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Evaluation of the Cheshire and Merseyside Drink Less Enjoy More intervention

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Contents

Infograph.....	2
1. Introduction	4
2. Methods.....	9
3. Findings	11
3.1 Nightlife users’ experiences and perceptions of Cheshire and Merseyside nightlife settings (pre-DLEM).....	11
3.1.1 Nightlife usage	11
3.1.2 Alcohol consumption	11
3.1.3 Drunkenness	12
3.1.4 Adverse nightlife events	15
3.2 Sales of alcohol to pseudo-intoxicated patrons (pre-DLEM 2017)	17
3.2.1 Sefton and Wirral Local Authorities combined.....	17
3.2.2 Sefton Local Authority Area (Southport NTE).....	19
3.2.3 Wirral Local Authority Area (Birkenhead, Oxtton and Heswall NTEs).....	19
3.3 Pre and post Cheshire and Merseyside DLEM comparison	20
3.3.1 Nightlife user surveys.....	20
3.3.2 Alcohol test purchase attempts.....	23
4. Discussion.....	25
4.1 Alcohol consumption, access and harms within Cheshire and Merseyside nightlife settings (pre-DLEM).....	25
4.2 DLEM: visibility, public perceptions and short-term impact.....	27
4.3 Conclusion.....	28
4.4 Key recommendations	29
5. Acknowledgements.....	30
6. References	31
7. Appendices.....	33
Appendix 1: Additional data tables.....	33
Appendix 2: Cheshire and Merseyside DLEM intervention 2017/18 - summary of local/unitary authority level interventions	36

Drink Less Enjoy More (DLEM): Cheshire and Merseyside

Alcohol consumption, drunkenness and related harms in Cheshire and Merseyside nightlife settings (pre-DLEM)*

WHAT WE DID

Nightlife patron survey



Short anonymous survey conducted opportunistically with 441 adults on a night out in Cheshire and Merseyside nightlife areas

(Friday and Saturday nights, September 2017)

Alcohol test purchase attempts



70 alcohol test purchases in pubs/ bars/ nightclubs by pseudo-drunk actors across Southport and Wirral nightlife areas

(Wednesday-Saturday nights, September 2017)

WHAT WE FOUND



41.0% of drinkers[^] had preloaded before entering the night-time economy



Drinkers expected to consume 16 alcohol units during the course of their night out



73.5% of drinkers expected to achieve a high drunkenness level by the end of the night; 88.0% expected other people to achieve high drunkenness



Over half of participants knew it was illegal to sell alcohol to (64.4%), or purchase alcohol for (56.2%), people who are drunk



61.8% agreed that the survey location (i.e. nightlife setting) was a safe place to go for a night out

Experience of adverse events whilst on a night out in the past three months

Vomiting



37.4%

Serious verbal argument



37.4%

To drunk to walk



30.3%

Physical assault



25.8%

Injury



19.9%

Sexual violence



11.3%

Alcohol access to pseudo-drunk patrons



48.6% of alcohol test purchases resulted in the sale of alcohol to the pseudo-drunk actor; 32.0% in Southport and 90.0% in Wirral

*Excluding Liverpool City Centre's nightlife (for these findings see Butler et al, 2018 [22]).

[^] 92.7% of survey participants had consumed alcohol prior to survey participation.

Drink Less Enjoy More (DLEM): Cheshire and Merseyside

Intervention overview and initial impact

DLEM is a community-based intervention designed to prevent alcohol-related harms in nightlife settings through preventing sales of alcohol to intoxicated nightlife patrons in on-licensed premises (illegal in the UK); and discouraging, and reducing the acceptability of excessive drunkenness amongst nightlife patrons. DLEM is modelled on the evidence-based STAD programme, and involves the collective and coordinated implementation of three core components: community mobilisation, responsible bar staff training and strengthened police engagement.

Community mobilisation

Creation of a multi-agency DLEM steering group and implementation of awareness raising activities (i.e. on alcohol legislation) targeted towards different audiences, particularly the local alcohol trade and public.

Responsible bar server training

Free bar staff training on preventing sales of alcohol to drunks, including: alcohol legislation and implications of flouting the legislation; service refusal and conflict management techniques; and customer safety.

Strengthened police engagement

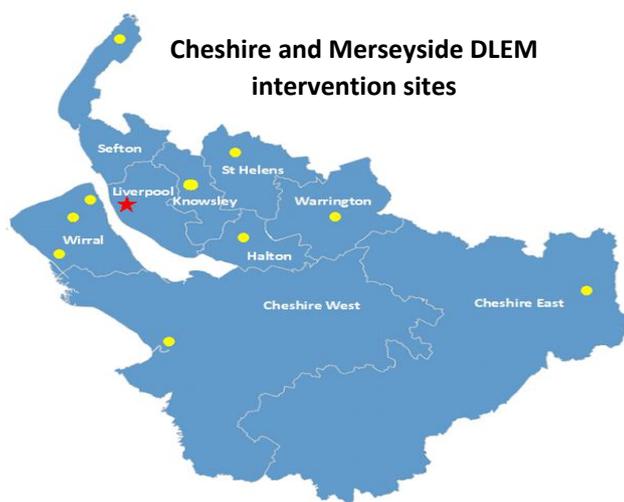
Engagement with the alcohol trade to prevent sales of alcohol to drunks, and promote participation in the intervention (e.g. uptake of RBS training; displaying of DLEM materials within venues).

DLEM implementation

In 2014, DLEM was piloted in Liverpool City Centre's nightlife, with monitoring to date suggesting an associated reduction in sales of alcohol to pseudo-drunks and increase in nightlife user awareness of associated legislation.

In 2017/18, DLEM was expanded to cover all nine local authorities within the Cheshire and Merseyside region.

Each area implemented the DLEM model, adapting components relevant to the local community system (including needs and resources).



Awareness and perceptions of DLEM

1 in 4 aware of DLEM

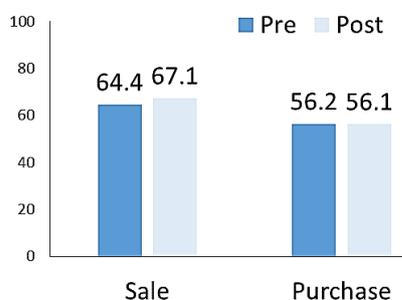
Nightlife users aware of DLEM were asked about the impact of it on a range of factors:

47.3% agreed DLEM demonstrated drunks would not be served

30.1% would drink less before coming on night out

30.1% more likely to come on night out

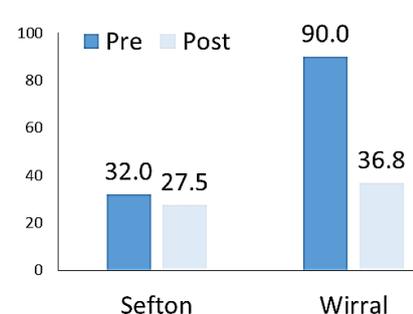
53.4% would feel safer on a night out



DLEM impact

Proportion of nightlife users aware of laws on sale of alcohol to and purchase of alcohol for drunks

Proportion of test purchases resulting in sale of alcohol to the pseudo-drunk actor reduced from 48.6% to 30.0%



Next steps

The study showed high levels of alcohol consumption, drunkenness and alcohol-related harms across Cheshire and Merseyside nightlife areas. There were some initial indications that bar staff propensity to serve alcohol to pseudo-intoxicated actors in two areas reduced, in addition to a slight improvement in nightlife user awareness of associated legislation. DLEM should form part of broader suite of prevention activity across the region with intervention components implemented as and when relevant to local areas.

1. Introduction

Nightlife settings can have major benefits for individuals' wellbeing, and for communities' economic prosperity. However, studies consistently suggest that UK nightlife settings are often characterised by high levels of drunkenness and associated harms (e.g. injury, violence [1-4]). Across England and Wales, in 2015/16, 67% of all violent incidents occurring at the weekend were alcohol-related; a quarter of all violent incidents occurred around a pub or club and 91% of these were alcohol-related [5]. Further, preloading (drinking at home prior to entering the night-time economy [NTE]), is a common drinking behaviour [4,6,7] that has been associated with excessive alcohol consumption during a night out and experience of violence [4].

Alcohol-related harms in nightlife have an impact on both individuals and wider communities, and efforts to prevent or minimise harms places heavy demands on public services [1,8,9]. A study of attendances at Arrowe Park Accident and Emergency department (Wirral Local Authority) found that 47% of patients presenting with violent injury reported having consumed alcohol, while the majority (64%) attended the department at night and at weekends [9]. Interventions targeting drunkenness in nightlife therefore have the potential to reduce harms to the drinker and to others affected by drunkenness, including surrounding communities and public services.

Whilst the evidence base is limited, research suggests that multicomponent community action programmes can be effective in reducing alcohol-related harms in nightlife settings [10-12]. One of the most successful of these approaches is the STAD (Stockholm Prevents Alcohol and Drug Problems) programme [13]. STAD combines responsible bar server (RBS) training with multi-agency planning, community mobilisation and

strengthened law enforcement. Evaluation of STAD has shown significant reductions in the sale of alcohol to pseudo-intoxicated patrons and related harms in nightlife settings [13]. Positive impacts were also observed across communities surrounding the nightlife setting (e.g. crime reduction; [14]). Further, through reductions in violent crime, estimates suggest that STAD saved €39 for every €1 invested [15].

In England and Wales, it is mandatory for statutory partners to collaborate locally to address crime and disorder [16]. Through these partnerships, a broad range of strategies have been implemented to promote safer nightlife settings [2]. Further, tackling drunkenness and sales to drunk individuals is increasingly being prioritised [17]. In England and Wales it is illegal (Licensing Act 2003) to knowingly sell alcohol to, or purchase alcohol for, a person who is drunk. However, public awareness of the legislation is often lacking, there are few prosecutions for breaching the legislation, and bar staff do not always adhere to it [3,7,18]. Ensuring the legislation is adhered to is essential; providing alcohol to already intoxicated people supports cultures of excessive nightlife alcohol intoxication [10].

Drink Less Enjoy More (DLEM)

A study conducted in Liverpool in 2013 found that 84% of alcohol purchase attempts by pseudo-intoxicated patrons in pubs, bars and nightclubs were successful [3]. Subsequently, a local multi-agency partnership was formed to



develop and implement an intervention to address sales of alcohol to drunk people (Drink Less Enjoy More [DLEM]¹). DLEM is a community-based intervention, designed to prevent alcohol-related harms in nightlife settings through preventing sales of alcohol to intoxicated nightlife patrons in on-licensed premises, and raising awareness of associated legislation; and discouraging, and reducing the acceptability of excessive drunkenness (including preloading) amongst nightlife patrons [7]. Modelled on STAD [13], DLEM involves the collective and coordinated implementation of three core components: community mobilisation and awareness raising; RBS training; and, strengthened police engagement with the alcohol trade (focusing on preventing alcohol sales to drunk people). Since 2014, DLEM has been implemented in Liverpool during periods associated with alcohol-related harms (e.g. first university term, Christmas), both within the city's main nightlife area, and across the broader community (targeting nightlife users prior to entering the nightlife setting) [19]. Further, DLEM has been implemented across areas of Wales [18,20] and a similar intervention has been implemented in Manchester [21].

Monitoring and evaluation of DLEM interventions to date suggests that it is associated with a reduction in sales of alcohol to pseudo-intoxicated patrons in on-licensed premises, and an improvement in nightlife patron awareness of associated legislation [7,18-21]. For instance, in Liverpool, pre-DLEM, 16.4% of alcohol sales to pseudo-drunks were refused, compared to 74.0% at follow-up (14 months post-implementation; $p < 0.001$). In adjusted analyses, the odds of service refusal were over 14 times higher at follow-up ($p < 0.001$) [7]. Further, amongst drinkers, knowledge of alcohol legislation was over two times higher at follow-up (adjusted analyses, $p < 0.001$) [7]. On-going evaluation of DLEM in Liverpool over a three-year period (2014-2017)



has shown that these positive impacts have been maintained. Further, positive change has been observed in nightlife users' perceptions that drunken behaviour in nightlife is not tolerated by authorities in Liverpool [22].

DLEM is increasingly being recognised as a promising intervention for preventing sales of alcohol to drunk people in UK nightlife settings [10,23]. Subsequently, in 2017/18, DLEM was expanded beyond Liverpool Local Authority to cover the nine local authorities within the Cheshire and Merseyside region (including Liverpool, see Table A). Liverpool City Council provided stakeholders implementing the DLEM intervention across Cheshire and Merseyside with all materials used in the 2017 Liverpool DLEM intervention. Materials included:



¹ Initially branded Say No To Drunks [7].

- Promotional radio scripts;
- Artwork for venue campaign promotional materials (e.g. staff t-shirts, bar mats, banners);
- Adverts, including digital, outdoor and social;
- Promotional resources (e.g. posters, leaflets, postcards);
- Training video for use during RBS training (<https://vimeo.com/237921758/99bf6f70c>);
- Suggested social media posts (e.g. Twitter); and,
- The 2017 campaign toolkit.

