the number of overdoses\(^6\) and visits to Accident and Emergency Departments which are attributed to the ingestion of GHB and its precursors\(^2,3,7-15\). In the US, Whitten (2001)\(^10\) reported a sharp increase of GHB related presentations at Emergency Departments over a five-year period, showing a rise from 20 cases in 1992 to 2,960 cases in 1999. Also in the US, the Drug Abuse Warning Network reported that the number of GHB related Emergency Department visits rose from 56 in 1994 to 4,969 in 2000\(^7\).

A review of the literature failed to indicate any national figures for GHB related presentations at Accident and Emergency Departments within the UK, although Williams et al. (1998)\(^13\) reported six cases of probable GHB intoxication between 1995 and 1996 in a London Accident and Emergency Department. In addition to recreational use of GHB, media attention has focused on the use of GHB and other drugs to stupefy victims in order to commit crimes, in particular sexual assault.

2.2 Methodology
An extensive literature search was undertaken to identify any national protocols and published papers relating to GHB use and more specifically, the response of healthcare professionals faced with an individual they suspect has ingested GHB, either knowingly or by surreptitious administration. In addition, all Merseyside Accident and Emergency Departments were contacted for information relating to the care of individuals where it is suspected they may have been surreptitiously drugged and also for hospital procedures in instances of suspected drug-facilitated sexual assault. At the time of writing, only The Royal Liverpool and Broadgreen University Hospitals had responded to our request.

2.3 Results and Discussion
2.3.1 UK National Policies Relating to GHB
No national protocols relating to GHB ingestion were identified, other than those that provide information for healthcare practitioners who treat those suffering symptoms of GHB toxicity (see below). However, GHB use is covered by two pieces of relevant UK legislation.

**Misuse of Drugs Act 1971**
In July 2003 GHB became a controlled substance under the Misuse of Drugs Act 1971, following recognition by the Advisory Council on the Misuse of Drugs (ACMD) of the harmful effects of this widely used drug. Under this Act, GHB is classified as a class C drug, carrying a maximum penalty for possession of two years in prison. The maximum penalty for possession with intent to supply is 14 years in prison\(^16\).

**Sexual Offence Act 2003**
The Sexual Offence Act 2003 came into force on 1\(^{st}\) May 2004 and strengthened legislation on drug rape\(^17\). The Act clearly indicates that any individual asleep or unconscious cannot consent to a sexual act and that committing a sexual act with someone in either state would be
breaking the law. More specifically with regards drink spiking, the Act states clearly that it is illegal to administer a substance that is capable of stupefying or overpowering an individual for the purpose of committing a sexual act\textsuperscript{18}.

### 2.3.2 UK Accident and Emergency Protocols for GHB Ingestion

The increase in cases of severe GHB overdose has necessitated a re-examination of the clinical manifestations of the drug and stimulated interest in finding a safe antidote\textsuperscript{3,14}. Such an antidote, however, is currently not available\textsuperscript{4,19-22}. The toxic effects of GHB are also often complicated by multiple drug ingestion, consumption with alcohol and the use of home produced GHB, synthesised using recipes and kits obtained over the internet\textsuperscript{3,4,19}.

#### Management of Overdose

The management of overdoses have traditionally involved decontamination of the stomach by gastric lavage (washing out stomach with saline or water) or syrup of ipecac. However, the removal or neutralisation of ingested poisons has been re-evaluated in recent years as there is some scepticism regarding whether the various stomach decontamination methods have any impact on the outcome of severely poisoned patients\textsuperscript{4,23-25}.

Although ipecac syrup is efficient in inducing vomiting, its ability to reduce the severity of poisoning has never been demonstrated. Furthermore, it may cause prolonged vomiting, which can lead to the mistaken conclusion that this symptom was caused by the poison itself. More importantly, prolonged vomiting may preclude the use of other oral treatments, including activated charcoal\textsuperscript{24}.

Gastric lavage has been used in the management of poisoning by ingestion for almost 200 years but, like ipecac syrup, lavage does not remove more than a tiny proportion of poisons once an hour or so has passed since they were ingested. It also delays the use of activated charcoal, hence reducing the potential effectiveness of this alternative procedure. Gastric lavage therefore should only be considered when a patient has ingested a potentially life-threatening amount of poison and the procedure can be undertaken within 60 minutes of ingestion\textsuperscript{24}. Another possible drawback of gastric lavage is that it may force poisons through the pylorus into the proximal small intestine where they may be absorbed\textsuperscript{26}.

In special circumstances, some reports suggest the use of whole bowel-irrigation, which involves using a large amount of isotonic fluid (as in bowel preparation for radiological procedures) to empty the gut by ‘flushing out’ the intestinal contents\textsuperscript{26}. Although messy and unpleasant, whole-bowel irrigation reportedly does not seem to produce serious adverse effects and has been proposed for ingestion of iron, sustained-release medications, metals such as zinc, lead, and arsenic, and illicit drug packets\textsuperscript{24}.

The mainstay of gut decontamination of poisoning in the UK is currently the administration of activated charcoal within one hour of ingestion of a toxin. It is important that those who have ingested a potentially serious overdose, and have presented within the hour, are rapidly identified and ‘fast tracked’ for activated charcoal therapy\textsuperscript{19,25}. Activated charcoal is charcoal that has been treated to give it a surface area of over 1000 m\textsuperscript{2}/g, providing sufficient absorptive capacity for most poisons. It has come into greater favour alongside increasing scepticism for other methods\textsuperscript{24}.
Management of Patient Suffering GHB Poisoning

Although the majority of people who have ingested GHB will recover spontaneously without suffering from any long-term consequences, its toxic effects may be dramatic while they last and it is important for medical practitioners to manage symptoms accordingly. The main challenge is to identify that poisoning has occurred so that appropriate supportive, and if necessary specific management steps, can be initiated to prevent serious complications. The vast majority of patients require only supportive care, preferably in an intensive care setting, and do not need to be exposed to unnecessary procedures. Meticulous supportive care is the most important aspect of the management of seriously poisoned patients and includes airway protection and possibly mechanical ventilation. Atropine can be used to reverse persistent symptomatic bradycardia.

An individual who has ingested GHB may fall into a coma that is typically self-limiting in that patients usually spontaneously awake after a few hours. Sudden awakening is, however, often accompanied by agitation and violence and the individual may have to be prevented from causing self-extubation and injury to either themselves or staff. Patients may be awake and intubated, but still not adequately breathing on their own. Patients should be monitored prior to extubation to ensure the return of normal respirations.

TOXBASE and GHB Ingestion

In the UK, most Accident and Emergency Departments refer to TOXBASE, the internet based National Poisons Information Service (NPIS) poisons database, when managing poisoned patients. This computerised database has been available via the internet to health professionals in the UK since 1999, having replaced the former Viewdata database of the same name that was developed in the 1970s. It was made available to Irish Accident and Emergency Departments and Intensive care Units in 2001.

TOXBASE was designed to meet the needs of primary management in poisoning and provides information about routine diagnosis, treatment and management of patients suffering from exposure to a wide range of substances and products. This method of information provision for healthcare practitioners, which has been promoted by the UK Health Departments and the NPIS, in the emergency management of poisoning, is unique to the United Kingdom and Ireland.

TOXBASE guidance on management of GHB ingestion

1. Consider activated charcoal (50g for an adult, 10-15g for a child) in patients who present within 1 hour, and who have ingested more than 20mg/kg body weight, provided the airway can be protected.
2. Monitor patients for at least 2 hours after the overdose (blood pressure, pulse and respiration). Symptomatic patients should be monitored for a longer period, according to their clinical condition.
3. Control convulsions with intravenous diazepam (0.1-0.3 mg/kg body weight).
4. Bradycardia may respond to atropine, 1.2mg intravenously for an adult, 0.02 mg/kg for a child.
5. Naloxone has been shown to reverse some of the effects of GHB in animals and should be considered if coma and/or respiratory depression are present as an alternative to ventilation.
6. Other measures as indicated by the patient’s clinical condition.
7. In cases of withdrawal, sedate with diazepam (0.1-0.3mg/kg body weight). Repeat
doses are often necessary. In cases of extreme agitation, propofol has been
successfully used. This should only be given by staff experienced in its use and
patients need to be observed in a critical care facility.

Merseyside: Response from The Royal Liverpool and Broadgreen University Hospitals
(Personal communication with the Directorate Manager of Emergency Services and
Cardiology at The Royal Liverpool and Broadgreen University Hospitals)

In cases of GHB poisoning it is often difficult to determine what has been ingested due to the
unconsciousness of the patient. Treatment is thus not based on any protocol for a specific drug
but rather on treating the symptoms of the patient on an individual basis. Staff at the Accident
and Emergency Department of The Royal Liverpool and Broadgreen University Hospitals
gave the following information on dealing with someone admitted for GHB ingestion:

“Patients are assessed clinically and treated by clinical need. Bloods for clinical reasons are
taken as well as ECGs and chest x-rays where appropriate. Patients are admitted for a period
of cardiac monitoring and medical treatment is given where the patient is symptomatic.
Occasionally the patient may require admission to intensive care.

Routine drug screening is not performed as it does not influence the clinical management and
has a substantial cost implication for the Trust. However, if the police are involved and with
the patient’s consent a forensic urine sample is taken and given to the police for analysis at
the regional forensic laboratory.

Those patients who are 18 years and over are asked if they would like the police to be
contacted. For under 18 year olds, the police are automatically contacted and Social Services
are also contacted for patients under 16 years”.

2.3.3 Management of Drug-Facilitated Sexual Assault in the UK
No national policies relating to drink spiking could be identified and no reliable estimates of
the prevalence of drug-facilitated sexual assault exists in the UK. In recognition of this
limitation and the growing public concern regarding this issue, Operation Matisse, a Home
Office initiative, has recently been launched in a number of areas across England. In this first
study of its kind in the UK, a thorough forensic analysis is to be carried out in all complaints
of sexual assault where an allegation of the involvement of drugs has been made.

Merseyside: Response from The Royal Liverpool and Broadgreen University Hospitals
(Personal communication with the Directorate Manager of Emergency Services and
Cardiology at The Royal Liverpool and Broadgreen University Hospitals)

In addition to managing the toxic effects of ingesting GHB or other drugs used for
incapacitation, a victim of sexual assault will clearly have other needs that require careful and
sensitive management. Staff at the Accident and Emergency Department of The Royal
Liverpool and Broadgreen University Hospitals gave the following information on the care of
an individual who may have been sexually assaulted following involuntary drug ingestion:

“There is a departmental policy dealing with patient’s alleging sexual assault or rape. This
involves patients being assessed without delay in a private area. To minimise the loss of
forensic evidence only life threatening or significant injuries are addressed. If the police are
involved or the patient wants police involved then if clinically well they will be taken to a forensic examination room for a full forensic examination. If the patient wants to pass water while in the department then a sample of urine will be preserved for the police for forensic analysis. The policy also details the procedure for retaining clothing or sanitary ware discarded by the patient while they are in the department.

The police are contacted as per the procedure in surreptitious drugging however if the patient is over 18 years but claims that a taxi driver was involved then the police are automatically informed as it is considered a matter of public health/safety”.

2.3.4 Management Protocols Outside the UK
In terms of the management of the toxic effects of GHB ingestion, the recommendations presented in papers from other countries are similar to those in the UK. Details of a GHB overdose protocol in the US are diagrammatically displayed in Figure 2.1. However, in cases where drug-facilitated sexual assault is suspected, protocols differ, particularly in terms of the US where specific protocols have been developed to deal with all aspects of the assault including the employment of Sexual Assault Nurse Examiners (see below).

2.3.5 Management of Drug-Facilitated Sexual Assault in the US
The development of Sexual Assault Nurse Examiner (SANE) programs within the US, stemmed from healthcare providers and others working with rape victims noting that there were inadequate services for victims of sexual assault. Often the standard of care was lower for rape victims than for other patients in the emergency department. It was not uncommon for victims to endure long waiting periods for treatment and their injuries were not viewed to be as serious when compared to the injuries of other trauma victims. In order to preserve evidence, victims frequently were not allowed to eat, drink, or use the toilet facilities for up to 12 hours until after the forensic examination had been completed31.

The first SANE program was established in Memphis, Tennessee in 1976. By 2002, there were well over 100 programs established across the US, with numbers continuing to grow at a rapid pace. The International Association of Forensic Nurses (IAFN) developed the first national SANE certification in April 2002, establishing educational guidelines for the minimum level of instruction for SANE training31,32.

The aim of the SANE program is to provide forensic sexual assault evidence collection in a consistent and objective manner while meeting the medical, psychological, and educational needs of individuals and families requesting services32. Sexual Assault Nurse Examiner (SANE) training covers all aspects of examination and care of a person who has been sexually assaulted, not only in terms of the physical health of the patient, but also their emotional health and legal concerns, including the collection of forensic evidence. The care aspect includes discussion with survivors in terms of their injuries, of what they should expect in terms of pain, risk of pregnancy/emergency contraception and prophylaxis, and counselling about the risks of HIV33.

2.4 Conclusion
Anecdotal reports suggest that the recreational use of GHB within the UK is increasing and thus, Accident and Emergency Departments need to be aware of the increasing possibility that someone being brought in unconscious may be suffering from the toxic effects of this drug. However, despite rather severe symptoms, it appears that individuals usually require relatively simple medical attention and recover quickly. There has also been growing concern
in recent years regarding the media attention of drug-facilitated sexual assault. It appears that those who may have been the victim of drug-facilitated sexual assault would be treated in Accident and Emergency Departments in accordance with hospital policies relating to sexual assault victims.

Figure 2.1 USA protocol for management of GHB ingestion\(^3\)
References


3.0 Drink Spiking: Comparisons of Portrayal by Media and Scientific Literature
Caryl Beynon, Michela Morleo and Sara Edwards

“There is a danger lurking in the shadows of the bars of the West Midlands and nobody, not even the police, knows the extent of the problem”
(Connor, Birmingham Post, 12th December 2003)

3.1 Introduction
There has been much media attention in recent years, both in the UK and abroad, relating to drink spiking and associated sexual assault. Some authors have argued that the media has provided sensationalist headlines on the subject at the expense of hard evidence, with little information regarding the prevalence of drink spiking existing either here or overseas. The aim of this study was to identify scientific literature relating to drink spiking in an attempt to quantify the prevalence of this behaviour. It also aimed to compare the information relating to drink spiking from the media with that published in the scientific literature to ascertain comparable and contrasting views and to identify the validity of the media’s portrayal of this issue.

3.2 Methodology
A preliminary search was undertaken to refine search terms and information sources. The aim of the study was not to identify specific aspects of drink spiking but to evaluate a large body of information relating to potentially conflicting views, so it was decided that a broad searching strategy should be employed. Additionally, the preliminary assessment was used to identify if a similar study had already been conducted which may negate the need for further evaluation.

3.2.1 Scientific Literature
Following the refinement of search terms, a systematic review was undertaken in October 2004 utilising Ingenta and PubMed and (includes Medline) electronic databases to identify scientific literature relating to drink spiking. Table 3.1 reports the search terms utilised with each term in column 1 separately linked with each term in column 2 with the ‘and’ command. A total of 42 searches were therefore undertaken. The search was limited to articles written in the English language but was not limited to articles being published within the UK. All articles identified by these searches were obtained and reviewed. No attempt was made to eliminate articles, for example on the grounds of study design, as the aim of the study was not to compare the efficacy of studies but to gain a detailed understanding of the consensus of data relating to drink spiking.

<table>
<thead>
<tr>
<th>Search Term 1</th>
<th>Search Term 2</th>
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<tbody>
<tr>
<td>GHB</td>
<td>Rape</td>
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<tr>
<td>Gamma hydroxybutyrate</td>
<td>Sexual assault</td>
</tr>
<tr>
<td>Flunitrazepam</td>
<td>Sexual attack</td>
</tr>
<tr>
<td>Rohypnol</td>
<td>Forensic science</td>
</tr>
<tr>
<td>Ketamine</td>
<td>Forensic toxicology</td>
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<tr>
<td>Benzodiazepine</td>
<td>Drink spik*</td>
</tr>
<tr>
<td>Drug facilitated</td>
<td></td>
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</tbody>
</table>

*to include spiked, spiking, spike etc.

Table 3.1 Search terms utilised
3.2.2 Media Articles
A second systematic review of media articles relating to drink spiking was undertaken at the same time and utilising the same search strategy (in terms of search terms used). Those articles included in the analysis were those that were available online (for convenience in identifying them) but whose publishing organisation had the ability to use the information in another format (for example, news on the Guardian’s website can also be found in their newspapers, news on Sky News’ website can also be included in their broadcasts).

3.3 Results
A total of 133 scientific literature articles were identified by the search. Of these, 42 were eliminated from the study as they did not mention drink spiking at all, leaving 91 articles included in the study. The majority of the remaining articles related to the US with 5 being published in the UK. Articles were published between 1994 and October 2004.

In total, 233 media articles were gathered from 1997 (when the earliest articles are available online) to the end of October 2004. Of these articles, 74% (172) were from national news groups in the UK, and 26% (61) were from regional or local groups.

3.4 Discussion
3.4.1 Drink Spiking Prevalence

Media Articles
One hundred and three (44.2%) articles cite an actual example of spiking occurring (whether through cigarettes, drinks or by injection). Sixty-three of these (61.2%) discuss that occurrence as leading to rape or sexual assault. This could imply that drink spiking is reasonably prevalent, as a noteworthy number have isolated a spiking case in order to discuss the situation from a more personal angle. However, some of the articles uncovered by the search discuss the same story. For example, by far the most common situation discussed (either as the primary reason for the article or within the context of another story) is the arrest and conviction of Andrew Luster for drug-facilitated rape. As such, estimating prevalence by addressing the number of examples of drug rape or drink spiking within the media, can be misleading.

Prevalence estimates of drink spiking or drug-facilitated sexual assault vary enormously depending on the source, with agencies such as the Roofie Foundation or Drug Rape Trust giving a much higher estimate than the police or the local hospitals (this may be partly due to problems of under-reporting, highlighted by 12 of the articles). The information below shows some estimations for the Cardiff and Swansea area:

- The Royal Cardiff Infirmary dealt with 38 drug rapes in 2003.
- The Roofie Foundation received 22 to 25 reports of drug rape a week from the Swansea and Cardiff area.

In Edinburgh, figures again varied:

- Despite launching a campaign to raise awareness of drink spiking in 2001, police officials were discussed as seeing this as a preventative measure and as believing that drink spiking was not a problem in Edinburgh.
- According to the Edinburgh Rape Crisis Centre, 10 women a year disclose that drugs were used in their rape or sexual assault.

* For reference, national here is used to refer to those articles covering for example, the whole of Wales or the whole of England.
A number of articles looked at the direction of the figures, with 34 articles (14.6%) noting that the numbers of drink spiking and/or drug-facilitated rape or sexual assault was increasing. No article stated that either the figure had stabilised or that it was decreasing. Again, this increase varies between the articles, with some examples of the cited information given below:

- In London, Metropolitan Police figures showed that drug use was alleged in 164 out of 6,957 rape claims in 2001. In 2002, this figure was 195 out of 7,293 and 242 out of 6,809 in 2003.
- The Drug Rape Trust said that in 2001, the numbers of people calling to report a drug-facilitated rape or sexual assault were increasing by 50% month on month in 2001.
- The Roofie Foundation said that since 1997, over 6,000 drug–facilitated rapes or sexual assaults have been reported through their helpline.

However, even with such figures, it is hard to discover the true extent of drug rape. For example, in one article, the Roofie Foundation were cited as claiming that the number of people reporting a drug-facilitated rape or sexual assault has increased sevenfold since 1994, yet their organisation only started in 1997. As such, their figures are unlikely to have been collected in the same way and will not portray a consistent interpretation of the situation. In addition, such figures could be increasing through raised awareness of organisations such as the Roofie Foundation, rather than an increase in these crimes actually occurring.

**Scientific Literature**

Considering all the scientific articles from a number of countries, no study was able to quantify the number of individuals who had been surreptitiously drugged or those that had been spiked and sexually assaulted. A small number of articles had made attempts to quantify the occurrence of drug-facilitated sexual assault. One US study involved the analysis of 1179 urine samples from individuals claiming to have been sexually assaulted when drug use was suspected\(^1\). Approximately 40% of samples were negative for all substances with alcohol and cannabinoids being the most commonly found substances, in 41% and 18.5% of samples respectively. GHB was detected in 4% of samples, and flunitrazepam in 0.5%. Other benzodiazepines were present in a greater number of samples than flunitrazepam. A whole range of other drugs including cocaine, ecstasy and amphetamine were also detected.