In order to support the rollout of DLEM and to assess its initial impact beyond the Liverpool area, the Cheshire and Merseyside Public Health Network (CHAMPs) commissioned the Public Health Institute (PHI), Liverpool John Moores University (LJMU), to implement a research study across nightlife areas within

Cheshire and Merseyside ². The primary objectives of the study were to:

1. Explore nightlife users': patterns of night out alcohol consumption; use of the NTE; knowledge of the laws around the sale of alcohol to, and purchase of alcohol for drunk people; perceptions and acceptance of nightlife drunkenness; and experience of alcohol-related harms within the local nightlife setting.
2. Explore bar staff propensity to sell alcohol to pseudo-intoxicated patrons across selected nightlife areas (Sefton and Wirral³).
3. Assess the visibility of DLEM amongst nightlife users, and their perceptions of it.
4. Explore the short-term impact of DLEM on key intermediate variables: nightlife user awareness of the law, and expectations and tolerance of nightlife drunkenness; and sales of alcohol to pseudo-intoxicated patrons.



² The study presented in this report excludes Liverpool, where on-going intervention monitoring is already underway [6,19,22]; see [22] for the 2014-17 research findings.

³ Commissioned independently by councils in each area.

Table A: Summary of DLEM implementation across Cheshire and Merseyside areas (excluding Liverpool, see [22])

Local authority	Nightlife area	Implementation period	Community Mobilisation	RBS training	Police engagement
Cheshire West and Chester	Chester	11/2017 – 02/2018	<ul style="list-style-type: none"> Steering group formation Pub Watch involvement Press and social media campaign DLEM materials in venues/subways 	<ul style="list-style-type: none"> 100+ bar staff trained (via Pub Watch) Training video used to train bar staff at Chester Racecourse 	<ul style="list-style-type: none"> Police supported the intervention
Cheshire East	Macclesfield	10/2017 - 01/2018	<ul style="list-style-type: none"> Steering group formation Pub Watch involvement Press and social media campaign DLEM materials in venues/outdoor spaces Licensing staff conducted visits to venues to share DLEM messages 	<ul style="list-style-type: none"> Training video link distributed to venues via e-mail 	<ul style="list-style-type: none"> Police supported the intervention
Halton	Widnes	10/2017 – 12/2017	<ul style="list-style-type: none"> Steering group formation Pub Watch involvement Press and social media campaign Police/licensing visited venues to share DLEM messages 	<ul style="list-style-type: none"> Bar staff trained by Trading Standards Training video shared via Pub Watch for venues to utilise 	<ul style="list-style-type: none"> Police supported the intervention
St Helens	St Helens	10/2017 – 12/2017	<ul style="list-style-type: none"> Steering group formation Pub Watch involvement Support from local media DLEM materials in venues Police/licensing conducted visits to venues to share DLEM messages 	<ul style="list-style-type: none"> Training video was uploaded to DLEM branded USB drives, which were distributed to over 40 venues by police/licensing 	<ul style="list-style-type: none"> Police supported the intervention

Local authority	Nightlife area	Implementation period	Community Mobilisation	RBS training	Police engagement
Warrington	Warrington	09/2017 – 12/2017	<ul style="list-style-type: none"> Steering group formation Press and social media campaign DLEM materials in venues Police/licensing visited venues to share DLEM messages 	<ul style="list-style-type: none"> 47 bar staff trained by council 	<ul style="list-style-type: none"> Police supported the intervention
Sefton	Southport	10/2017 – 12/2017	<ul style="list-style-type: none"> Steering group formation Press and social media campaign DLEM materials in venues/outdoor spaces 	<ul style="list-style-type: none"> Training video link distributed to venues via letter 	<ul style="list-style-type: none"> Police supported the intervention and conducted random unannounced visits to venues Alcohol test purchases using pseudo-drunk actors
Wirral	Birkenhead, Oxtun, Heswall	10/2017 - 11/2017	<ul style="list-style-type: none"> Steering group formation Social media campaign DLEM materials in venues 	<ul style="list-style-type: none"> Bar staff trained by police and council (20 venues) Training also covered sexual violence 	<ul style="list-style-type: none"> Police supported the intervention Alcohol test purchases using pseudo-drunk actors
Knowsley⁴	No main NTE –residents visit Liverpool/St Helens NTE	10/2017 - 12/2017	<ul style="list-style-type: none"> Steering group formation Press and social media campaign DLEM materials in venues/outdoor spaces 	<ul style="list-style-type: none"> Venues informed of the availability of training video via letter, which could be accessed via contacting the DLEM team 	<ul style="list-style-type: none"> Police supported the intervention

⁴ The evaluation of DLEM discussed in subsequent sections was not implemented in Knowsley due to the lack of a main NTE. However, DLEM was implemented across Knowsley to ensure that a consistent region wide approach was adopted (as it was noted that residents of Knowsley would often use NTEs in St Helens and Liverpool), and to prevent excessive alcohol consumption within local pubs. Further details of Knowsley Council’s experience can be found in Appendix 2.

2. Methods

To meet study objectives and to allow for comparisons with previous DLEM research, methods used in previous evaluations were repeated [see 7, 22]. This included:

Nightlife user surveys:

A short anonymous survey was conducted opportunistically with adults on a night out in nightlife settings in: Chester; Macclesfield; Southport; St Helens; Warrington; Widnes; and Wirral (Birkenhead, Heswall and Oxton). Surveys were conducted through face-to-face interviews on the street on Friday and Saturday nights, pre (N=441) and post-intervention (N=361) between 8.30pm and 1.40am (Table 1). The survey explored: knowledge of alcohol legislation; drinking behaviours on the night of the survey; use of the NTE; expectations and tolerance of nightlife drunkenness; and, past three month experience of adverse events (e.g. violence) and other behaviours (e.g. acting sober to obtain alcohol at the bar) on, or after nights out in the nightlife area of the survey. In the post-intervention survey, participants were also asked about their awareness and perceptions of DLEM, and potential behaviour change as a result of the intervention.



Alcohol test purchase attempts:

Alcohol test purchase attempts in pubs, bars and nightclubs were made by pseudo-intoxicated actors in venues across Southport [24] and Wirral (Birkenhead, Heswall and Oxton) [25]. Test purchases were implemented pre (N=70) and post-intervention (N=70), over four nights (Wednesday, Thursday, Friday, Saturday)



between the hours of 8.30pm and 1.30am (Table 2). The test purchases followed the same protocol as previous studies [see 7, 22], however to maximise the unobtrusive nature of the test purchases in smaller NTEs, each test purchase was made with one actor and one researcher in a pair⁵.

The study received full ethical approval from Liverpool John Moores University (15/EHC/073). Prior to approaching potential survey participants, researchers visually assessed their level of intoxication based on criteria used by the police and in previous research (e.g. unsteadiness [6, 7]). Individuals who appeared highly intoxicated were not approached due to ethical issues concerning their ability to provide informed consent, and researcher and participant safety. Participant intoxication levels were also monitored during survey completion; if subsequently deemed too intoxicated to participate, the survey was ended at an appropriate and safe time.

All data were entered, cleaned and analysed in SPSS v23. Analyses used descriptive statistics, chi-squared, t-tests, Mann-Whitney U and Kruskal-Wallis tests. To calculate the amount of alcohol consumed by nightlife patrons, drinks were coded into standard UK units using the following conversion: small glass of wine, 1.5 units; standard glass of wine, 2.1 units; large glass of wine, 3.0 units; pint of lager/beer/cider, 2.0 units; bottle of lager/beer/cider, 1.7 units; can of lager/beer/cider, 2.0 units; bottle of alcopops, 1.5 units; a single (25ml) shot of spirits, 1.0 unit; and a pitcher of cocktail, 6.0 units⁶.

There are a number of limitations to be considered when interpreting the reported

⁵ Compared to two actors working in a pair to conduct the test purchase, observed by a pair of researchers.

⁶ www.nhs.uk/Livewell/alcohol/Pages/alcohol-units.aspx.

findings. Our study had no control site, thus causation cannot be established. The nightlife patron survey cannot be considered representative and findings should be extrapolated with caution. The survey was implemented opportunistically, within nightlife area samples sizes were small, and at follow-up, due to weather conditions, fewer nightlife patrons were present, thus the number of patrons approached was lower than pre-intervention. Finally, due to ethical considerations, individuals who were visually

assessed as being severely intoxicated were excluded, and we were unable to verify survey participants estimated alcohol consumption, however researchers were trained on how to explore alcohol consumption in detail (e.g. by drink type/amount) and accurate recording of data. Although pre-intervention and follow-up data collection was conducted in different months, all data collection was done during times of typical nightlife activity (e.g. outside of holiday periods).

Table 1: Number of nightlife user surveys completed by nightlife setting and day (pre and post-DLEM)

Area	Pre			Post		
	Month	Friday	Saturday	Month	Friday	Saturday
Chester	September	59	60	February	53	46
Macclesfield	September	0	58	February	0	40
Southport	September	31	36	November	35	40
St Helens	September	51	0	February	50	0
Warrington	September	0	50	November	33	0
Widnes	September	0	52	November	0	30
Wirral	September	44	0	November	34	0
Total	N/A	185	256	N/A	205	156

Table 2: Number of alcohol test purchase attempts by nightlife setting and day (pre and post-DLEM)

Day	Southport		Wirral	
	Pre	Post	Pre	Post
Wednesday	13	13	0	0
Thursday	11	11	0	0
Friday	14	13	10	10
Saturday	12	14	10	9
Total	50	51	20	19

3. Findings

3.1 Nightlife users' experiences and perceptions of Cheshire and Merseyside nightlife settings (pre-DLEM)

Four hundred and forty one nightlife users took part in the pre-intervention survey throughout September 2017. Surveys were completed between 8.45pm and 1.40am, with two-thirds (67.2%) being completed between 8.45pm and 11.59pm. More than half of

respondents were male (61.8%), and the mean age was 29 years (range, 18 to 70 years). Just over one in five (22.5%) reported that they were currently a student, and 63.6% reported living locally to where the survey took place (Appendix 1, Table A1).

3.1.1 Nightlife usage

Forty three respondents (9.8%) reported that this was their first night out in the location the survey was carried out, whilst 29.0% reported they regularly visit the NTE once a week or more, 14.7% two to three times a month, 19.5% once a month, and 27.0% less than once a month. On the night of the survey, 12.5% of participants reported that they had come out for their night out before 5.59pm, 23.8% between 6pm and 7.59pm, 43.8% between 8pm and 9.59pm, 17.5% between 10pm and 11.59pm, and 2.5% between 12am and 1.40am. Nearly one-fifth (17.6%) of participants said they expected to leave the nightlife area between 10pm and 11.59pm, 31.7% between 12am and 1.59am, 30.8% between 2am and 3.59am, 15.3% between 4am and 5.59am, and 4.7% after 6am. Overall, the mean time survey participants expected to be out in the NTE was five and a half hours.

Nearly one in ten (8.6%) reported drinking on their way into the NTE. Nearly six in ten (55.9%) of those who drank en route to the NTE reported consuming alcohol on transport (e.g. bus, taxi), 32.4% at a licensed premise elsewhere (e.g. local pub), 5.9% in the street (e.g. whilst walking into the NTE), and 5.9% at another location (e.g. at work). The majority of drinkers (91.9%) had consumed alcohol from venues including pubs, bars or nightclubs at the time of the survey. 17 drinkers (4.2%) reported drinking alcohol purchased from an off-licence or supermarket since arriving in the NTE (off-sales drinkers).

3.1.2 Alcohol consumption

The majority (92.7%) of participants had consumed alcohol prior to taking part in the survey (termed drinkers from here). One-fifth (21.8%) had their first drink before 17.59pm, 33.3% between 6pm and 7.59pm, 34.5% between 8pm and 9.59pm, and 10.5% after 10pm. More than two in five (41.0%) drinkers had drunk at home or a friend's house before entering the NTE (i.e. preloading).



At the point of survey, over half (56.9%) of drinkers had consumed beer or lager, 52.9% spirits, 21.8% wine, 12.1% cider and 1.5% alcopops. Overall, drinkers reported consuming a median of 9.4 alcohol units prior to survey participation, with males reporting significantly more alcohol consumption than females (males, 10.0; females, 8.0; $p < 0.01$). Amongst preloaders, the median number of units consumed while preloading was four. Preloaders who resided locally reported consuming 3.4 units of alcohol during preloading, compared to 6.0 units amongst non-local residents ($p < 0.05$). Amongst en-route loaders, the median number of units consumed whilst en-route loading was 2.0. Of those reporting consumption within pubs, bars

or nightclubs, the median number of units consumed here was 8.0. Off-sales drinkers reported consuming a median 6.8 off-sale purchased alcohol units whilst in the NTE.