A similar study conducted in the US by Slaughter (2000)\(^2\) reported complimentary findings in that 39% of samples contained no detectable drugs. Of the 40% of samples that contained only one drug, ethanol (alcohol) accounted for 69% of substances, followed by tetrahydrocannabinol at 18%. Again, the proportion of samples containing GHB and flunitrazepam were low at 3% and 0.5% respectively (again in samples containing only one drug).

Thirdly, Mullins (1999)\(^3\) performed gas chromatography-mass spectrometry on 1,077 urine samples from suspected victims of sexual assault, with samples being collected within 72 hours of the alleged incident (again within the US). A total of 41% were negative for all drugs tested, 36% tested positive for ethanol and 18% for marijuana. The presence of flunitrazepam and GHB were confirmed in only 6 samples (0.6%) and 46 samples (4%) respectively.

Finally, McGregor et al. (2003)\(^4\) identified 1421 individuals who reported to the British Columbia Women’s Sexual Assault Service that they suspected having been drugged or where clinicians believed this could have been the case (excluding individuals reporting alcohol induced memory loss and those individuals that were forcibly injected with a drug by their assailant). Overall, 172 (12%) were identified as suspected drug-facilitated sexual
assaults although toxicology results were only located for 20 (12%) of the suspected 172 cases. Alcohol, benzodiazepines, cannabinoids, amphetamine and cocaine were all detected, with 3 screens testing positive for more than one substance.

According to the studies described above, detection of GHB and flunitrazepam were very low in samples taken from victims of alleged sexual assault. However problems with detection (women often delay reporting the incident and GHB and flunitrazepam are rapidly eliminated from the body) makes producing reliable estimates very hard. Some authors acknowledged this lack of reliable estimates. Despite this lack of evidence, a number of articles, some rather sensational, stated that drug-facilitated sexual assault was an increasing threat, that drugs such as GHB and flunitrazepam were ‘often’ or ‘commonly’ surreptitiously administered to victims or that such drugs were now ‘a favourite tool of rapists’. Others, more accurately, suggested that the reporting of drug-facilitated sexual assault had increased and rightly pointed out that this should cause concern; however this slight qualification could easily be overlooked by many readers who would perceive the article to talk about increasing prevalence. Others simply stated that GHB and flunitrazepam had been implicated in, or associated with, drug-facilitated sexual assault. A number of articles did not reference these statements or referenced studies that did not in themselves provide evidence for what was suggested. With regards to the UK, it was suggested that drug rape occurs but is not of epidemic proportions.

Comment
No reliable estimates for surreptitious drug administration or drug-facilitated sexual assault currently exist for the UK. Some media articles had attempted to quantify drink spiking but estimates depended upon the information source. Despite this lack of reliable estimate, a number of both media and scientific articles stated that the practice was on the increase. Scientific articles from the US particularly tended to overplay the threat, whilst articles from the UK tended to be more balanced. The fact that the scale of the problem is largely unknown is of concern and is currently being addressed by the Home Office who have recently initiated a study aimed at forensically analysing samples from individuals claiming to have been sexually assaulted. Obtaining reliable estimates is difficult as some victims would not report the incident due to shame or due to amnesia caused by drugs such as GHB and flunitrazepam.

3.4.2 Substances Stated as Being Used in Drink Spiking

Media Articles
In total, articles from the UK media named 27 drugs that could be used in spiking, ranging from the more well known spiking agents such as flunitrazepam, to class A recreational drugs and even embalming fluid (formaldehyde), which has recently started to cause concern through cigarette spiking. A total of 192 articles (82.4%) named a substance associated with spiking, and across those articles, individual substances were referred to 359 times. Table 3.2 shows the frequency of individual named substances appearing in media articles.
As Table 3.2 shows, the two drugs with by far the most mentions were flunitrazepam and GHB (both with approximately 34% of drug mentions). However, how the articles referred to the drug varied between the different drugs. Midazolam received five mentions, but in each citation, the article referred to there being actual proof that the drug was used in a drink spiking incident (a man was convicted for using midazolam for drug-facilitated rape through drink spiking in Wales, and all referrals were to this case). In comparison, the context for flunitrazepam is more complicated. Ten of the articles citing flunitrazepam as a substance used in drink spiking also said that, despite its widespread association, flunitrazepam’s use in such incidences had never actually been proven, and a further four said the link was only appropriate for America. This is despite the fact a man has been convicted for spiking his wife’s drink with flunitrazepam in the UK*.

Alcohol was mentioned by 17 articles, making it the fifth most cited drug used in drink spiking. As such, it could be considered that this number is reasonably low in comparison with the other drugs referred to. However, those who do mention alcohol as a drink spiking agent see it as playing a very important role in this context, with half of those mentioning alcohol discussing it as being the most common drug used in drink spiking incidents.

Although most articles focused on one or two specific drugs, several did acknowledge that there were many different drugs that could be used in drink spiking incidents. Five articles noted that there were over forty substances that could currently be used.

**Scientific Literature**

Flunitrazepam and GHB were also the drugs most associated with drink spiking in the scientific literature, although there was no empirical evidence in any of the articles to confirm this premise. However, articles also mentioned a number of other drugs used to surreptitiously

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*Ten of these 14 articles were written after the individual had been sentenced.*
Intoxicate a potential victim. These were ketamine\(^5,14,27,34,47,52,72\), marijuana\(^34,36,38,72,73\), amphetamines\(^38,73\), barbiturates\(^5,38,72,73\), cocaine\(^72,73\), opiates\(^38,73\), ecstasy\(^1,11,18,34,72\), lysergide\(^24\), a number of benzodiazepines\(^4,5,11,13,16,34,36,38,67,74-76\), choral hydrate\(^4,36,72\), 1,4 Butanediol and Gamma Butyrolactone (both of which turn into GHB once ingested)\(^5,36\), Meprobarnate\(^36\), Phencyclidine\(^36\), Scopolamine\(^36\), Secobarbital\(^36\), zolpidem\(^34,36\), zopiclone\(^34\), sedatives\(^5,34,38\), hallucinogens\(^38\), anticonvulsants\(^38\), muscle relaxants\(^5\), diphenhydramine\(^5\) and ‘burundanga’\(^73\). In addition, clonazepam was believed to have the potential to be a drug used in drug-facilitated rape due to its pharmacological effects\(^13,77\). Articles detailing the measurement of drugs found in the samples taken from alleged victims of sexual assault all commented that alcohol was the drug found in by far the majority of cases and that often it was the only drug detected\(^1-4\). When only UK articles were considered the drugs stated as being associated with drug-facilitated sexual assault were GHB\(^11,41,52,78\), flunitrazepam\(^11,52\), ketamine\(^52\), other benzodiazepines\(^11\) and ecstasy\(^11\). Differences between drugs reported in articles relating to different countries reflect differences in prescribing practices, licensing and therefore availability.

**Comment**

There appears to be confusion in both the media and scientific articles relating to which drugs are used in alleged drug-facilitated sexual assaults. There are some drugs, such as GHB and flunitrazepam, that have been used to surreptitiously drug and sexually assault another (although the prevalence of this activity remains unknown). There are other drugs found within the systems of individuals who claim to have been spiked and drugged but this does not mean that these drugs were surreptitiously administered. It is more conceivable that drugs such as cocaine or cannabis were taken by the victim voluntarily. By far the main drug detected in samples from those claiming to have been sexually assaulted was alcohol and women need to be aware that recreational use of drugs and alcohol increases their risk of being sexually assaulted.

### 3.4.3 Characteristics of Drink Spiking Drugs

**Media Articles**

Ninety (39%) articles mention the physical characteristics of drink spiking drugs. Information was collected based on the number of characteristics ascribed to drugs generally per article. Figure 3.1 shows that most articles perceived GHB and flunitrazepam to be odourless. Figure 3.2 reports that the media portrayed GHB to be colourless but there was little consensus regarding flunitrazepam. This confusion could be because in 1998, the manufacturers of flunitrazepam won approval to add a dye to the previously colourless drug (an action that was reported by 10 articles). Whilst all thought flunitrazepam was tasteless, a small number thought GHB had a detectable flavour (Figure 3.3).
Figure 3.1 Media Articles Detailing Odour of Drugs

Figure 3.2 Media Articles Detailing Colour of Drugs
Scientific Literature

In addition to drugs having the right chemical properties to cause the desired effects in victims, they must also be easily administered and non-detectable or the potential victim would become suspicious that something was amiss. GHB was stated to be colourless\textsuperscript{15,22,24,36,46,49,53,56,72,78,79} and odourless\textsuperscript{14,15,22,24,25,27,36,49,53,56,72,78,79} with a salty or soapy taste which can be masked by strong flavours\textsuperscript{14,17,22,24,32,35-37,47,56,72,79}. Flunitrazepam was also described by most articles as tasteless\textsuperscript{2,9,14,16,17,22,29,53,60,61,68,72} and/or odourless\textsuperscript{2,9,14,16,17,22,29,53,60,68,72}. Some also described flunitrazepam as colourless\textsuperscript{2,9,16,17,29,53,60} although other articles acknowledged that the manufacturers, Roche Pharmaceuticals, had developed a formula which turned light coloured drinks a bright blue and darker drinks cloudy\textsuperscript{8,9,11,14,17,36,68,69,72,74,76,77} in response to concerns that flunitrazepam was being used to surreptitiously drug others. Ketamine was also described as tasteless, odourless and colourless\textsuperscript{47}.

Comment

The words ‘odourless, colourless and tasteless’ were consistently attributed to drink spiking drugs. The scientific articles identified that GHB was not tasteless but had a mild salty taste and that the makers of flunitrazepam had made a new formula of the drug which turned drinks blue. However, these attributes were incorrectly reported in a number of media articles.

3.4.4 Affects of Drugs

**Media Articles**

In total, 166 (71.2\%) articles mentioned either an individual drug or drink spiking drugs generally to have a specific physical effect (Figure 3.4). The articles gave a very long and varied list of all the possible effects of taking a drink spiking drug ranging from having a racing pulse to possible death. Information was collected based on the number of effects ascribed either to individual drugs or to drugs generally per article. The most common effect given was either full or partial amnesia, mentioned 109 times by articles when discussing the effects of individual drugs (accounting for 22.1\% of all mentions of effects). Some effects
appear contradictory, for example racing pulse and sleepiness, due to the inclusion of effects of a number of different drugs.

Figure 3.4 Effects Ascribed to Drugs by Media Articles

Figure 3.5 reports the more commonly mentioned effects by drug. A number of media articles correctly stated that the use of alcohol increased the danger of ingesting drugs such as GHB and flunitrazepam or that the effects of these drugs would be intensified.
**Scientific Literature**

A whole range of effects were identified as being associated with the ingestion of drink spiking drugs. These depended on the individual, the dose ingested and what other substances had been taken in combination, as GHB and flunitrazepam work synergistically with other central nervous system depressants such as alcohol. The main affects of GHB and flunitrazepam identified by scientific articles are given in Table 3.2. It can be seen how the affects of GHB and flunitrazepam would make it easy to assault a drugged victim who would have little capability to resist an attack and have little memory of it upon waking. The amnesic properties of these drugs means the victim is often unsure what exactly has occurred and delays speaking to the police, making the possibility of obtaining evidential specimens unlikely. Amnesia also makes it difficult for the victim to be a defence witness.

<table>
<thead>
<tr>
<th>Table 3.2 Main Effects Ascribed by Scientific Literature to Drugs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of reports</strong></td>
</tr>
<tr>
<td><strong>Drowsiness, sedation, unconsciousness</strong></td>
</tr>
<tr>
<td><strong>Diminished cognitive skills</strong></td>
</tr>
<tr>
<td><strong>Diminished motor skills/muscle relaxation</strong></td>
</tr>
<tr>
<td><strong>Amnesia</strong></td>
</tr>
</tbody>
</table>

Such effects occurred rapidly. The general consensus within the scientific literature was that GHB took effect approximately 15 to 30 minutes post ingestion and that...
the affects of flunitrazepam ingestion would be apparent after approximately 20 to 30 minutes.\textsuperscript{10,14,16,17,27,30,53,60,62,68,72}

\textit{Comment}

The media rightly identified a range of effects of drink spiking drugs. Whilst most individuals have no long-term effects of GHB or flunitrazepam, GHB in particular has been associated with fatalities although this has usually resulted from recreational use rather than due to someone being spiked. With respect to drink spiking and drug-facilitated sexual assault, it is the combination of sedation and amnesia that gives GHB and flunitrazepam the potential to incapacitate a victim. Media articles also correctly identified that alcohol worked synergistically with GHB and flunitrazepam to accentuate effects.

3.4.5 Drink Spiking and Association with Crime

\textit{Media Articles}

The reasons media articles stated that drink spiking occurred are given in Figure 3.6. Sixteen articles did not specify the purpose of drink spiking whilst 212 specified that rape or sexual assault were the reason. Other purposes such as robbery or theft, violent crime or as a prank were discussed but were significantly in the minority.

<table>
<thead>
<tr>
<th>Purpose of spiking</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>General criminal activities</td>
<td>2</td>
</tr>
<tr>
<td>Murder/manslaughter</td>
<td>5</td>
</tr>
<tr>
<td>Prank</td>
<td>9</td>
</tr>
<tr>
<td>Rape/sexual assault</td>
<td>212</td>
</tr>
<tr>
<td>Robbery/theft</td>
<td>8</td>
</tr>
<tr>
<td>Violent crime</td>
<td>2</td>
</tr>
<tr>
<td>Non-specific</td>
<td>16</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
</tr>
</tbody>
</table>

Figure 3.6 Purpose of Drink Spiking Detailed in Media Articles

\textit{Scientific Literature}

All scientific articles drew an association with drink spiking and sexual assault but some did indicate the potential for drink spiking to be used to facilitate other crimes, mainly robbery.\textsuperscript{29,34,60,81,74,76,83}

\textit{Comment}

It is almost universally accepted that drink spiking is associated with sexual assault. However the criminal purposes to which drugs such as GHB and flunitrazepam could be used are hypothetically much larger with both the media and scientific literature detailing the use of...
drugs to commit theft. A couple of scientific articles did warn of the danger of detailed media attention of drink spiking in case others were alerted to the possibility of using drugs to facilitate the committing of crimes.

3.4.6 Typical Scenario

*Media Articles*

The articles mainly presumed women to be the victims of any spiking incident, with 146 articles (62.7%) stating either that drink spiking was a concern mainly or only for women. Only seven articles specifically portrayed only men or mainly men as the victim (Figure 3.7).

![Figure 3.7 Media Portrayal of Who was Affected by Drink Spiking](image)

When discussing spiking, there were 134 mentions of clubs and/or pubs being the main location for such incidents (Figure 3.8).

![Figure 3.8 Location of Drink Spiking Portrayed in the Media Articles](image)

Spiking was mainly portrayed as drink spiking (178 mentions) (Figure 3.9). When these articles went into more detail, more articles linked alcoholic than non-alcoholic drinks to spiking. There were only eight alternative vessels for the drugs mentioned, food (5), cigarettes (2) and by injection (1).
Scientific Literature

Whilst there are many ways in which an individual could be surreptitiously drugged, this has become synonymous with having a drug dropped into the drink of an unsuspecting victim. A ‘typical’ drugging scenario was frequently described in the literature as one in which a drug is surreptitiously slipped into the unsuspecting victim’s drink[4,5,10,16,27,33,34,36,53,70,74,83] although none presented any evidence, other than supposition, to support this theory. Interestingly, an article published by French authors discussed the claims of drugged individuals that it had been their ‘pastries’ that had been tampered with, highlighting the cultural context in a time when drink spiking was not such a well recognised possibility[83]. The majority of articles identified that women would be the victims of drink spiking although a few identified that both men and women could be targeted[8,20,52,61].

Three articles also highlighted the fact that medical practitioners had used drugs to overcome their victims for nefarious ends[8,34,38]. Such health care professionals have a ready supply of drugs and understanding of how to use these to render an individual unconscious without causing lasting harm.

Comment

Surreptitious drugging has become synonymous with an individual dropping a substance into the drink of another and hence the term ‘drink spiking’ has developed. The identification of drugs administered via food was much less common. Two media articles mentioned that cigarettes had been impregnated with a drug and one article reported that an individual had been injected with a drug, although these methods of overcoming a victim did not appear in the scientific literature. Drink spiking has become synonymous with the night time environment although there was no specific reason given as to why this should be the case. It should be remembered that such behaviour could occur in other settings as has been proven by reports of medical practitioners drugging patients in order to commit sexual acts.
3.5 Conclusion

The extent to which individuals are surreptitiously drugged or drugged for the purpose of sexual assault within the UK and abroad is largely unknown. Despite this, media and scientific articles often claimed that the problem was increasing. There is no empirical evidence to suggest this to be the case, although anecdotal reports do seem to be rising and should be causing concern. The presence of drugs within a sample taken from someone who claims to have been sexually assaulted does not prove that these drugs were used for the purpose of committing a crime but could have been taken recreationally which complicates the issue further. Individuals should be aware that the drug most commonly found in the system of those claiming to have been sexually assaulted is alcohol and that the use of alcohol and drugs increases the risk of being sexually assaulted in that they affect perception of both victim and assailant, blurring the distinction between acceptable and unacceptable sexual behaviour.

GHB and flunitrazepam were the drugs mainly associated with drink spiking both within the media and scientific articles although both these drugs were found in a very low number of samples of those tested. Both GHB and flunitrazepam can be easily administered into drinks (the main route of administration identified by both the media and scientific literature). A whole range of effects were discussed with unconsciousness and amnesia being identified as the symptoms which make flunitrazepam and GHB so good for the purpose of surreptitious drugging. Females were mainly identified as the victims and the media in particular suggested that drink spiking occurred in the night time environment although the scientific articles drew attention to surreptitious drugging by medical practitioners.

References


4.0 Qualitative Investigation into Cases of Drink Spiking
Sara Edwards and Caryl Beynon

“She threw into the wine which they were drinking, a drug which takes away grief and passion and brings forgetfulness of all ills”
(Homer, The Odyssey)

4.1 Introduction
Drink spiking has been linked with certain drugs including GHB, flunitrazepam and ketamine. The effects of these drugs can be problematic both in terms of the possible need for immediate medical treatment and because the amnesic effects of some drugs can often make it difficult for individuals to discern what has happened, thus making reporting the incident to the police difficult.

A number of individuals presented at Response youth drug agency in Wirral reporting an incidence of drink spiking. Work was commissioned to explore the experiences of these individuals, to help build up a picture of actual cases of drink spiking in the Merseyside area. The following report explores the answers of these individuals to a semi structured interview, draws conclusions and makes recommendations on ways in which preventative measures might be implemented.

4.2 Methodology
Six qualitative, semi structured interviews were conducted between 27th October 2004 and 10th December 2004. Interviewees were recruited through Response, with the exception of one interviewee who presented to the Centre for Public Health having read an article about the research that appeared in the Liverpool Daily Post, 10th November 2004.

Five of the interviews took place at Response, with one taking place at the Centre for Public Health. Interviewees were asked about their usual clubbing habits*, details of the evening and the drink-spiking incident, the reaction of others, the effect the incident had on them and what messages they felt could be learned from the incident.

Five of the six interviewees had actually experienced an instance of drink spiking, with one of these interviewees, Interviewee 5, having experienced sexual assault whilst under the influence of the drug. The remaining interviewee, Interviewee 6, had not experienced drink spiking personally, but was present when his partner, Interviewee 2, was surreptitiously drugged. It was felt that the inclusion of this interviewee would bring additional insight to the subject.

* For the purposes of this report, clubbing refers to recreational attendance of pubs and clubs in the night time setting.
4.3 Results and Discussion

The average age of the sample was 21, with an age range of 17 to 28 years. There were four females and two males, and all interviewees were from various areas within Wirral. All interviewees reported clubbing on a regular basis prior to the spiking incident. On average, interviewees had been clubbing for 5.6 years, with the number of years ranging between 2 and 13 years. Interviewees usually chose to go clubbing in Wirral or Liverpool, generally accompanied by best friends, a group of friends, partners, family or work colleagues. All interviewees reportedly drank alcohol on a usual night out, whilst 5 out of 6 did not take drugs recreationally, with one interviewee commenting 'not in the last five years.' Interviewee 6 had not personally been spiked but was the partner of Interviewee 2.