Participants were asked if they intended to consume more alcohol during the rest of their night out (i.e. post survey). Overall, 83.1% of all participants reported that they would drink more alcohol (85.0% of drinkers). Of the participants who reported that they would consume more alcohol, the median number of units expected to be consumed was 8.0. In total, median expected alcohol use over the course of the night out (including alcohol already consumed and expected to be consumed) was 16.0 units. Overall, 14.0% of expected alcohol use over the course of the night out was consumed prior to entering the NTE. Further to this, 12.1% of participants (13.0% of drinkers) said they planned to drink more alcohol once they had left the NTE (e.g. at home).

There were significant differences in the total number of units consumed over the entire night, between gender, age groups and preloaders/non-preloaders. Males (18.0) reported a higher number of units than females (13.6; $p < 0.001$), and total units consumed reduced as age group increased (18-21 years, 18.0; 22-29 years, 16.0; 30+ years, 14.3; $p < 0.05$). Amongst those who had consumed alcohol prior to survey participation, preloaders expected to drink significantly more alcohol over the course of the night out than non-preloaders (preloaders, 19.4; non-preloaders, 14.0; $p < 0.001$).

3.1.3 Drunkenness

Using a scale of 1 (completely sober) to 10 (very drunk),



participants were asked: how drunk they felt at the time of the survey, how drunk they thought they would be when they left the NTE, and how drunk they thought people typically get in the nightlife area (Figure 1). One in ten (12.8%) of those who had consumed alcohol prior to survey completion reported feeling completely sober. The mean score for how drunk drinkers felt at the time of survey was 4.0; there was no significant difference between genders. The mean score for how drunk drinkers (including those who had not drunk alcohol prior to survey completion but intended to during the remainder of their night out) felt they would be when they left the area's nightlife that night was 6.8; there was no significant difference between genders. The mean score for the perceived typical level of drunkenness that people reach on a night out in the area was 8.1; there was a significant difference between genders (males, 7.8; females, 8.6: $p < 0.001$).

Drunkenness ratings were grouped into two categories: low (one to five) and high (six to ten). At the time of the survey, a fifth (23.3%) reported their current level of drunkenness as high, while 73.5% reported their expected levels of drunkenness to be high by the end of the night, and 88.0% felt that typically people reach high levels of drunkenness on nights out in the area. Figure 2 shows the median alcohol units consumed by the point of survey among drinkers reporting low and high scores for each drunkenness statement. There was significant differences in units consumed between those who reported high and low drunkenness across all drunkenness statements; current level of drunkenness (low, 8.0; high 14.0; $p < 0.001$), expected level of drunkenness (low 6.3; high 10.0; $p < 0.001$) and typical level of drunkenness amongst nightlife users (low 7.0; high 10.0; $p < 0.05$).

Figure 1: Participants perceptions on their and other nightlife users' level of drunkenness, Cheshire and Merseyside nightlife users (pre-DLEM, 2017)

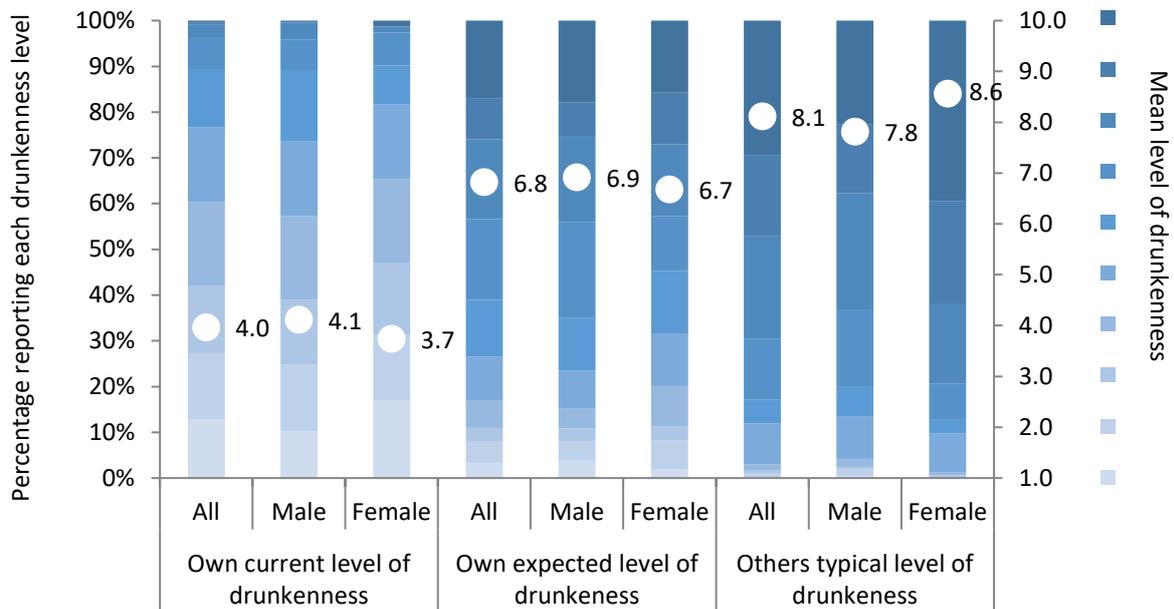
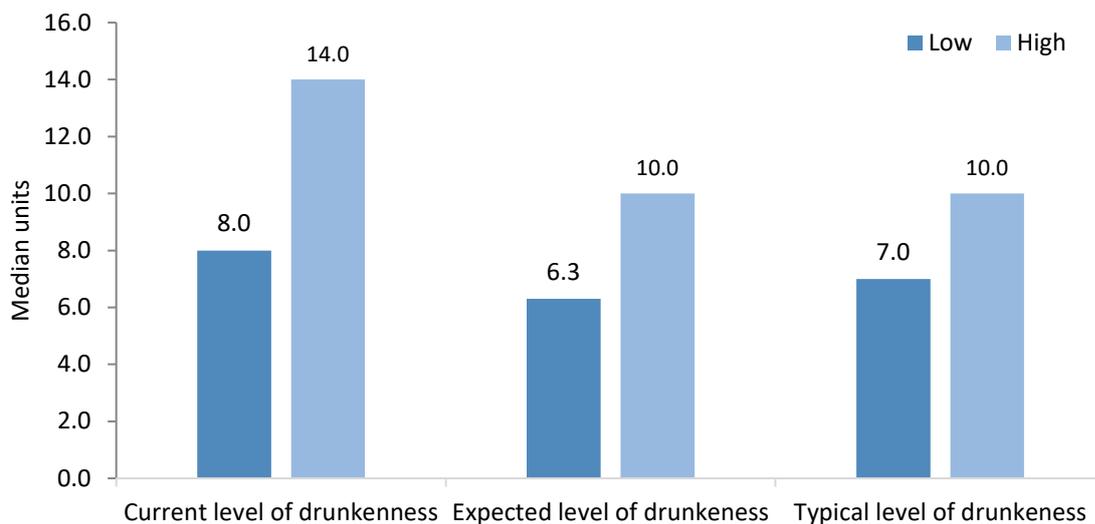


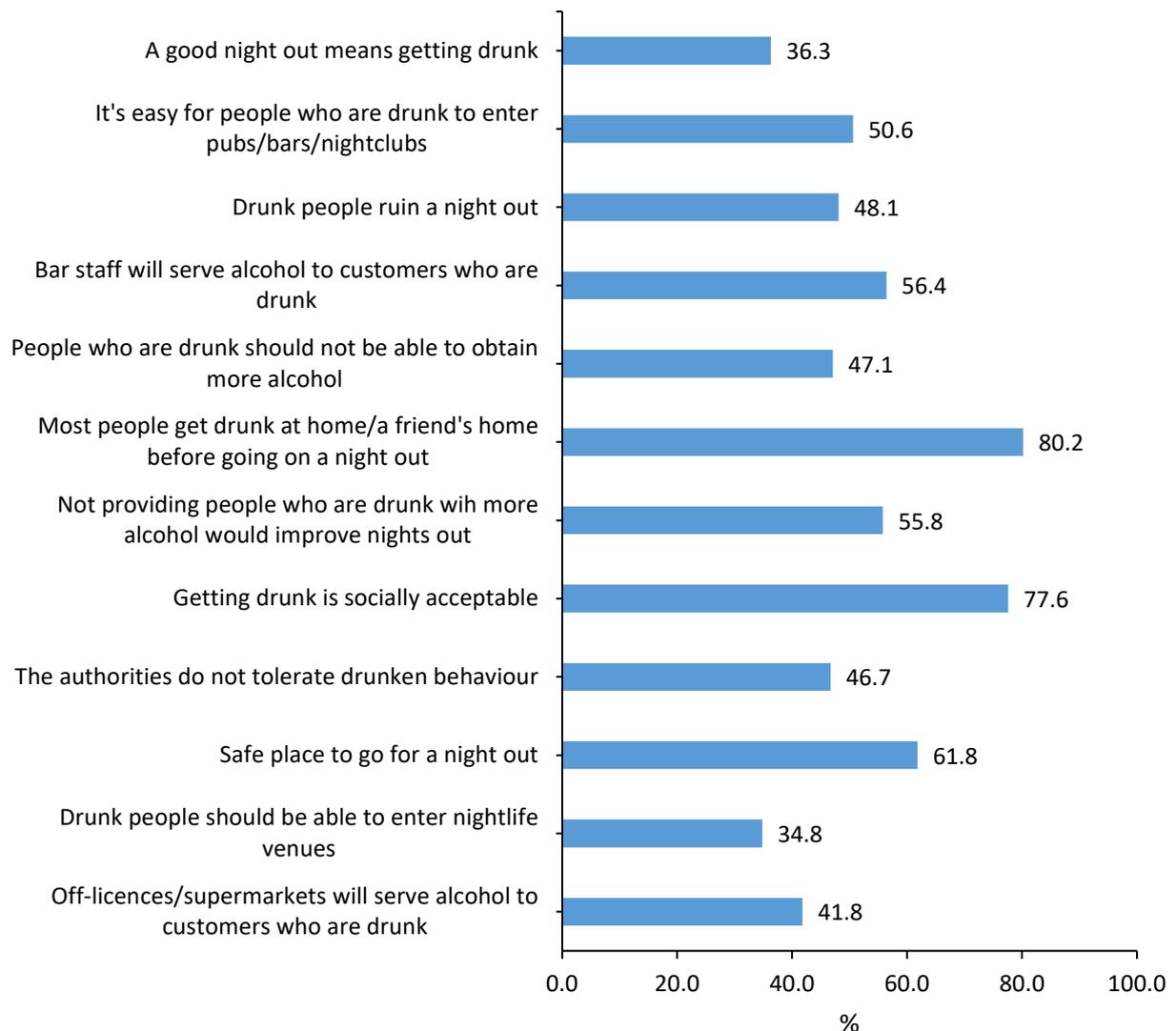
Figure 2: Median alcohol units consumed up to the point of survey of drinkers reporting a low (1-5) or high (6-10) drunkenness rating for selected statements on drunkenness, Cheshire and Merseyside nightlife users (pre-DLEM, 2017)



Participants were asked how much they agreed or disagreed with a range of statements relating to drunkenness using a five point scale from strongly agree to strongly disagree ⁷ (Figure 3). The majority of participants (80.2%) agreed⁸ most people get drunk at home or a friend's house before going out (i.e. preload). Almost three-quarters (77.6%) agreed that getting drunk is socially acceptable in the local NTE and 61.8% agreed that the survey location

was a safe place for a night out. Over half (56.4%) agreed bar staff will serve alcohol to customers who are drunk and that refusing alcohol to customers who are drunk will improve nights out (55.8%). Half of participants (50.6%) agreed that it is easy for customers who are drunk to enter pubs, bars or nightclubs.

Figure 3: Proportion of participants agreeing⁸ with selected statements on drunkenness, Cheshire and Merseyside nightlife users (pre-DLEM, 2017)



⁷ Strongly agree, agree, neither, disagree, strongly disagree and don't know.

⁸ Including strongly agree and agree.

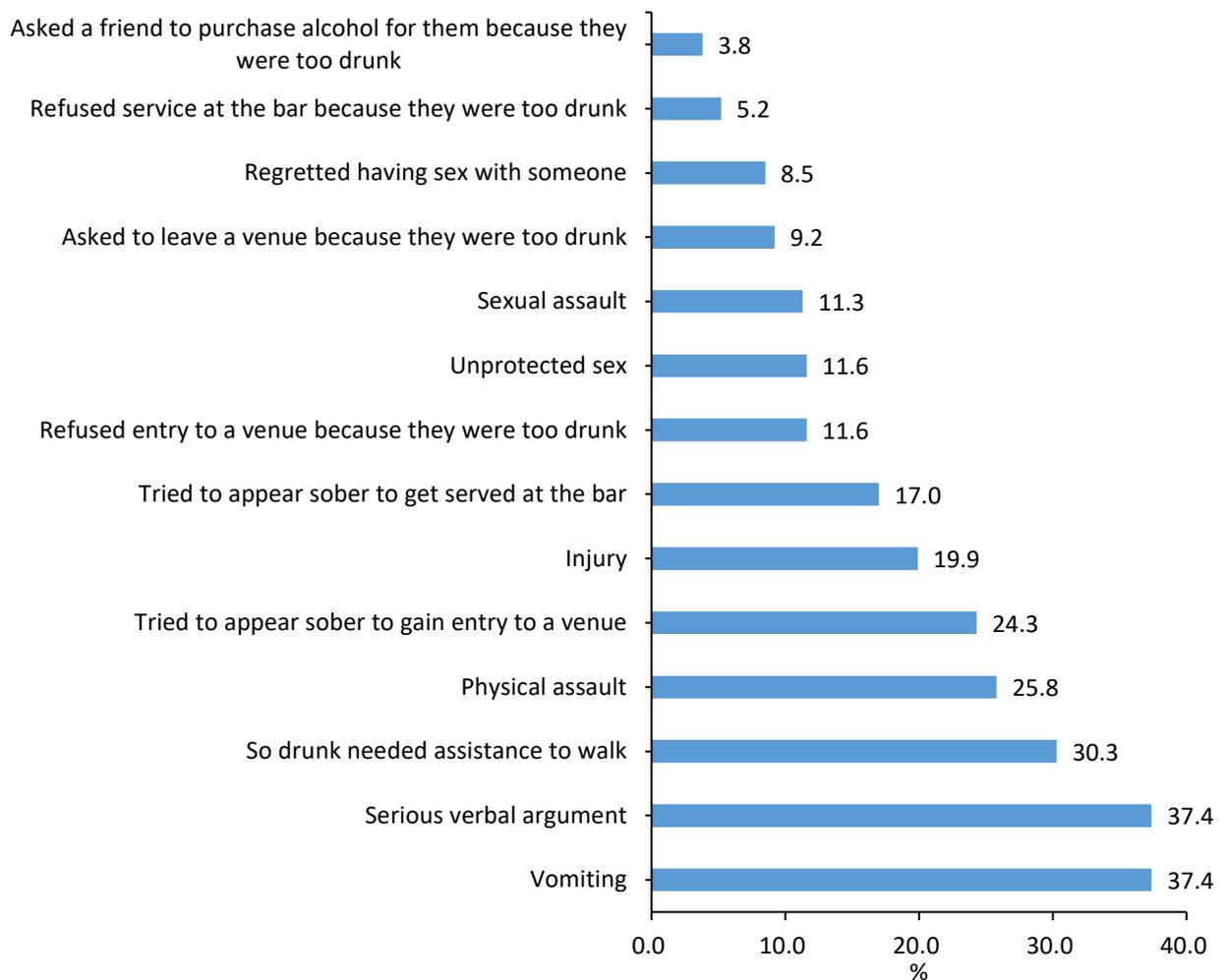
3.1.4 Adverse nightlife events⁹



Participants were asked whether they had experienced any negative events while they were on, or after a night out in the local NTE in the previous three months (Figure 4; Appendix 1, Table A3). Over one third (37.4%) had vomited whilst on a night out, 37.4% had had a serious verbal argument, 30.3% had been so drunk they needed help walking, 25.8% had been involved in a physical assault, 19.9% had been injured, 11.6% had unprotected sex, 11.3% had experienced a sexual assault (including sexual harassment) and 8.5% regretted having sex

with someone. One quarter (24.3%) tried to appear more sober to gain entry to a venue, and 17.0% tried to appear more sober to get served at the bar. Over one in ten (11.6%) had been refused entry to a venue for being too drunk, 9.2% had been asked to leave somewhere because they were too drunk, 5.2% had been refused service at the bar because they had been too drunk, and 3.8% had asked a friend to buy them alcohol because they were too drunk to get served themselves.

Figure 4: Proportion of participants who experienced an adverse nightlife event whilst on, or after a night out in the past three months, Cheshire and Merseyside nightlife users (pre-DLEM, 2017)



⁹ Adverse events were also witnessed within venues by actors/researchers conducting alcohol test purchases including: drug use (2.1% of venues), a verbal argument (0.7%), a physical fight (0.7%), paramedic treatment (0.7%), vomiting (0.7%) and police presence following a nearby altercation (0.7%).

Table 3: Alcohol consumption, drunkenness, safety and experience of adverse events by nightlife settings, nightlife users (pre-DLEM, 2017)

		Chester	Macclesfield	Southport	St Helens	Warrington	Widnes	Wirral	All	Liverpool 2017 [22]
Drinkers¹	%	94.0	96.4	95.4	100.0	100.0	98.1	97.7	96.8	98.5
Preloading²	%	41.0	51.8	41.9	26.5	46.7	34.7	43.9	41.0	47.2
En route loading²	%	15.4	7.1	4.8	2.0	13.6	4.1	7.3	8.6	16.9
Drinkers total alcohol units over the course of the night out^{1,3}	Units	16.0	15.6	14.2	17.9	17.3	22.0	13.7	16.0	18.0
Expected high level of drunkenness at the end of the night^{1,4}	%	74.1	73.1	71.0	72.5	83.3	73.5	66.7	73.5	74.0
Expected high level of drunkenness of other nightlife users⁴	%	84.5	96.4	75.4	96.1	93.8	96.0	80.5	88.0	92.5
Nightlife area is a safe place for a night out	%	84.3	70.6	44.6	32.0	51.0	68.8	55.8	61.8	72.4
The authorities do not tolerate drunken behaviour in the area	%	44.3	52.9	33.8	51.0	55.1	52.1	44.2	46.7	52.8
Experienced 1+ harm(s) in the last 3 months⁵	%	46.5	69.8	55.4	47.1	51.0	81.3	46.5	55.3	50.0

Note. Units presented are median value. 1. Including those who had consumed alcohol pre survey and/or intended to consume alcohol post survey. 2. Of those who had consumed alcohol pre survey only. 3. Including reported and, or expected alcohol consumption. 4. Drunkenness was rated on a scale of one to ten, with one being completely sober and 10 being very drunk. Ratings of one to five were classified as a low rating and ratings of six to 10 as a high rating. 5. Harms included a serious verbal argument, physical assault, sexual assault, injury, vomiting, and so drunk needed assistance to walk.

3.2 Sales of alcohol to pseudo-intoxicated patrons (pre-DLEM 2017)

3.2.1 Sefton and Wirral Local Authorities combined

Alcohol test purchases made by pseudo-intoxicated actors were conducted in 70 pubs, bars and nightclubs in Southport and Wirral, prior to the Cheshire and Merseyside DLEM intervention being implemented. Almost half (48.6%) of pre-intervention test purchases resulted in the service of alcohol. Pseudo-intoxicated actors were offered a double measure of vodka by the bar server instead of the single requested in one-sixth (14.7%) of all successful test purchase attempts. Of all successful test purchase attempts actors were asked to show ID at the bar in one twentieth of them (5.9%).



There was no significant difference in service outcome between purchase attempts made before or after midnight. Three in ten (32.9%) of the venues had security staff (e.g. door staff) present during the time of the test purchase. Of venues with security staff, 69.6% served the actor alcohol, compared to 38.3% of those without security staff ($p < 0.05$).

Ten established markers of poorly managed and problematic (PMP)¹⁰ bars were drawn

from the observational data using an established tool by Graham et al (2006) as used in previous research [3,7]. Eleven venues had no PMP markers, whilst 32 had one or two, 17 had three or four, 8 had five to seven and 2 venues had eight to ten markers. The service of alcohol was significantly more likely to occur when there were more PMP markers present in a venue. Of those with no PMP markers, almost one in five (18.2%) served the actor alcohol, whilst all the venues with eight to ten PMP markers served the actor alcohol ($p < 0.01$). Of the individual markers, venues that had no or little seating, or drinks promotions¹¹ had significantly higher rates of alcohol sales to the pseudo-drunk actor (Table 4).

Where actors were refused service, 83.3% involved a direct refusal of service. Over one in ten (13.9%) involved the bar staff offering an alcohol free drink; 16.7% of bar staff used caring statements when refusing service; 13.9% of bar staff ignored the drunk actors; and, 8.3% of bar staff asked another member of staff for advice/assistance (see Box 1 for examples of such tactics used in exchanges with actors).

¹⁰ Low seating, <50% venue floor area with seating; young bar staff, >50% appear <age 25 years; young customers, most appear <age 25 years; noisy bar, crowded bar, poor lighting, dirty bar, rowdy bar, drunk customers, ratings of five or above on scales

of 0 to 9 grading the presence of the marker (e.g. noisy bar; 0=very quiet/easy to talk, 9=hurts ears/cannot talk) (see [3,7]).

¹¹ Drink promotions includes the promotion of both general and cheap drinks.

Table 4: Service rates to pseudo-intoxicated actors in venues with and without markers of poorly managed and problematic (PMP) bars, Sefton and Wirral combined (pre-DLEM, 2017)

PMP markers		N	% served	p
None/low seating	No	52	40.4	<0.05
	Yes	18	72.2	
Young bar staff	No	46	39.1	NS
	Yes	24	66.7	
Young customers	No	56	42.9	NS
	Yes	14	71.4	
Drink promotions*	No	31	32.3	<0.05
	Yes	39	61.5	
Drunk customers	No	50	44.0	NS
	Yes	20	60.0	
Noisy bar	No	53	41.5	NS
	Yes	17	70.6	
Crowded bar	No	65	50.8	NS
	Yes	5	20.0	
Poor lighting	No	57	42.1	NS
	Yes	13	76.9	
Dirty bar	No	61	45.9	NS
	Yes	9	66.7	
Rowdy bar	No	59	45.8	NS
	Yes	11	63.6	
Number of PMP markers	None	11	18.2	<0.01
	1 or 2	32	37.5	
	3 or 4	17	76.5	
	5 to 7	8	62.5	
	8 to 10	2	100.0	

Note. * Drinks promotions includes the promotion of both general and cheap drinks.

Box 1: Extracts from actors' notes on exchanges with bar servers, Sefton and Wirral combined (pre-DLEM, 2017)

Test purchases resulting in alcohol service

- The bartender did not hesitate to serve. The bouncers were standing next to them [server] encouraging them [server] to serve me a double, but I said I just wanted a single.
- Staff kept looking and acknowledging drunkenness, but no attempt made to offer water or decline service at all.
- We entered the bar, the server was very young and was dancing behind the bar. The bartender served me straight away with no refusal and then went back to dancing.

Test purchases resulting in refusal of alcohol service

- I was told I was too drunk and escorted out before I'd asked for a drink.
- Politely refused and offered a drink of water.
- As soon as I came to the bar, [server] told me I was too drunk and they would not serve me. I asked again and they said they had seen me walking in and they could not give me any more alcohol.
- I asked for drink and [server] started to make it, but then looked back and asked if I wanted a water instead. I said "No" and repeated that I wanted an [alcoholic drink] but [server] gave me water anyway.

3.2.2 Sefton Local Authority Area (Southport NTE)

Alcohol test purchases made by pseudo-intoxicated actors were conducted in 50 pubs, bars and nightclubs prior to the intervention being implemented in Southport. One third (32.0%) of pre-intervention test purchases resulted in the service of alcohol. Service rates did not vary significantly by the number of PMP markers present in a venue (Table 5). Of the venues that refused service, twenty eight (82.4%) involved a direct refusal, and telling the actor they would not be able to serve them alcohol due to being too drunk. Four (11.8%) venues went further and offered a soft drink and five (14.7%) used caring statements to refuse the service of alcohol. Five (14.7%) venues ignored the pseudo-intoxicated actor, whilst three (8.8%) sought help to refuse from another member of staff.

3.2.3 Wirral Local Authority Area (Birkenhead, Oxtown and Heswall NTEs)

Alcohol test purchases made by pseudo-intoxicated actors were conducted in 20 pubs, bars and nightclubs prior to the intervention being implemented in Wirral. Nine out of ten (90.0%) pre-intervention test purchases resulted in the service of alcohol. The service of alcohol was more likely to occur when there were more PMP markers present in a venue (Table 5). Of the two venues refusing the service of alcohol, both involved a direct refusal, and telling the actor they would not be able to serve them alcohol due to being too drunk. One of these venues went further and offered a soft drink and used caring statements to refuse the service of alcohol. Notes from the actors suggest that occasionally bar staff recognised signs of drunkenness and still proceeded with the sale of alcohol.