<table>
<thead>
<tr>
<th>Where* (Birkenhead)</th>
<th>What time</th>
<th>Who with</th>
<th>Alcohol</th>
<th>Alcohol quantity</th>
<th>Drugs</th>
<th>Typical evening</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Yates's</td>
<td>Between 7.30pm and 10.15pm</td>
<td>Friends</td>
<td>Yes</td>
<td>2-3 glasses of wine</td>
<td>No</td>
<td>A little different</td>
</tr>
<tr>
<td>2 Yates's</td>
<td>About 10.30pm</td>
<td>Friend</td>
<td>Yes</td>
<td>Shared bottle of wine with friend (2 glasses)</td>
<td>No</td>
<td>A little different</td>
</tr>
<tr>
<td>3 The Beach Club</td>
<td>Unsure</td>
<td>Friend</td>
<td>Yes</td>
<td>4 Alco pops</td>
<td>No</td>
<td>A little different</td>
</tr>
<tr>
<td>4 Havana bar</td>
<td>Between 11pm-12am</td>
<td>Wife and work colleagues</td>
<td>Yes</td>
<td>4 pints of lager and a couple of vodka shots</td>
<td>No</td>
<td>Typical staff night out</td>
</tr>
<tr>
<td>5 Krazy House</td>
<td>Just after 10pm</td>
<td>Sister and sisters friends</td>
<td>Yes</td>
<td>2 cocktails and double vodka coke</td>
<td>No</td>
<td>Not a regular visitor.</td>
</tr>
<tr>
<td>6 Yates's</td>
<td>9pm</td>
<td>Friends</td>
<td>Yes</td>
<td>2 drinks</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* responses reflect only perceptions of where the incident occurred

Table 4.1. Details of the Incident

All of the reported drink spiking incidents had occurred within the last 2 years. Three of the five incidents took place in Birkenhead, with the remaining two having taken place in Liverpool (Table 4.1). Two of the Birkenhead spiking incidents were perceived as taking place in ‘Yates’s’, whilst the third was believed to have occurred in ‘The Beach’ club. However Interviewee 3 who reported this spiking, also reported having had her first 3 drinks in Yates’s before moving on to ‘The Beach’ club. One of the incidents was thought to have occurred in the ‘Fiesta Havana’ bar in Liverpool, whilst the remaining incident was believed to have taken place in ‘The Krazy House’ club on Wood Street in Liverpool. Interviewee 5, who reported the incident which occurred in the Krazy House, was sure that this was where the spiking took place. However, Interviewee 5 also reported that, prior to the Krazy House, she and her sister had been to the Revolution bar, where they had had two cocktails each.

One interviewee reported being unsure of the time at which the incident took place (Table 4.1). However the remaining four interviewees gave quite specific times at which they believe the incidents to have occurred. All incidents reportedly took place between the hours of 7.30pm and 12am. None of the interviewees had gone out alone, with 3 having gone out with friends, one with his wife and people from work, and one interviewee (Interviewee 5) having accompanied her younger sister on a ‘special night out’. Interviewee 5 reported that her younger sister had met up with her friends on their arrival at the Krazy House and so she had
bought them both drinks and left her with her friends whilst she went over to the pool table area, alone, to find someone to play pool with.

All interviewees reported having ingested alcohol on the evening in question with the quantity ranging from about 2 units to 10 units (Table 4.1). None of the interviewees reported that they had been using drugs recreationally on the evening of the incident. In terms of their usual behaviour, one interviewee reported that the evening was a typical occasion, and one interviewee reported that the evening was quite unusual, as she would not normally have visited this particular venue and that she would normally not have been out with only her sister. Three interviewees reported that their evenings were a little bit different to usual, with 1 interviewee reporting that it was unusual for there to be only two of them out, whereas usually she tended to go out with a group of friends. The remaining two interviewees (Interviewees 1 and 2) reported having gone out earlier than usual. Interviewee 1 observed that, as a result, they had not had as much to drink as usual because they had not been drinking in the house prior to going out. Interviewee 2 commented that, as they had gone out earlier than usual, it was not as busy and that they had also been sitting down in a group at a table rather than standing.

### Table 4.2. Drink Spiking Knowledge and Perceptions of the Incident

<table>
<thead>
<tr>
<th>Heard of drink spiking before</th>
<th>Perception of how it happened</th>
<th>How long the effects last</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Yes - friends who had similar experiences (girls)</td>
<td>Behind the bar (in the bottle of wine)</td>
<td>Unsure - went out at 7.30pm - home by 10.20pm - effects continued</td>
</tr>
<tr>
<td>2 Yes - friends who had similar experiences (girls)</td>
<td>Either behind the bar or someone put it in the bottle of wine - not in the glass</td>
<td>Around 4/5 hours (in the toilets for 1.5 hours)</td>
</tr>
<tr>
<td>3 Yes - friends who had similar experiences (girls)</td>
<td>Unsure - maybe when dancing</td>
<td>In the toilet for 1 hour - awoke the next morning (through the night)</td>
</tr>
<tr>
<td>4 Yes - but only to women or gay men</td>
<td>No idea - but was not friends</td>
<td>Unsure - situation complicated by resultant head injury and concussion.</td>
</tr>
<tr>
<td>5 Yes - friends who had similar experiences (girls)</td>
<td>Unsure - perception that drug was slipped into drink once it was put down or possibly behind the bar</td>
<td>Between about 10pm Saturday night, until 1pm the next day</td>
</tr>
<tr>
<td>6 Yes - news, friends</td>
<td>Unsure - maybe someone behind the bar</td>
<td>9pm-12am - she was in a bad way, slept all night, headache next morning</td>
</tr>
</tbody>
</table>

All interviewees had heard of drink spiking before it happened to them (Table 4.2). Four interviewees had heard about it through female friends who had experienced drink spiking. Interviewee 6 was aware of drink spiking through friends and through the news, whilst Interviewee 4 commented that he had previously only been aware of drink spiking in relation to women, and that in order for males to be spikd, public perception seemed to be that they would have ‘had to have been gay or something.’ It was difficult for interviewees to comment on how the drugging may have taken place (Table 4.2). Three interviewees reported that they were unsure, suggesting possibilities such as when they were dancing or when their drink was put down in order to play pool. However, two interviewees, suspected that it must have happened behind the bar, perhaps when the bar
staff took the wine out of sight to be opened. They had shared the bottle of wine, which had been kept at the table where either their friends or they themselves were able to keep a close eye on it. As two of them had been affected, both interviewees strongly believed that the drugs must have been surreptitiously administered to the bottle rather than to their individual drinks. Interviewee 6 commented that a couple friends of Interviewee 2 had had similar experiences at the same bar and so they perceived that it was likely to be someone behind the bar.

Estimates of how long the effects of the drugs lasted varied and were difficult to quantify due to the varied nature of the drugs manifestations. In addition, Interviewee 4 reported that, following the onset of the effects of the drugs, he had been ejected from the club by the bouncers, onto the pavement outside, where he had knocked himself unconscious and subsequently suffered concussion. In general, however, it would appear that the initial effects of the drugs lasted approximately 4 to 5 hours, with further effects lasting until the following day. Interviewees reported a variety of effects felt during the incident. The most common effects reported can be seen in the Table 4.3.

<table>
<thead>
<tr>
<th>Effects</th>
<th>Reported by which interviewee*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of Memory/Amnesia</td>
<td>All</td>
</tr>
<tr>
<td>Dizziness</td>
<td>2 and 3</td>
</tr>
<tr>
<td>Lack of coordination</td>
<td>1, 2, 4 and 5</td>
</tr>
<tr>
<td>Conscious but unable to physically move or stand</td>
<td>1, 2, 5 and 6</td>
</tr>
<tr>
<td>Body like a dead weight - friends unable to move them</td>
<td>2 and 3</td>
</tr>
<tr>
<td>Ability to remain coherent - seemingly aware of what was going on around them.</td>
<td>4, 5 and 6</td>
</tr>
<tr>
<td>Sudden onset of effects</td>
<td>All</td>
</tr>
<tr>
<td>Alteration of hearing perception</td>
<td>5</td>
</tr>
<tr>
<td>Vomiting</td>
<td>1, 2, 3, and 6</td>
</tr>
<tr>
<td>Not like being drunk</td>
<td>1, 4, and 6</td>
</tr>
<tr>
<td>Nystagmus</td>
<td>1</td>
</tr>
</tbody>
</table>

*the reader is reminded that Interviewee 6 was not personally spiked but described the effects he witnessed in Interviewee 1

All of the interviewees asserted that the effects were different from those they had previously felt with alcohol. Interviewee 6 commented that the behaviour of Interviewee 2 was unlike her actions when she had been drinking alcohol and that he had not seen her like that before. Interviewee 4 commented that ‘the next day was telling, because, I didn’t have a hang over – it was more like a come down (from drugs)’.

All interviewees reported some form of memory loss or amnesia. Interviewee 4 commented that chronologically, the memories he did have, did not make sense. Interviewee 5 meanwhile said of her memories ‘there is a kind of snapshot – like ten photographs, like little images in my head from when I actually put my drink down to play pool, to when my dad found me, somewhere in Birkenhead’. This is consistent with detailed effects on the TOXBASE website for GHB ingestion, and with that in the general academic literature for the ingestion of drugs commonly used in surreptitious druggings, which reportedly are often chosen because of their ‘amnestic’ properties1-46.
Some frightening manifestations of effects experienced by most interviewees were those of being conscious, but unable to physically move, whilst remaining aware of what was going on around them, and in some cases remaining fully coherent. Interviewee 1, describing her journey home reported ‘I remember looking in my bag – trying to see if I had any money, because there was a taxi there, and I couldn’t do it. I just couldn’t physically get the money out of my bag or anything, so I just got in a cab and gave him my bag to get the money out, and the taxi driver took the money out.’

Interviewee 6 commented that Interviewee 2 had been ‘motionless’ when he found her, and that ‘she couldn’t really move, she knew what she was saying and she wasn’t slurring her words either, she was talking pretty normal really.’ Interviewee 2 was also aware enough of what was going on to be concerned that her best friend, Interviewee 1, was missing. Interviewee 5 had maintained coherent conversations with her father by mobile phone before, during and after the sexual assault she endured whilst under the effects of the drugging.

It may appear to an observer that an individual who has been drugged had actually simply consumed too much alcohol and be unable to stand. However Interviewee 2 could speak quite coherently but simply not move. Muscle relaxation has been reported as being associated with both GHB6,7,21,28,47 and flunitrazepam1,23,26,29,30-33,45,48,49.

Interviewees also mentioned some other effects. Interviewee 5 reported a ‘slight alteration in the hearing perception’ and that it was like having a ‘paper bag or tin can’ over her head. Interviewee 1, reported that her ‘eyes were everywhere’. It is reportedly common for nystagmus (involuntary, rapid, rhythmic movement of the eyeballs) to be observed following GHB ingestion5,14. Visual and audio disturbances have also been reported1,2,4,5,9,12-17,19,25,28,50,51.

Interviewee 6 said of Interviewee 2 ‘she went to get her tonsils out a while ago, and she had morphine, and that took her right back to the drink spiking thing. She felt exactly the same on this stuff as she did on this drug.’ This is particularly interesting because Interviewee 2 was told at the hospital that it was likely that she had been spiked with ‘the liquid ecstasy’ (GHB), and reports in the academic literature state that GHB and morphine have similar clinical effects52.

**Reaction of others**

**Friends/ partners:**

Whilst interviewees reported that some friends initially assumed they were drunk, and were therefore dismissive, most friends were reportedly very supportive, though, the reactions of friends was sometimes affected by their own levels of intoxication, causing them to panic and react in a ‘dramatic’ way. Interviewee 4 commented that ‘as drunk people do in a crisis, they started flapping’, and that one friend had tried to give him the kiss of life, despite the fact that he was still breathing. This said, friends did appear to be best placed to offer support and take charge of the situation, rather than anyone else. Interviewee 3 reported that her friend had stayed in the toilets with her for about an hour whilst she was sick and that she had then phoned her brother to come and pick them up in his car.

Interviewee 2 reported that her boyfriend had had to rescue her from the female toilets where she was suffering from the effects of the drug. He then took her home in a taxi to her family...
who subsequently took her to the hospital. Interviewee 6 (the boyfriend in question) reported that Interviewee 2’s friends had been concerned for her and had been the ones who convinced him to investigate the situation. However, Interviewee 6 also revealed that his initial reaction was one of anger because she was supposed to be meeting him and he assumed she had ‘got completely wasted somewhere’ and so it was her own fault and he was going to simply ‘let her get on with it’. But then, on hearing from a friend that she had not been drinking much and seemed more intoxicated than she ought to, he had decided to investigate and had then realised, having seen her, that something had happened. He suspected it may be drink spiking and took her home.

Family:

Family members generally seemed to react with a mixture of concern and confusion. Interviewee 1 commented: ‘My mum was baffled by it, she was thinking – she can’t be drunk because she only went out for a couple of hours and she can usually have a bottle of wine without falling over.’ Interviewee 1’s mum then received a phone call from Interview 2’s mum, who informed her that Interviewee 2 was in the hospital with the same kind of symptoms and that it was likely that they had both been spiked. According to Interviewee 6, the older brother of Interviewee 2 had been extremely concerned and had gone next door to fetch a neighbour to help look after her whilst he phoned his mum to come home. On seeing her daughter, Interviewee 2’s mum decided that she must go to the hospital.

In some situations it can be difficult for families to accept and deal with what has happened. Interviewee 5 was the only participant in our sample who experienced sexual assault subsequent to the spiking. She reported that she had been phoning her father throughout the incident and that he had driven to pick her up from the bus stop at Birkenhead. However, she commented that, on telling her father she suspected she had been spiked, he had not believed her and ‘he just thought I was pissed and had a go at me for leaving my sister in Liverpool.’ Regarding telling him she had been assaulted, she commented ‘he didn’t really say anything – he just said yeah, whatever, he just didn’t want to acknowledge it.’

Interviewee 5’s mother had believed her and had helped out with caring for Interviewee 5’s young daughter while Interviewee 5 sought help and tried to come to terms with what had happened, though, Interviewee 5 commented ‘she didn’t really know where to put herself’. Interestingly, Interviewee 5’s younger sister was not surprised by what had happened and mentioned that it had happened to quite a few of her friends in the Krazy House. Interviewee 5 commented ‘it’s a bit of a joke between them now ‘have you been spiked’?, I just think it’s horrendous and I am shocked that she still goes there’.

Bouncers and Bar staff:

There was little mention of night time environment staff in terms of reaction, help or intervention to the instances of drink spiking in our sample. The only staff members mentioned by participants were ‘bouncers’, and it would seem that they were not very helpful. Interviewee 4 reported that, on seeing him experiencing the effects of the drugs ‘bouncers came storming over, they grabbed me by the arms and marched me to the door, and they didn’t stop to say ‘are you alright?’ they just dropped me on the pavement outside the club – without letting my friends know where I was.’ This had serious consequences as he knocked himself unconscious and was later treated at the hospital for concussion.
Interviewee 6 commented that the bouncers who observed him trying to rescue his girlfriend from the toilets where she had collapsed under the effects of the drug were very unsympathetic and assumed that she was simply drunk. According to Interviewee 6, the bouncers were only concerned with getting Interviewee 2 off the premises, saying things like ‘well look, get her out then’, and ‘hurry yourself up’.

Others:

Interviewee 5 was sexually assaulted by two young males who she had met by the pool tables in the Krazy House, prior to the onset of the effects of the drugs. The assault took place on the ‘tunnel bus’ on the way back over to Birkenhead from Liverpool. During the assault she had struggled to get free and had tried to ask another passenger for help. However, he had assumed she was drunk and had called her names and didn’t help her, she commented ‘there was a young lad sat a few seats forward on the other side of the bus and I managed to sit up and ask for help, and I was called some names – piss head, slag or something like that’. When the bus arrived at the bus stops near Old Market Land Registry Building, Interviewee 5 was thrown off the bus by the bus staff, and left to fend for herself.

When Interviewee 5 went to work on Monday, she told her colleagues as much as she could remember of what had happened. She had even begun to doubt herself, thinking that maybe she had just got drunk after all. However, as her memory began to return and she discussed it with colleagues she started to come to terms with what had happened. Her employers responded by giving her the week off work and advising her to go to the hospital and the police.

Interviewee 6 reported that when Interviewee 2 was in the toilets suffering from the effects of the drug, he had phoned her and someone who had been looking after her in the toilets had answered. This person did not know Interviewee 2 but had stopped to help her. However, later in the interview Interviewee 6 commented that ‘whoever was with her in the toilets, various people were saying ‘just get yourself home, you shouldn’t have drunk so much and been stupid.’

Professional help

Interviewees 1 and 3 did not seek any kind of professional help, they simply went home and dealt with the effects there, although, Interviewee 1 had heard from the hospital that Interviewee 2 was there being treated for possible ingestion of liquid ecstasy and had been told there was little more that could be done to counter the effects of the drug and that, as long as she had been sick, the drug should pass through her body and she should recover without adverse effects.

Interviewee 2 was taken to the hospital, where staff took her blood pressure and questioned her about how much she had had to drink. They then said that, because she had been sick, ‘there was nothing else they could do, and that it would just pass out of my body’. Interviewee 2’s recollection of what took place at the hospital was hazy but she commented that the staff were ‘not very clear’ about what it could be and that they were saying ‘it could be this, it could be that.’ Interviewee 1 reported, however, that when Interviewee 2’s mother phoned from the hospital, she had said that staff believed that they might have been spiked with ‘the liquid ecstasy’. Interviewee 6 was with Interviewee 2 at the hospital, and he also reported that the hospital staff had told Interviewee 2 ‘you’ve had the date rape drug’. Of the treatment
received by Interviewee 2 at the hospital, Interviewee 6 reported ‘they got someone in to see her quite quickly, and I think they had to give her some other drugs actually’. He also commented ‘she was really sleepy at that point, she wanted to go to sleep, but they wouldn’t let her until after they had done what they needed to do.’

Interviewee 4 was taken to hospital but commented that ‘most of it is a blur’. As he knocked himself unconscious whilst outside, Interviewee 4 is unsure which were the effects of the drug and which were from the concussion. On the Monday following the incident, Interviewee 4 visited his GP and told him what had happened. The doctor told him that, over that particular weekend, he had seen 2 other individuals describing similar effects.

Because Interviewee 5 had been sexual assaulted she decided to report the incident to the police. However, this proved difficult, as there was nowhere private in which she could alert staff to the fact that her complaint was of a sensitive nature. In addition, she was made to wait for three hours before even being asked what she was there for. Finally, when asked why she was there, she then had to report the assault in front of a queue of people. Having established that the assault had been on Interviewee 5 herself, the police woman enquired if she had been to the hospital, and on hearing that Interviewee 5 had not been to the hospital she became hostile and began shouting ‘well why have you even come in here if you haven’t been to the hospital?’.

Interviewee 5 then presented to Arrowe Park Hospital where a triage nurse examined her and established that she had been sexually assaulted. She then waited for a long time before finally being seen by a male doctor, which was uncomfortable and embarrassing for Interviewee 5. However, Interviewee 5 reported that it appeared to her that suddenly ‘somebody clicked what had happened and everything changed – within 2 minutes I was taken to a private room, with a screen around the bed, and a nurse sat holding my hand while this lady doctor came in – and this nurse was mine until I left apparently’. From there on, the medical care Interviewee 5 experienced was good and Arrowe Park Hospital contacted the local police to arrange for a statement to be taken in the privacy of her own home.

However, following giving this statement, Interviewee 5 was contacted on her mobile by a Sergeant or Detective Sergeant (she could not remember his name), who tried to get her to change her statement, implying that she must have known her assailants, and even went so far as to say ‘we’ve seen you on CCTV. We saw you singing with a band in the City Centre’. This appeared odd to Interviewee 5 as, not only was it completely out of character and something of which she had no memory, but she had not given any photographs of herself to the police, so it was unlikely that they could have any idea of what she looked like to identify her specifically from CCTV. She had also been unable to give any specific time for the incident, due to the memory loss she experienced caused by the effects of the drug.