Table 5: Service rates to pseudo-intoxicated actors in venues with and without markers of poorly managed and problematic (PMP) bars, Sefton and Wirral Local Authority (pre-DLEM, 2017)

		Sefton			Wirral		
		N	% served	p	N	% served	p
Number of PMP markers	None	10	20.0	NS	1	0.0	
	1 or 2	25	24.0		7	85.7	
	3 or 4	9	55.6		8	100.0	
	5 to 7	4	25.0		4	100.0	
	8 to 10	2	100.0		0	-	<0.05

3.3 Pre and post Cheshire and Merseyside DLEM comparison

3.3.1 Nightlife user surveys

Three hundred and sixty one nightlife users participated in the post-intervention survey compared with four hundred and forty one in the pre-intervention survey. There were no significant differences between pre and post-intervention survey participants in: gender; age group; student status; residence status; or regularity of nightlife use (Table 6). There was

also no significant differences in the total median units of alcohol expected to be consumed over the course of the full night out (Table 6). However, significantly more surveys were conducted before midnight in the post-intervention survey (76.0%) than the pre (67.1%; $p < 0.01$).

Table 6: Sample characteristics, Cheshire and Merseyside nightlife users (pre and post-DLEM, 2017)

Characteristic	Pre	Post	<i>p</i>
	N=441	N=361	
Male	61.8%	56.5%	NS
18-21 years	30.8%	26.0%	NS
22-29 years	35.1%	39.1%	NS
30 + years	34.0%	34.9%	NS
Student	22.5%	18.1%	NS
Local resident of survey location	63.6%	65.0%	NS
Regular nightlife user*	63.3%	64.8%	NS
Survey conducted before midnight	67.1%	76.0%	<0.01
Total units consumed during night out [^]	16.0	16.0	NS

Note. * Usually go on a night out in the city at least once a month. [^] Including drinkers' reported and, or expected alcohol consumption. NS = not significant.

Awareness of the law

The proportion of respondents recognising that it was against the law for bar staff to serve alcohol to customers who were already drunk was slightly higher in the post-intervention survey results compared with the pre-intervention survey (pre, 64.4%; post, 67.1%; $p = 0.076$). A similar proportion of participants recognised that it was illegal for a person to buy alcohol for a friend who was already drunk in both waves of the survey (pre, 56.2%; post, 56.1%; $p = 0.632$) (Figure 5; Appendix 1, Table A2).



Drunkenness

Participants were asked how much they agreed or disagreed with a range of statements relating to drunkenness across each of the survey locations using a six point scale from strongly agree to strongly disagree (Figure 6). There was only one significant change in the levels of agreement to the statements between pre and post-intervention survey participants. The proportion agreeing that people who are drunk should not be able to obtain more alcohol rose, from 47.1% pre-intervention to 58.9% post-intervention ($p < 0.01$).



Figure 5: Participant awareness of the law around serving alcohol to, and purchasing alcohol for, drunk people, Cheshire and Merseyside nightlife users (pre and post-DLEM, 2017)

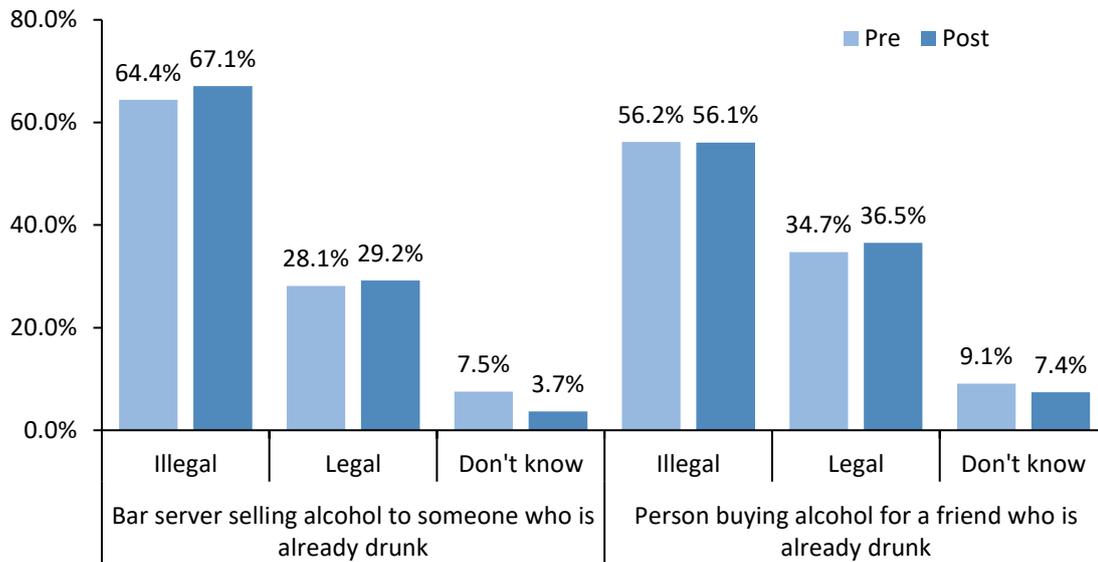
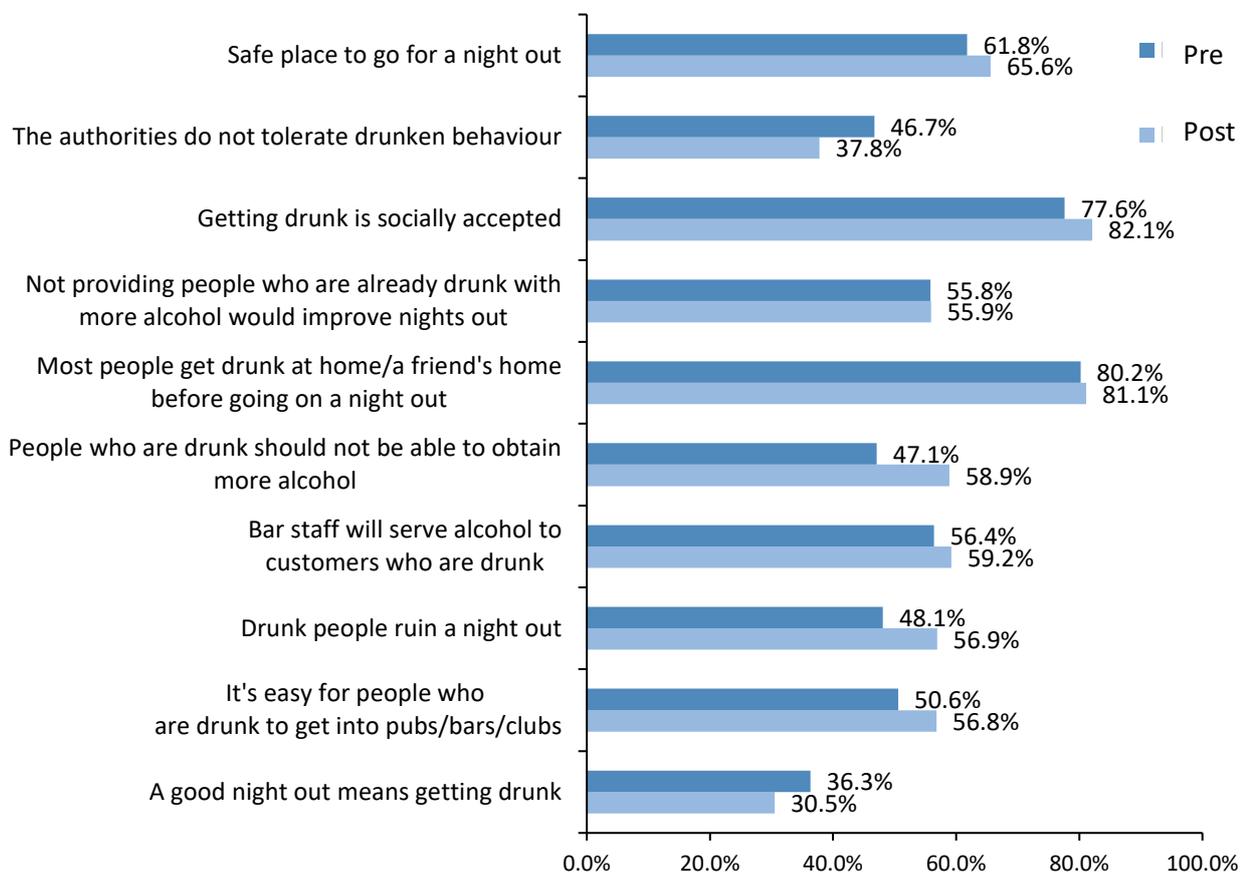


Figure 6: Proportion of participants strongly agreeing/agreeing with selected statements on drunkenness, Cheshire and Merseyside nightlife users (pre and post-DLEM, 2017)



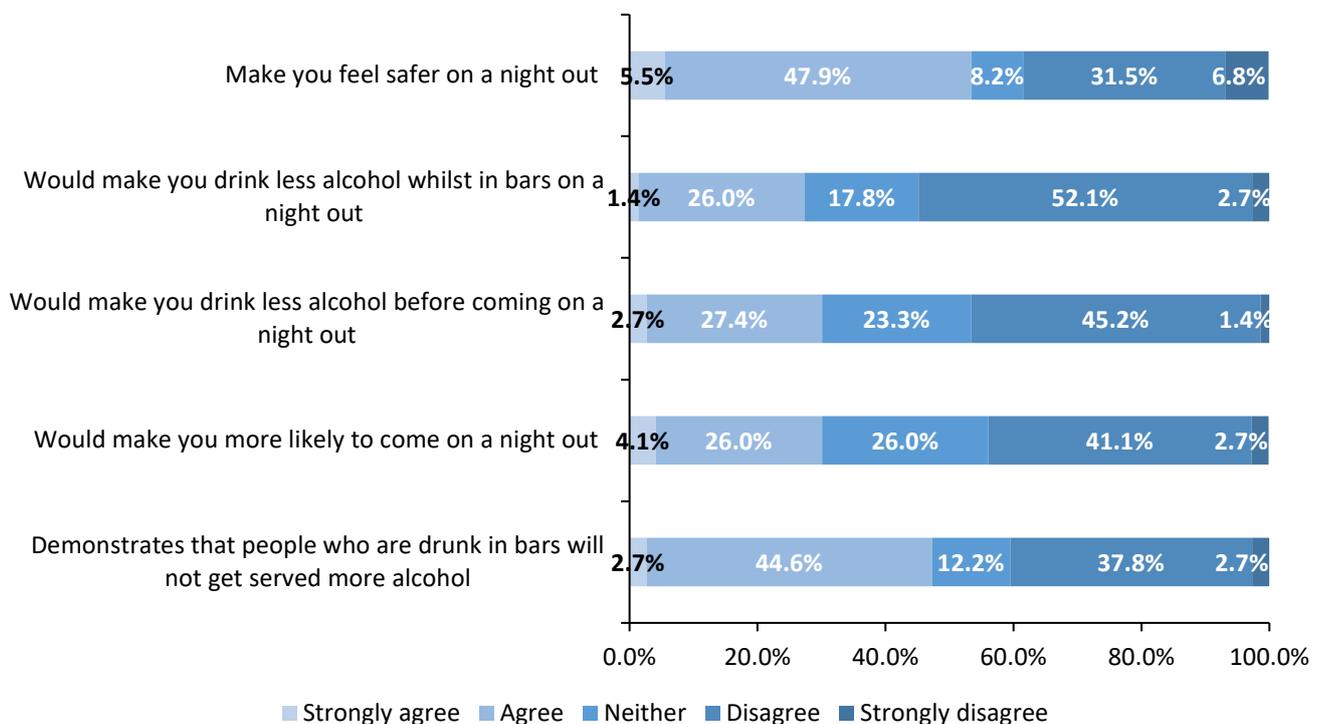
DLEM awareness and perceptions

Participants of the post-intervention survey were asked if they were aware of the DLEM intervention; over one in six (17.0%; n=59) reported that they had heard of the intervention. All participants were then informed about the intervention, shown an intervention poster and asked to confirm whether or not they were aware of the intervention or had seen the posters. At this stage, an additional 35 respondents said they were aware of the intervention, thus overall, 27.3% of respondents were aware of the intervention. Of the respondents who were aware of the intervention, the majority (77.4%) reported having seen the intervention posters (22.6% had not seen the posters; 17.2% had seen them in a venue, 8.6% at a bus stop, and 51.6% elsewhere). One third (32.6%) of participants who were aware of the intervention had seen it on social media. Participants also reported being made aware of the intervention via bar runners (12.4%), a

radio advert/discussion (6.7%), staff badges, stickers or t-shirts (4.5%), and newspaper or magazine articles (1.1%).

Participants who were aware of the intervention were asked how much they agreed with a range of statements about the intervention (Figure 7). Over half (53.4%) of participants aware of the intervention, agreed⁸ the campaign would make them feel safer on a night out. Over four in ten (47.3%) respondents reported that the campaign demonstrated that people who were drunk in venues would not be served more alcohol. Three in ten participants agreed the campaign would make them drink less alcohol before coming on a night out (30.1%) and make them more likely to come on a night out in the respective survey locations (30.1%). Over one quarter (27.4%) agreed that the intervention would make them drink less whilst in bars on a night out.

Figure 7: Participants' perceptions of the DLEM intervention, Cheshire and Merseyside nightlife users aware of DLEM (post-DLEM, 2017)



3.3.2 Alcohol test purchase attempts

Sefton and Wirral Local Authorities combined

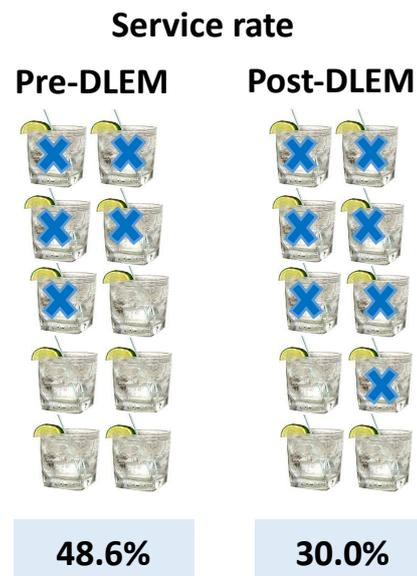


Overall, the proportion of venues serving alcohol significantly reduced from almost half (48.6%) pre-intervention to three in ten (30.0%) post-intervention ($p < 0.05$). Overall, 26 (40.0%) venues refused service in both the pre and post-test purchase attempts; almost two in ten (18.5%) served in both the pre and post-test, and 10.8% served only in the post-test attempt. Over three in ten (30.8%) of the venues served in the pre-intervention test but then refused service in the post-intervention test attempt¹².

During post-intervention test purchases, only the PMP marker “young bar staff” was significantly associated with alcohol sales (Appendix 1, Table A4). Pre-intervention, markers significantly associated with alcohol sales included no or little seating and drinks promotions (see Table 4). Further to this, whilst pre-intervention the total count of PMP markers was significantly associated with alcohol sales, this was no longer significant in the post-intervention test purchase attempts (Appendix 1, Table A4).

Of the venues that refused service, four in five (83.7%) of the venues refused the service of alcohol directly (compared to 83.3% pre-intervention). Over one in ten (14.3%) venues offered the actor an alcohol free drink (pre, 13.9%), bar staff in 6.1% of tests ignored the drunk actor to avoid serving them (pre, 13.9%), bar staff in two venues (4.1%) gained advice/assistance from a colleague (pre, 8.3%) and in one venue (2.0%) they used caring statements (pre, 16.7%). One in five (20.4%) of the venues were seen to have material from the DLEM intervention during the post-intervention purchase attempts.

¹² Five venues were not repeated in the post intervention phase due to closures etc.



Sefton

Test purchase attempts were conducted in fifty-one venues during the post-intervention phase. There was a reduction in service of alcohol to a pseudo-intoxicated actor from 32.0% of venues in the pre-intervention phase to 27.5% in the post-intervention phase, but this was not significant ($p = 0.78$). During the post-intervention test purchases, the researchers observed DLEM materials (e.g. posters) in 9.8% of the venues. Examples of interactions between the bar staff and pseudo-drunk actor that occurred when sales were refused during post-intervention test purchases are given in Box 3.

Wirral

Nineteen of the twenty test purchase attempts were repeated following implementation of the intervention. There was a significant reduction in the proportion of alcohol test purchases that resulted in the sale of alcohol to a pseudo-intoxicated actor from 90.0% pre-intervention to 36.8% post-intervention



($p < 0.01$). Half (50.0%) of the venues served in the pre-intervention test went on to refuse service in the post-intervention test attempt. One in 10 (11.1%) refused service in both the pre and post-intervention test purchase attempts, while nearly four in ten (38.9%) served in both the pre and post-intervention test. During the post-intervention test purchases, over half (52.6%) of the venues were displaying the DLEM materials (e.g. posters). Of the venues which displayed DLEM material, half (50.0%) served the actor.

Where actors were refused service, all (100%) of the venues refused the service of alcohol

directly. Four in ten (41.7%) bar staff in the venues offered the actor an alcohol free drink, and bar staff in one venue (8.3%) ignored the drunk actor to avoid serving them. Examples of interactions between the bar staff and pseudo-drunk actor that occurred when sales were refused during post-intervention test purchases are given in Box 3.



"Has she had too many? I'm sorry, I can't serve you".
Bar staff member

Box 3: Example extracts from actors' notes on exchanges with bar servers during alcohol refusals, Sefton and Wirral Local Authorities (Post-DLEM, 2017)

- She said "I'm sorry, you are too drunk and I can't serve you, I could lose my job". (Wirral)
- [Server] was apologetic and said he couldn't serve me as I was "a bit too drunk" and offered me a soft drink. (Wirral)
- Bar server turned to researcher (i.e. sober actor) and said "has she had too many? I'm sorry, I can't serve you". (Wirral)
- We waited for about 10 minutes and they just ignored me... eventually, I asked to get served and they said "sorry I can't serve you". (Wirral)
- The [server] signalled to the manager who came over and said "not a chance, you are too drunk". (Wirral)
- As I stumble into the bar, the staff and patron spotted me and exchanged glances. Staff told me the price of the drink but then refused service saying "You are too drunk, sorry". (Sefton)
- I went to order, the woman apologised and said that I'd had "too many" and we left. (Sefton)

4. Discussion

DLEM is a community-based multi-component intervention, designed to prevent alcohol-related harms in nightlife settings through preventing sales of alcohol to intoxicated nightlife patrons in on-licensed premises, and raising awareness of associated legislation; and discouraging, and reducing the acceptability of excessive drunkenness amongst nightlife patrons [7]. Since 2014, DLEM has been implemented in Liverpool during periods associated with alcohol-related harms, both within the city's main nightlife area, and across the broader community (targeting nightlife users prior to entering the nightlife setting) [19, 22]. Monitoring and evaluation of DLEM to date suggests that it is associated with a reduction in sales of alcohol to pseudo-intoxicated patrons in on-licensed premises, and an improvement in nightlife patron awareness of associated legislation [6,18-22]. Further, positive change has been observed in nightlife users' perceptions that drunken behaviour in nightlife is not tolerated by

authorities in Liverpool [22]. Subsequently, in 2017/18, DLEM was expanded beyond Liverpool Local Authority (LA) to cover the nine LAs within the Cheshire and Merseyside area (including Liverpool). This study aimed to support this rollout, through:

- 1) Providing a baseline understanding of alcohol access, consumption and harms within nightlife settings across the area;
- 2) Assessing the visibility of DLEM amongst nightlife users, and their perceptions of it; and,
- 3) Exploring the short-term impact of DLEM on key intermediate variables: sales of alcohol to pseudo-intoxicated patrons; and nightlife user awareness of the law, and expectations and tolerance of nightlife drunkenness.

Each of these aspects are discussed below¹³.

4.1 Alcohol consumption, access and harms within Cheshire and Merseyside nightlife settings (pre-DLEM)

Evidence suggests that UK drinking cultures are changing, including reductions in the number of people drinking and average levels of consumption [26, 27]. However, our study found high levels of alcohol consumption and expected levels of drunkenness amongst nightlife users participating in the survey. Over the course of the night out, drinkers expected to consume 16 alcohol units – more than the Chief Medical Officer's guidelines for low risk drinking (i.e. consume no more than 14 units a week on a regular basis [28]). Similar studies conducted across nightlife areas in North West England and Wales have found comparable levels of alcohol consumption amongst

nightlife users during a night out [6, 18, 20, 22]. Collectively, these studies highlight that many UK nightlife settings are a high-risk environment for unsafe levels of alcohol consumption. Correspondingly, in our study, social norms around the acceptability of drunkenness in nightlife were high. The majority of survey participants expected that both they and other nightlife users in the area will reach a level of drunkenness on their night out, and agreed that getting drunk is socially accepted in the local NTE.

Critically however, our study found that 41.0% of drinkers had preloaded, and 14.0% of all

¹³ Except for reference purposes, findings for Liverpool have not been included in this report; full Liverpool DLEM findings can be found in [22].

alcohol consumed over the course of the night out was drunk before entering the NTE. Thus, many nightlife users are entering the nightlife setting either highly intoxicated or on their way to being so. This causes concern for both the public (preloading has been associated with excessive night out alcohol consumption and experiences of violence [4]), and those tasked with managing the nightlife setting (including on-licensed premises, security staff, police and local authorities). Reducing preloading is thus a key consideration for preventing alcohol-related harms and promoting a thriving NTE.

Reasons for preloading are diverse. Whilst a clear incentive is the price discrepancy between on and off-licensed premise alcohol sales (with the latter most often substantially cheaper), studies suggest that preventing preloading may be more complex than addressing this alone. This is particularly so, given the social factors associated with preloading (e.g. bonding with peers [29]). Thus, whilst interventions which aim to address cheap alcohol sales (e.g. minimum unit pricing) may go some way to reduce preloading, other interventions may be required that consider the social aspects of this drinking behaviour, which may require consideration of diversifying nightlife settings and a night out experience. This is vital given that effective implementation of DLEM would mean that many nightlife venues will be refusing alcohol service to patrons who will have formed a substantial part of their current client base. For example, a recent study conducted in Liverpool found that students will often preload prior to going out, and drink alcohol as a means of bonding with peers and creating shared experiences. Yet, whilst they would also be keen to partake in non-alcohol focused activities if they took place outside of traditional nightlife venues, such activities were viewed as lacking in the local area [30].

Our study found that pre-intervention bar server propensity to serve alcohol to pseudo-intoxicated actors (a proxy measure for sales of alcohol to drunk people) varied substantially between Sefton (32.0% service rate) and Wirral (90.0%). The service rate in Wirral was comparable to rates found in other areas prior to implementation of interventions such as DLEM (e.g. Liverpool, pre-DLEM 84% [3]; Manchester, 70.8% [21]), whilst Southport was comparable to post-DLEM service rates found in Liverpool (e.g. 2015-2017, range 22%-36% [22]). Although further exploration is needed, differences in both the NTE offer and clientele across the two areas may account for the difference in pre-intervention service rates. Test purchases in both settings included a mix of venue types, however within Southport researchers noted examples of existing good practice, such as citing the legislation when refusing alcohol service. Researchers also noted that Southport's NTE was relatively quiet during alcohol test purchases, meaning that overly intoxicated people (and thus the pseudo-intoxicated actor) would be more noticeable. Yet this was also the case for some venues/areas where test purchases were conducted on Wirral. Thus, findings may suggest that there are variations in bar server propensity to serve alcohol to drunk people across nightlife settings, both within Cheshire and Merseyside, and the UK. Moreover, since DLEM was implemented in Liverpool, at both national and local levels, tackling sales to drunk individuals in on-licensed premises is increasingly being prioritised [17]. Preventing sales of alcohol to drunk people is one objective of the government's Local Alcohol Action Area programme [17], and organisations such as the British Beer and Pub Association have produced posters to raise awareness of legislation prohibiting sales of alcohol to drunk people¹⁴. Increasing recognition and focus on preventing sales of alcohol to drunk people in areas of the country,

¹⁴ See <https://beerandpub.com/campaigns/the-law-on-serving-drunks/>

may lead to differences in service rates and potentially an overall downward trend in such alcohol sales. Finally, purchases attempts in Southport were conducted Wednesday to Saturday night, and in Wirral on a Friday and Saturday night only. However, similar to other studies [3,7], our study suggests that day of the week was not a factor in service rate differences, as the service rate within Southport on a Friday and Saturday only (38.5%) was still substantially lower than Wirral (90.0%).

Over six in ten nightlife users participating in the survey felt that the local NTE (where the survey was conducted) was a safe place to go out. However, a substantial proportion of participants reported experiencing harms during a night out in the past three months. Over one-third (37.4%) had vomited whilst on a night out, 37.4% had a serious verbal argument, 30.3% had been so drunk they needed help walking, 25.8% had been involved in a physical assault, 19.9% had been injured and 11.3% had experienced a sexual assault. Whilst comparable figures were found in the same study conducted in Liverpool's nightlife in 2017, the Liverpool study found lower levels

of both verbal arguments (25.4%) and physical assault (13.4%) [22]. While findings should be interpreted with caution due to low sample sizes within nightlife settings, our study found difference in experience of harms, across study sites. For instance, past three month experience of verbal arguments ranged from 68.8% amongst participants from Widnes's NTE to 28.9% in Chester. Survey participants also reported engaging in behaviours, or experiencing activity, that indicated both their attempts to access alcohol or gain entry to venues whilst drunk, and venues efforts to prevent this. Thus, around a fifth of participants reported trying to appear more sober to gain entry into a venue (24.3%) or get served at the bar (17.0%), and around a tenth had been refused entry to a venue for being too drunk (11.6%) or had been asked to leave somewhere because they were too drunk (9.2%). One in twenty (5.2%) had been refused service at the bar because they had been too drunk and 3.8% had asked a friend to buy them alcohol because they were too drunk to get served. Such information may help inform prevention activity within venues to prevent sales of alcohol to drunk customers

4.2 DLEM: visibility, public perceptions and short-term impact

Overall, 27.3% of post-intervention survey participants reported that they had heard of the DLEM intervention. By way of comparison, following the initial piloting of DLEM in Liverpool in 2014¹⁵, 17.2% of post-intervention survey participants reported that they had heard of the intervention; in subsequent years this has increased to around a third [22]. Of the respondents who were aware of the intervention, the majority (77.4%) reported having seen the intervention posters, 32.6% had seen the intervention on social media, 12.4% via bar runners, and smaller proportions via radio advert/discussion (6.7%), staff badges, stickers or t-shirts (4.5%), and newspaper or

magazine articles (1.1%). Amongst those aware of DLEM, perceptions of the intervention were generally positive. Half (53.4%) agreed the intervention makes them feel safer on a night out; 47.3% that campaign materials demonstrated that people who were drunk in venues would not be served more alcohol; 30.1% that the intervention would make them drink less alcohol before coming on a night out; 30.1% that the intervention would make them more likely to come on a night out in the respective survey locations; and 27.4% that the intervention would make them drink less whilst in bars on a night out.