When Interviewee 5 reasserted that she was not acquainted with her assailants, the police officer said ‘hmm, right, ok – we’ll be in touch’. Interviewee 5 did not hear from the police again. The only thing she received was a letter from victim support saying if she wanted to make a financial claim for the incident they would assist. This offer was not, however, appreciated by Interviewee 5. Finally, Interviewee 5 commented that the anxiety caused by the problems in dealing with these various agencies in order to seek help had been ‘worse than the actual incident itself.’
Modified behaviour

Interviewees 1 and 3 felt that the incident had modified their behaviour in terms of being more conscious of who may be around them. Interviewee 1 commented, that she no longer drank wine at Yates’s. This sentiment was echoed by Interviewee 2, who was spiked at the same time. Interview 2 also commented that she was now more careful of her drinks, particularly at the bar when the drink is being opened, prepared or poured. Interviewee 6, partner of Interviewee 2, felt that the incident had modified his behaviour and the way in which he treated Interviewee 2. In terms of their relationship, he felt that the incident had made him realise how vulnerable she was, and he commented that he was now more protective and watchful of her and often chided her if he felt that she was not being careful enough.

Interviewee 4 felt that he was now more vigilant when he went out and more sympathetic to others who have experienced being surreptitious drugged. He also preferred to go to ‘bar bars, rather than club bars’, and that he was now less inclined to go to strange places, preferring familiar surroundings. This was also a long-term effect noted by Interviewee 5, who commented that she now only felt safe in the pub environment where the bar staff were familiar, that she would not drink in a club anymore, and that she had not been to Liverpool on a night out since the incident. She also commented that she no longer enjoyed going out as she used to, and that she now only went out twice a year with her brother when he is home from Bristol.

Key messages (from participants)

In terms of individuals reducing the likelihood of similar incidents happening to them, the general consensus was for individuals to be careful of their drinks and watch them being prepared, be mindful of who was around them, and to ensure that they were not alone in the night time environment. Interviewee 2 stressed the importance of having friends with you that you can trust and that knew your habits so that they might realise there was something wrong when you begin to act out of character. This was echoed by Interviewee 5 who felt that, had she not have left her sister to go off on her own to play pool, she would not have been assaulted, as her sister would have noticed her behaviour change as the drugs took effect and would have known something was wrong. Interviewee 5 also commented that, if individuals found themselves in a vulnerable position, and they had someone they could call, they should not be afraid to do so. She felt that had she not phoned her father whilst she was on the tunnel bus, things could have been much worse, she commented ‘I would have been dumped off the bus in Birkenhead, and what could have happened had my dad not been there to collect me, well it doesn’t bear thinking about.’

Most interviewees felt that they had been reasonably careful and that similar incidents would continue to happen if effective preventative methods to combat the risks were not implemented. Many participants felt that more effective security monitoring of the night time environment would be useful. Interviewee 4 commented that there ought to be ‘better security within the bar itself’, whilst Interviewee 5 suggested that ‘some kind of CCTV system, linked to the bars the way race tracks and football ground have’ would significantly help reduce the likelihood of drinks being tampered with by bar staff, as well as providing safety for the bar staff (in terms of them being able to prove they had not tampered with drinks).
As mentioned above, the perception of the bouncers, in terms of their effectiveness in dealing with surreptitious druggings, was not positive. Referring to the incident in question, Interviewee 2 stated that when she was in toilets being sick, the bouncers reaction was simply ‘get her out, I don’t care where you take her, just get her out.’ This was also an issue commented on by Interviewee 6 who made the point that, just because a bar or club may have bouncers on the door, doesn’t mean it is safe. Interviewee 5 commented ‘I know it has got to be hard to determine between someone who is pissed and someone who might have been drugged, but certainly, I would hope the bouncers were there to look after you, not just kick you out when you are pissed’.

**Recommendations for the DAAT (from participants)**

Interviewee 5 felt that not enough was done to warn or protect individuals from being preyed upon. She commented ‘there is just nothing done really. I’ve seen a couple of posters in a few places, people just draw on them you know, after you’ve had a few drinks you wouldn’t give a monkeys about a poster. They’ve got to protect you, rather than asking you to protect yourself.’

Interviewee 4 meanwhile, felt that there ought to be more publicity and that ‘they are currently going about it in the wrong way.’ He commented that public perception of drink spiking was that ‘it only happens to young girls who dodgy blokes want to take advantage of.’ He had felt that the general reaction to him having been spiked was one of surprise ‘Well how come you got spiked? You’re a lad!’ Finally, he commented that, there is not very much publicity on the variety of possible motives for incidents of spiking, other than for sexual assault, which did not appear to have been a motive for his spiking.

**4.4 Conclusions**

- There have been a number of incidents of drink spiking identified in the last two years, which have taken place in both Birkenhead and Liverpool.
- Actual numbers are unknown and would be difficult to quantify because many incidents remain unreported (only one of the participants in this sample reported the incident to the police, and in this instance, no action was taken).
- One individual was sexually assaulted following being spiked but the purpose for the remaining five being spiked was unclear.
- In our sample, there was a perception that spiking may be occurring behind the bar, whilst there also seems to be a trend of drink spiking in certain bars.
- Contrary to popular belief, drink spiking happens to both genders, however, due to public perception being focused only around females, it may be even more difficult for males to accept and come to terms with the fact that they have been spiked.
- The interviewee that reported the event to the police did not perceive her treatment to be of a high standard and that staff had been insensitive to the nature of the incident.
- Effects of the drugs often used in drink spiking can be disorientating and can make reporting difficult, for example amnesia can make it difficult for individuals to recall events in a chronological order.
- Drink spiking can lead to adverse effects, which may require medical attention and possibly other treatment.
- In some cases, drink spiking can lead to sexual assault, which may require further care both in the hospital setting and in terms of counselling and being handled sensitively by the police.
The interviewee that attended hospital following the spiking and sexual assault perceived staff to be slow in recognising the nature of the incident and that there appeared to be a delay in implementing a high standard of care because staff did not understand what exactly had occurred.

Awareness of spiking was high in our sample, however details appeared to be poor, particularly around who may be spiked and what possible motivations for surreptitious druggings, for example robbery.

The reaction of others towards individuals suffering the effects of drink spiking is complicated by the fact that many people in the night time environment may be inebriated and so the effect of a surreptitious drugging may not be immediately apparent due to some effects being similar.

Friends appear to offer a good source of support and protection from further harm in cases of drink spiking (although in our sample this was complicated because two friends were drugged at the same time and were thus unable to take care of each other).

Preventative measures could have helped reduce the impact of those spiked in our sample. For example, more concern from staff working in the night time environment for individuals who appear vulnerable, regardless of whether these individuals may have knowingly ingested substances or not.

Door staff did not appear confident dealing with individuals that had been spiked and were keen to simply remove them from the premises.

Drink spiking and any subsequent assaults can have short and long-term effects on an individual’s ability to enjoy the night time environment.

The undue stress of trying to report an incident and seek help or treatment can be worse than the incident itself.

4.5 Recommendations

Only a small sample of individuals were interviewed for this study and it is unknown how representative this sample is of the situation in general. However a number of recommendations have been formulated.

- Campaigns warning of the possibility of drink spiking should be continued. Such campaigns should be aimed at potential victims (including highlighting that males too can be spiked), friends of potential victims, night time staff (security staff, transport staff) and professionals (police and health care workers).
- Establishment of a pan Merseyside monitoring system for those who attend Accident and Emergency Departments where the possibility of surreptitious drugging is evident. This would include recording details of the event and toxicology results where samples had been tested. This would need to be undertaken systematically across Merseyside to enable consistent reporting and comparisons to be made.
- A pan Merseyside uniform monitoring system for those who report a possible surreptitious drugging to the police is also recommended.
- Surveillance equipment, for example CCTV, linked to the bar could enable better monitoring of drinks being sold, times sold, and by which members of staff.
- Security staff should be trained to be aware of the possibility of surreptitious drugging.
- Staff within Accident and Emergency Departments should be vigilant to the possibility of someone having been unwittingly drugged and put protocols to deal with this situation into effect, acknowledging that such incidents tend to occur at time of greatest demand when resources within Accident and Emergency Departments may be at their most stretched.
A clear and sensitive procedure should be established through which victims can report incidents to the police, without having to report assaults in the presence of others waiting in a queue. Their complaint should then be treated seriously and victims should be kept informed of any developments, in person, and should under no circumstances be pressured to change their statement.

Information campaigns should highlight the facts relating to drink spiking to dispel any current myths, including that both males and females have reported being victims of drink spiking, and that there are various motives for drink spiking aside from sexual assault, including robbery.

References


5.0 Evaluation of the Efficacy of Publicly Available Drink Spiking Testing Kits
Caryl Beynon

“Testing kits introduced to combat rape drugs”
(Menhinnitt, Guardian, 17th March 2004)

This section of the report has now been published in *Addiction*:


6.0 Study Conclusions

The interviews undertaken as part of this project and correspondence with staff at The Royal Liverpool and Broadgreen University Hospitals show that drink spiking is occurring in the Merseyside area. The motives for such behaviour is largely unknown although one interviewee was sexually assaulted following being surreptitiously drugged which was clearly a harrowing experience. Consideration of both media and scientific literature relating to the administration of a drug to incapacitate a victim for nefarious ends failed to provide a reliable estimate for the number of individuals this affected either within the UK or abroad. Such prevalence estimates are acknowledged as being difficult to obtain due to the speed at which drugs such as GHB and flunitrazepam are metabolised and eliminated from the body, a situation which is exacerbated by delays in reporting, partially due to the amnesic affects of such drugs. Despite this, many scientific articles, particularly those relating to the US, discussed drug-facilitated sexual assault as occurring ‘often’ or ‘increasingly’. Scientific articles that tested samples taken from alleged victims of sexual assault failed to report a high number containing drugs such as GHB and flunitrazepam, with the main drug consistently being alcohol and secondly cannabinoids. The presence of drugs such as cocaine and cannabinoids only serve to further confuse the issue with some authors incorrectly talking of these drugs being surreptitiously administered when it would be much more likely that these drugs were taken voluntarily. Undertaking sexual acts with someone who cannot give consent is still illegal but voluntary use of alcohol and drugs increases the risk of being the victim of sexual assault and this is the more important message to convey to young people venturing out into the night time environment.