¹⁵ At which time it was branded Say No To Drunks.

Following initial expansion of DLEM across areas surrounding Liverpool, covering the Cheshire and Merseyside area, initial evaluation findings presented in this report suggest mixed results. Overall, bar server propensity to serve alcohol to the pseudo-drunk actors reduced significantly from 48.6% pre-intervention to 30.0% post-intervention ($p < 0.05$). Most of the change was observed in Wirral, which had much higher pre-intervention alcohol sales compared to Southport (which were relatively low - discussed above). Thus in Wirral only, there was a significant reduction in the proportion of alcohol test purchases that resulted in the sale of alcohol to a pseudo-intoxicated actor from 90.0% pre-intervention to 36.8% post-intervention.

Overall, there was little change in the proportion of pre and post-intervention nightlife user survey participants who were aware of alcohol legislation regarding sales of alcohol to, and purchasing of alcohol for drunk people (sales: pre 64.4%, post 67.1%; purchase: pre 56.2%, post 56.1%). However, pre-intervention awareness levels were higher than that found in Liverpool's pre-intervention nightlife user survey conducted in 2014 (sales, 45.1%; purchase, 31.9%), and are similar to levels found in the most recent Liverpool DLEM

4.3 Conclusion

To date, evaluation of the DLEM intervention across a number of local areas has suggested that it is associated with an improvement in adherence to, and awareness of legislation that prohibits sale of alcohol to, and purchase of alcohol for, drunk people. Further, DLEM appears to be acceptable amongst the public and key stakeholders invested in the NTE. Thus, in 2017/18 DLEM was expanded from Liverpool, to cover all nine LAs in the Cheshire and Merseyside area. Our study suggests some initial indications that in Cheshire and Merseyside, bar staff propensity to serve alcohol to pseudo-intoxicated actors reduced

monitoring study (sales, 65.7%; purchase, 61.9% [22]). Liverpool City Centre is the largest NTE across Cheshire and Merseyside, with nightlife users coming from the local area, Cheshire and Merseyside area and beyond. Thus, whilst not confirmed, it is possible that those who participated in the nightlife survey across Cheshire and Merseyside NTEs (beyond Liverpool), had visited Liverpool in the previous three years, and potentially been exposed to the DLEM intervention and its core messages (i.e. alcohol legislation). Equally, a key element of Liverpool's awareness raising activity over the past few years has been adverts on local radio stations that span the Cheshire and Merseyside area, further increasing potential for exposure beyond Liverpool.

Finally, participants were asked how much they agreed or disagreed with a range of statements relating to drunkenness across each of the survey locations. There was only one significant change in the levels of agreement with the statements between pre and post-intervention survey participants. Post-intervention, a higher proportion of participants agreed that people who are drunk should not be able to obtain more alcohol (pre, 47.1%; post, 58.9%), potentially suggesting a shift in social norms since DLEM was implemented across Cheshire and Merseyside.

in two areas (included in the evaluation), and nightlife user awareness of associated legislation slightly improved. Changes observed in legislation awareness were less than found in previous evaluation of DLEM, potentially due to spill-over effects of Liverpool's DLEM intervention to surrounding communities, over the previous three years. Our study showed high levels of alcohol consumption, drunkenness and alcohol-related harms across Cheshire and Merseyside nightlife areas, which warrants further attention and intervention.

4.4 Key recommendations

Previous research suggests that changing cultures of intoxication and related harms in nightlife settings can take time. With the evaluation suggesting some positive changes following expansion of DLEM across Cheshire and Merseyside, partners should consider continuing the intervention. However, a consistent Cheshire and Merseyside DLEM intervention that is also tailored at a local level is warranted due to: the diversity of Cheshire and Merseyside NTEs¹⁶; movement of nightlife users across local authorities during a night out; and, the breadth of existing interventions focusing on reducing young people's alcohol consumption and harms in and around nightlife settings. Partners may wish to consider the following points for future DLEM implementation.

- DLEM should be viewed as part of a broader suite of prevention activity aimed at addressing excessive alcohol consumption and harms amongst people visiting or working in and around pubs, bars and nightclubs.
- Partners should consider implementing Cheshire and Merseyside wide awareness raising activities during peak periods for alcohol-related harms, with additional activity implemented locally as and when relevant to local area needs (e.g. during local events associated with excessive alcohol consumption amongst the local population, or within the area).
- Whilst core DLEM intervention messages should be consistent across areas, where applicable these could be combined with existing or additional messages relevant to local community

priorities. Further, areas with no or smaller NTEs, and where residents may preload prior to visiting a larger NTE (in another local authority area), should consider focusing their core DLEM messages on discouraging excessive preloading.

- Partners should consider how they can monitor RBS training uptake, when training is not conducted face-to-face with venue staff.
- Implementing pseudo-intoxicated alcohol test purchases, and sharing results with tested venues, appears to be an important factor in encouraging venues to engage with the intervention. Partners should consider using this methodology as part of the intervention in future delivery of DLEM.
- The good practices in refusing sales of alcohol to the pseudo-intoxicated actors (e.g. in Southport) should be explored further, and if relevant shared with partners/on-licensed premises in other areas across Cheshire and Merseyside.
- Partners should identify a process for collating and sharing information on previous and future DLEM activity across all areas, including lessons learnt and areas for development. This will help ensure activities are coordinated and complementary, and local resources are maximised. Existing Cheshire and Merseyside multi-agency groups may provide a forum for this.

¹⁶ e.g. number of pubs/bars/nightclubs, type of clientele, prevalence/nature of alcohol-related harms.

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6. References

1. Drummond C, Phillips T, Coulton S, Barnaby B, Keating S, Sabri R, et al. National prevalence survey of alcohol-related attendances at accident and emergency departments in England. *Alcoholism, Clinical and Experimental Research*. 2005;29(5):36A-36A.
2. Bellis MA, Hughes K. Getting drunk safely? Night-life policy in the UK and its public health consequences. *Drug and Alcohol Review*. 2011;30(5):536-45.
3. Hughes K, Bellis MA, Leckenby N, Quigg Z, Hardcastle K, Sharples O, et al. Does legislation to prevent alcohol sales to drunk individuals work? Measuring the propensity for night-time sales to drunks in a UK city. *Journal of Epidemiology and Community Health*. 2014;68(5):453-6.
4. Hughes K, Anderson Z, Morleo M, Bellis MA. Alcohol, nightlife and violence: the relative contributions of drinking before and during nights out to negative health and criminal justice outcomes. *Addiction*. 2008;103(1):60-5.
5. Wright E. Overview of violent crime and sexual offences. Office for National Statistics; 2017. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/compendium/focusonviolentcrimeandsexualoffences/yearendingmarch2016/overviewofviolentcrimeandsexualoffences>
6. Bellis MA, Hughes K, Quigg Z, Morleo M, Jarman I, Lisboa P. Cross-sectional measures and modelled estimates of blood alcohol levels in UK nightlife and their relationships with drinking behaviours and observed signs of inebriation. *Substance Abuse Treatment, Prevention, and Policy*. 2010;5(1):5.
7. Quigg Z, Hughes K, Butler N, Ford K, Canning I, Bellis MA. Drink Less Enjoy More: effects of a multi-component intervention on improving adherence to, and knowledge of, alcohol legislation in a UK nightlife setting. *Addiction*. 2018. Available from <https://doi.org/10.1111/add.14223>.
8. Quigg Z, Hughes K, Bellis MA. Data sharing for prevention: a case study in the development of a comprehensive emergency department injury surveillance system and its use in preventing violence and alcohol-related harms. *Injury Prevention*. 2012;18(5):315-20.
9. Parkinson K, Newbury-Birch D, Phillipson A, Hindmarch P, Kaner E, Stamp E, et al. Prevalence of alcohol related attendance at an inner city emergency department and its impact: a dual prospective and retrospective cohort study. *Emergency Medicine Journal*. 2015; (33), 3:187–93
10. Public Health England. The public health burden of alcohol and the effectiveness and cost-effectiveness of alcohol control policies: an evidence review. London: Public Health England; 2016.
11. Jones L, Hughes K, Atkinson AM, Bellis MA. Reducing harm in drinking environments: a systematic review of effective approaches. *Health & Place*. 2011;17(2):508-18.
12. Treno AJ, Marzell M, Gruenewald PJ, Holder H. A review of alcohol and other drug control policy research. *Journal of Studies on Alcohol and Drugs*. 2014;75 Suppl 17:98-107.
13. Wallin E. Responsible beverage service effects of a community action project. Stockholm: Karolinska Institutet; 2004.
14. Brannstrom L, Trollidal B, Menke M. Spatial spillover effects of a community action programme targeting on-licensed premises on violent assaults: evidence from a natural experiment. *Journal of Epidemiology and Community Health*. 2016;70(3):226-30.
15. Mansdotter AM, Rydberg MK, Wallin E, Lindholm LA, Andreasson S. A cost-effectiveness analysis of alcohol prevention targeting licensed premises. *European Journal of Public Health*. 2007;17(6):618-23.
16. Crime and Disorder Act London 1998. Available from: <https://www.legislation.gov.uk/ukpga/1998/37/contents>.
17. Morris J. Second phase of 'Local Alcohol Action Areas' (LAAA) Alcohol Policy UK: Alcohol Policy UK; 2016. Available from: <http://www.alcoholpolicy.net/2016/10/second-round-of-local-alcohol-action-area-laaa-open.html>.

18. Quigg Z, Butler N, Hardcastle K, Hughes K. Evaluation of the South Wales Know the Score# DrinkLessEnjoyMore intervention (Phase 2). Liverpool: Centre for Public Health, Liverpool John Moores University; 2016.
19. Butler NL, Quigg Z, Wallis S, Grey H, Bigland C. Liverpool's Drink Less Enjoy More intervention - Progress monitoring report. Liverpool: Public Health Institute, Liverpool John Moores University; 2017.
20. Butler N, Quigg Z, Bates R, Ross Houle K, Hughes K, Bellis MA. STAD in Europe: process and outcome evaluation of Wrexham's Drink Less Enjoy More intervention. Public Health Institute, Liverpool John Moores University; forthcoming.
21. Ford K, Quigg Z, Butler N, Hughes K. The service of alcohol to drunks: measuring and supporting compliance with the law in Manchester City Centre's nightlife. Liverpool: Centre for Public Health, Liverpool John Moores University; 2016.
22. Butler N, Bates R, Quigg Z. Evaluation of Liverpool's Drink Less Enjoy More intervention 2017 Progress and findings to date. Liverpool: Public Health Institute, Liverpool John Moores University; 2018.
23. Morris J. Sales to 'drunks' - tackling a culture of intoxication? Available from <http://www.alcoholpolicy.net/2018/04/evaluation-drink-less-enjoy-more-sales-to-intoxicated.html> [last accessed 19/04/2018].
24. Ross-Houle K, Quigg Z. Evaluation of Sefton's Drink Less Enjoy More intervention Liverpool: Public Health Institute, Liverpool John Moores University; 2018.
25. Grey H, Quigg Z. Evaluation of Wirral's Drink Less Enjoy More intervention. Liverpool: Public Health Institute, Liverpool John Moores University; 2018.
26. Office for National Statistics. How much do people binge drink in Great Britain?' 2016. Available from <http://visual.ons.gov.uk/binge-drinking/> [last accessed 27/04/18].
27. Drinkaware. 'Consumption: Adult drinking in the UK'. 2016. Available from <https://www.drinkaware.co.uk/research/data/consumption-uk/> [last accessed 12/03/2018].
28. Department of Health. 'UK Chief Medical Officers' Low Risk Drinking Guidelines'. 2016. Available from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/545937/UK_CMOs_report.pdf [last accessed 10/04/18].
29. Wells S, Graham K, Purcell, J. Policy implications of the widespread practice of 'pre-drinking' or 'pre-gaming' before going to public drinking establishments: are current prevention strategies backfiring? *Addiction*. 2009;104: 4-9
30. Ross-Houle K, Quigg Z, Bigland C, Collins P. Student Alcohol Research and Prevention Activity (SARPA): Pre-Intervention Report. Liverpool: Public Health Institute, Liverpool John Moores University; 2018.