Campaigns to warn of the potential dangers of drink spiking should be continued and used to inform not only the public, but also professionals who may come into contact with those suffering from being spiked. In particular, door staff should be trained to recognise the possibility that someone seeming inebriated may actually have been spiked and thus should be assisted where necessary. The interviewee that was sexually assaulted following surreptitious drugging found the police to be most unsympathetic and healthcare professionals slow to realise what she had experienced. Two publicly available kits marketed to detect the presence of certain drugs within drinks failed to consistently detect the presence of drugs under laboratory conditions and tested positive in some cases when no drug was present.

Finally, it appears that those suffering from GHB toxicity, most commonly due to recreational use of the drug rather than being spiked, may exhibit severe symptoms including unconsciousness but generally recover spontaneously with no adverse long-term problems. The mainstay of treatment in such a situation would be observation, intubation if required and to treat specific symptoms if they arise. TOXBASE is a resource available to all hospital Accident and Emergency Departments and gives details of what treatment to administer in cases of overdose. Hospital protocols would be enacted to deal with someone who has been sexually assaulted.
Appendix 1; Arrowe Park Hospital Data
Zara Anderson and Caryl Beynon

Data supplied by the Trauma Injury Intelligence Group, Centre for Public Health, Liverpool John Moores University. Data extract; 2002/03.

1.0 Introduction
The Centre for Public Health (CPH) at Liverpool John Moores University collects data from Accident and Emergency Departments across Merseyside and Cheshire via the Trauma and Injury Intelligence Group (TIIG). This section of the report provides a brief overview of information relating to alcohol admissions and ambulance overdose call outs at Arrowe Park Hospital, Wirral. Alcohol data are presented by age group and have split into age categories to accommodate the variety of currently existing classifications of young people.

2.0 Alcohol Related Admissions
Between 1st April 2002 and 31st March 2003 there were 78,558 attendances at Arrowe Park Hospital Accident and Emergency Department. Of these cases, 6148 (8%) were alcohol related. However, a further 35% (n = 27780) were classified as unknown for alcohol involvement so it is likely that the contribution of alcohol to Accident and Emergency admissions was actually higher. Over half (59%) of these alcohol related admissions were male. Table 1 reports the number of people attending for alcohol related admissions by age. Of particular concern is the number of young people presenting to the Accident and Emergency Department for alcohol related reasons.

Table 1 Age of alcohol related cases

<table>
<thead>
<tr>
<th>Age group</th>
<th>N</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>0 - 15</td>
<td>317</td>
<td>5</td>
</tr>
<tr>
<td>16 - 17</td>
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<td>5</td>
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<td>18 - 19</td>
<td>368</td>
<td>6</td>
</tr>
<tr>
<td>20 - 24</td>
<td>795</td>
<td>13</td>
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<td>Over 24</td>
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<td>71</td>
</tr>
<tr>
<td>Total</td>
<td>6148</td>
<td>100</td>
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</table>

Table 2 shows the breakdown of recorded injuries by age group of individuals seen for alcohol related reasons. A total of 227 individuals aged less than 20 were seen in Accident and Emergency due to an alcohol related assault within the year, 19 of whom were aged less than 16. This equates to almost one quarter (23%) of alcohol related admission for assault being accounted for by those aged less than 20 years. Whilst the majority (79%) of alcohol related falls seen at Accident and Emergency were accounted for by those aged over 24 years a considerable number were also related to the younger age groups.
Table 2  Injury group of alcohol related cases by age group

<table>
<thead>
<tr>
<th>Injury group</th>
<th>0-15</th>
<th>16-17</th>
<th>18-19</th>
<th>20-24</th>
<th>Over 24</th>
<th>Total</th>
</tr>
</thead>
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<tr>
<td>Assault</td>
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<td>88</td>
<td>120</td>
<td>261</td>
<td>505</td>
<td>993</td>
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<td>% in assault</td>
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<td>9</td>
<td>12</td>
<td>26</td>
<td>51</td>
<td>100</td>
</tr>
<tr>
<td>Burn</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>% in burn</td>
<td>17</td>
<td>0</td>
<td>0</td>
<td>8</td>
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<td>100</td>
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<td>Deliberate self harm</td>
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<td>19</td>
<td>15</td>
<td>50</td>
<td>228</td>
<td>328</td>
</tr>
<tr>
<td>% in DSH</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>15</td>
<td>70</td>
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<td>Fall</td>
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<td>38</td>
<td>51</td>
<td>143</td>
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<td>1376</td>
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<td>3</td>
<td>4</td>
<td>10</td>
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<td>Non trauma</td>
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<td>101</td>
<td>114</td>
<td>222</td>
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<td>2622</td>
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<td>% in non trauma</td>
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<td>100</td>
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<td>0</td>
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<td>795</td>
<td>4383</td>
<td>6148</td>
</tr>
</tbody>
</table>

* for example burns caused by contact with chemicals

Table 3 reports alcohol related attendances by week and by age. Considering those aged less than 25, the highest proportion of attendances were at the weekend for each age group. For those aged less than 16, the highest proportion of alcohol related attendances occurred on Friday and Saturday. For the remaining 3 age groups the highest proportion of alcohol related attendances occurred on Saturday and Sunday. The time of alcohol related attendances is given in Table 4. For the youngest age group (0 to 15 years), the highest proportion of alcohol attendances occurred between 22:00 and 24:00 hours with the second highest proportion occurring in the morning between 08:00 and 10:00 hours. The remaining 3 under 25 age categories, all reported a high proportion of alcohol related attendances occurring in the early hours of the morning, between midnight and 04:00 hours with an equally high proportion of attendances occurring between 22:00 hours and midnight for those aged between 16 and 17 years.
Table 3. Alcohol cases by day of attendance and age group

<table>
<thead>
<tr>
<th>Week day</th>
<th>0 - 15</th>
<th>16 - 17</th>
<th>18 - 19</th>
<th>20 - 24</th>
<th>25 plus</th>
<th>Total</th>
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<tbody>
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<td>63</td>
<td>101</td>
<td>215</td>
<td>734</td>
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<tr>
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<td>5</td>
<td>9</td>
<td>19</td>
<td>64</td>
<td>100</td>
</tr>
<tr>
<td>% in age group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monday - Count</td>
<td>58</td>
<td>23</td>
<td>43</td>
<td>126</td>
<td>879</td>
<td>1129</td>
</tr>
<tr>
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<td>5</td>
<td>2</td>
<td>4</td>
<td>11</td>
<td>78</td>
<td>100</td>
</tr>
<tr>
<td>% in age group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday - Count</td>
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<td>25</td>
<td>30</td>
<td>70</td>
<td>633</td>
<td>799</td>
</tr>
<tr>
<td>% in Tuesday</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>9</td>
<td>79</td>
<td>100</td>
</tr>
<tr>
<td>% in age group</td>
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<td></td>
<td></td>
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<td>Wednesday - Count</td>
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<td>68</td>
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<td>575</td>
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<td>5</td>
<td>12</td>
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<td>100</td>
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<td>5</td>
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</tr>
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<td></td>
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</tr>
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<td>13</td>
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</table>
### Table 4 Alcohol cases by time of attendance and age group

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<th>Time</th>
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<th>18 - 19</th>
<th>20 - 24</th>
<th>25 plus</th>
<th>Total</th>
</tr>
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<td>635</td>
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<td>16</td>
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<td>9</td>
<td>14</td>
<td>12</td>
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<td>8</td>
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<tr>
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<td>795</td>
<td>4383</td>
<td>6148</td>
</tr>
<tr>
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<td>5</td>
<td>6</td>
<td>13</td>
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<td>100</td>
<td>100</td>
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### 3.0 Ambulance call outs for overdose* incidents across the Wirral, 2002/2003

Between 1st April 2002 and 31st March 2003, there were 1189 ambulance call outs for overdose, across Wirral. Table 5 and Figure 1 show that overdose related ambulance callouts in Wirral occurred primarily in Central Birkenhead (CH41), Tranmere (CH42), Wallasey (CH44), and Prenton (CH43) with one fifth (20%) occurring in CH41.

*Includes overdose, ingestion and poisoning incidents.
Table 5 Ambulance call out for overdose related incidents, by postcode area

<table>
<thead>
<tr>
<th>Postcode area</th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
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<tr>
<td>CH41 (Central Birkenhead)</td>
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<td>20</td>
</tr>
<tr>
<td>CH42 (Tranmere)</td>
<td>169</td>
<td>14</td>
</tr>
<tr>
<td>CH43 (Prenton)</td>
<td>123</td>
<td>10</td>
</tr>
<tr>
<td>CH44 (Wallasey)</td>
<td>136</td>
<td>11</td>
</tr>
<tr>
<td>CH45 (New Brighton)</td>
<td>108</td>
<td>9</td>
</tr>
<tr>
<td>CH46 (Moreton)</td>
<td>112</td>
<td>9</td>
</tr>
<tr>
<td>CH47 (Hoylake)</td>
<td>21</td>
<td>2</td>
</tr>
<tr>
<td>CH48 (West Kirby)</td>
<td>26</td>
<td>2</td>
</tr>
<tr>
<td>CH49 (Woodchurch)</td>
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<td>8</td>
</tr>
<tr>
<td>CH60 (Heswall)</td>
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</tr>
<tr>
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</tr>
<tr>
<td>CH62 (Bromborough)</td>
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</tr>
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<td><strong>Total</strong></td>
<td>1189</td>
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</tr>
</tbody>
</table>

Figure 1. Ambulance call outs for overdose related incidents, 2002/03

Figure 2 shows that there does not appear to be a particular seasonal pattern for overdose related ambulance callouts. However, there does appear to be a weekly pattern for overdose callouts (Figure 3) with a greater number occurring over the weekend and Monday than between Tuesday and Thursday.
When the time of day for overdose related callouts is considered a clear pattern is evident (Figure 4). Over half (54%) of all overdose related ambulance callouts occurred between 18:00 and 02:00 hours with the peak being seen between 20:00 and 22:00 hours.
Figure 4. Ambulance call outs for overdose related incidents, by time