7. Appendices

Appendix 1: Additional data tables

Table A1: Nightlife user survey sample characteristics, by study area (pre-DLEM, 2017)

Sample characteristic	Southport	Chester	Macclesfield	St Helens	Warrington	Widnes	Wirral	Liverpool [22]
(n)	67	119	58	51	50	52	44	135
Age group (years)								
18-21	22.4%	27.7%	31.0%	45.1%	40.0%	50.0%	2.3%	50.4%
22-29	44.8%	37.0%	29.3%	21.6%	40.0%	28.8%	40.9%	37.0%
30+	32.8%	35.3%	39.7%	33.3%	20.0%	21.2%	56.8%	12.6%
Male	65.7%	73.1%	62.1%	60.8%	61.2%	40.4%	52.3%	45.2%
Student	14.9%	24.4%	22.4%	17.6%	20.4%	34.6%	22.7%	46.3%
Local resident	59.7%	40.3%	74.1%	78.4%	55.1%	84.6%	86.0%	49.6%
Regular nightlife user[^]	62.7%	48.7%	75.9%	66.7%	44.0%	82.7%	81.8%	65.2%

Note. [^]Usually go on a night out in the town/city centre at least once a month.

Table A2: Nightlife user knowledge of the law, by study area (pre and post-DLEM, 2017/18)

	Pre Sale of alcohol to drunk people	Post Sale of alcohol to drunk people	Pre Purchase of alcohol for drunk people	Post Purchase of alcohol for drunk people
Southport	63.1%	74.3%	53.8%	60.8%
Chester	67.5%	58.2%	62.3%	44.9%
Macclesfield	54.5%	61.5%	54.5%	48.7%
St Helens	68.6%	78.0%	56.9%	58.0%
Warrington	69.4%	51.5%	49.0%	57.6%
Widnes	62.0%	70.4%	56.0%	70.4%
Wirral	62.8%	81.3%	53.5%	71.9%
Liverpool (pre 2014, post 2017) [22]	45.1%	65.7%	32.9%	61.9%

Table A3: Alcohol-related harms, drunkenness and behaviours in the night-time economy, by study area (pre-DLEM, 2017)

		Southport	Chester	Macclesfield	St Helens	Warrington	Widnes	Wirral	Liverpool 2017 [22]
Alcohol-related harms in the night-time economy									
Had a serious verbal argument	%	33.8	28.9	49.1	29.4	30.6	68.8	32.6	25.4
A physical assault	%	18.5	21.1	39.6	15.7	24.5	47.9	20.9	13.4
Sexual assault	%	6.2	8.8	13.2	3.9	20.4	27.1	4.7	14.2
Injury	%	26.2	13.2	32.1	11.8	12.2	35.4	14.0	15.7
Vomiting	%	38.5	27.2	47.2	33.3	30.6	62.5	34.9	35.1
So drunk you needed assistance to walk	%	27.7	25.4	45.3	21.6	20.4	52.1	25.6	30.6
Regretted having sex with someone	%	7.7	6.1	13.2	5.9	10.2	16.7	2.3	
Unprotected sex	%	16.9	6.1	13.2	15.7	10.2	16.7	7.0	
Drunkenness and behaviours in the night-time economy									
Refused entry to a venue due to being drunk	%	9.2	11.4	9.4	9.8	12.2	20.8	9.3	15.7
Refused service of alcohol at the bar due to being drunk	%	4.6	3.5	5.7	3.9	6.1	12.5	2.3	9.7
Asked to leave a venue due to being drunk	%	9.2	6.1	9.4	5.9	10.2	20.8	7.0	10.4
Asked a friend to buy alcohol for them because they were too drunk to buy it themselves	%	6.2	2.6	1.9	0.0	4.1	10.4	2.3	4.5
Tried to appear more sober to gain entry	%	32.3	21.1	32.1	11.8	26.5	31.3	16.3	36.6
Tried to appear more sober to get served at the bar	%	18.5	13.2	26.4	5.9	18.4	29.2	11.6	26.9

Table A4: Service rates to pseudo-intoxicated actors in venues with and without markers of poorly managed and problematic (PMP) bars, Sefton and Wirral combined (post-DLEM, 2017)

PMP markers		N	% served	p
None/low seating	No	46	21.7	NS
	Yes	24	45.8	
Young bar staff	No	42	19.0	<0.05
	Yes	28	46.4	
Young customers	No	62	25.8	NS
	Yes	8	62.5	
Drink promotions*	No	36	22.2	NS
	Yes	34	38.2	
Drunk customers	No	58	29.3	NS
	Yes	12	33.3	
Noisy bar	No	58	29.3	NS
	Yes	12	33.3	
Crowded bar	No	59	33.9	NS
	Yes	11	9.1	
Poor lighting	No	53	26.4	NS
	Yes	17	41.2	
Dirty bar	No	66	27.3	NS
	Yes	4	75.0	
Rowdy bar	No	61	31.1	NS
	Yes	9	22.2	
Number of PMP markers	None	10	10.0	NS
	1 or 2	34	26.5	
	3 or 4	17	41.2	
	5 to 7	9	44.4	
	8 to 10	0	-	

Note. *Drink promotions includes the promotion of both general and cheap drinks.

Appendix 2: Cheshire and Merseyside DLEM intervention 2017/18 - summary of local/unitary authority level interventions

The following sections provide a summary of the implementation of DLEM across each local/unitary authority in Cheshire and Merseyside in 2017/18 (excluding Liverpool, see [22]). Information provided has been sourced from key stakeholders involved in the development and implementation of DLEM in each area¹⁷, and from the Office for National Statistics¹⁸, Local Alcohol Profiles for England¹⁹, and Public Health Outcomes Framework²⁰ data sources.

Cheshire West and Chester

Intervention site

- The intervention was implemented in Chester, located in Cheshire West and Chester borough, an area in the North West of England.
- The total population of Cheshire West and Chester is approximately 337,986 (mid-year 2017); around 69,673 are aged 18-35 years.
- Cheshire West and Chester has one large NTE in Chester City Centre, where DLEM was implemented.

Local alcohol and violence context

- Alcohol-specific mortality rate: 12.5 per 100,000 population (2014-16) (similar to the national average).
- Hospital admission episodes for alcohol-related conditions (narrow definition): 632 per 100,000 population (2016-17) (similar to the national average).
- Number of premises licensed to sell alcohol per square kilometre: 1.3 (2016-17) (lower than the national average).
- Percentage of adults drinking over 14 units of alcohol a week: 25.7% (2011-14) (similar to the national average).
- Emergency hospital admissions for violence: 35.7 per 100,000 population (2014/15-2016/17) (lower than the national average).
- Violent crime (violence against the person offences): 17.9 per 1,000 population (2016-17).

¹⁷ Via email correspondence and discussion during a Cheshire and Merseyside DLEM workshop held in September 2018.

¹⁸ Data accessed on 5/10/18:

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>

¹⁹ Data accessed on 5/10/18:

<https://fingertips.phe.org.uk/profile/local-alcohol-profiles/data#page/0/gid/1938132984/pat/6/par/E12000002/ati/102/are/E06000049>

²⁰Data accessed on 5/10/18:

<https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/0/gid/1000041/pat/6/par/E12000002/ati/102/are/E06000049>

DLEM intervention components

The intervention involved the collective implementation of three core components, implemented via a multi-agency partnership (public health, licensing, police, Pub Watch) from October 2017 onwards:

Community mobilisation and awareness raising: Range of activities implemented during key times and/or tailored to local activities/target groups, e.g.

- Engagement with Pub Watch, Chester University, Chester races and Chester Pride.
- The DLEM intervention was launched at the Chester Pub Watch in November 2017; Pub Watch actively supports the intervention.
- Media release was sent out at the start of intervention promoting DLEM and its core messages.
- Targeted social media over the Christmas period, focusing on the 18-30 year age group.
- Promotional materials were distributed to 80 venues.
- Advertising materials placed within subway passageways.
- DLEM is integrated into the councils' alcohol programme.

Responsible bar server training: The Pub Watch organisation provided the opportunity to show the DLEM training video to 100+ bar staff, and partners noted that this was well received. In December 2017 the video was shown to managers at the Chester Racecourse who have taken it on as part of their starter training with new staff (during race days, staff numbers increase from 150 to over 1800).

Strengthened law enforcement: Police supported the intervention, and there are plans to engage special police officers in the delivery of the intervention.

What worked well?

- Partners noted that the training to bar staff was well received and helped to improve knowledge of the implications of serving alcohol to drunk people.
- Media releases were carefully tailored to ensure messages were focused and targeted towards key groups/activities.

Issues/areas for development?

- Engagement with the university/students - Partners have developed relationships with the University of Chester to ensure the Local Authority communicates effectively with the students from the start of the academic year in September 2018 in relation to the DLEM intervention. Partners will continue with this communication with the university, working with the SU Bar, SU President and Health and Wellbeing Service at the university.
- Measuring DLEM effectiveness - Measuring the effectiveness of DLEM could be improved to explore the direct impact of core components (e.g. posters, social media, radio etc.). It would be beneficial to conduct research on the university campus prior, to see if it has any impact on students.
- Ensuring DLEM messages complement other campaigns – DLEM conflicted with other campaigns being run in the area (e.g. at Chester Races, council interventions).
- Funding – due to a number of factors, there were delays in accessing funding for promotional materials, meaning that materials were distributed later than intended (January 2018).

Cheshire East

Intervention site

- Cheshire East is Located in Cheshire, an area of the North West of England.
- The total population is approximately 338,846 (mid-year 2017); around 68,003 are aged 18-35 years.
- Cheshire East has a number of NTEs, including Macclesfield, where DLEM was implemented.

Local alcohol and violence context

- Alcohol-specific mortality rate: 11.0 per 100,000 population (2014-16) (similar to the national average).
- Hospital admission episodes for alcohol-related conditions (narrow definition): 634 per 100,000 population (2016-17) (similar to the national average).
- Number of premises licensed to sell alcohol per square kilometre: 1 (2016-17) (less than the national average).
- Percentage of adults drinking over 14 units of alcohol a week: 29.7% (2011-14) (similar to the national average).
- Emergency hospital admissions for violence: 46.9 per 100,000 population (2014/15-2016/17) (less than the national average).
- Violent crime (violence against the person offences): 15.2 per 1,000 population (2016-17).

DLEM intervention components

The intervention involved the collective implementation of three core components, implemented via a multi-agency partnership (public health, licensing, police) between October 2017 and January 2018:

Community mobilisation and awareness raising: Range of activities implemented during key times and/or tailored to local activities/target groups, e.g.

- Licensing staff conducted visits to local venues to convey the DLEM message.
- The Pub Watch organisation was also involved in raising awareness of the intervention.
- A range of awareness raising activities (i.e. on alcohol legislation) targeted towards different audiences, particularly the local alcohol trade and public, were implemented.
- Communication materials with the DLEM branding were created and included posters and information sheets for display in venues.
- Awareness was raised through the local press, and a social media campaign was ran.

Responsible bar server training: Local venues received the link (via email) to the training video which was developed to raise awareness of the key DLEM messages, and deliver the knowledge and skills needed to recognise signs of drunkenness, refuse service and recognise the role that bar staff can play in improving the NTE.

Strengthened law enforcement: Local police supported the intervention.

What worked well?

- Direct engagement with licensed trade during early evening to speak to staff and owners about the campaign and give 'authority' visibility. The key message taken from this by the licensed trade was that there would be increased police focus on premises during the campaign.
- The social media posts referencing fines were most effective in terms of reach and engagement.
- Focusing resources on one town (Macclesfield) effectively targeted a small resource for maximum impact particularly around engaging stakeholders.
- Joining up with Cheshire West and Chester Council on design and print costs enabled partners to make the most of a small budget.

Issues/areas for development?

- Whilst the local policing team was very supportive of the campaign, partners reported that they struggled to engage Cheshire Police in terms of supporting social media activity and reinforcing some of the enforcement and fine messaging. Partners reported that more advanced campaign planning to allow police and council's campaign priorities to be agreed would be helpful as would a senior police representative pushing the campaign from within their organisation.
- According to partners, better engagement with the community and higher education stakeholders is needed to support the campaign and tackle some of the issues such as social norms around young people drinking, the effects on the community and individuals etc.
- Partners felt that more strategic co-ordination of campaigns was needed so that agencies can maximise resources and intervention impacts.

Halton

Intervention site

- Halton is located in the North West of England.
- The total population is approximately 127,595 (mid-year 2017); around 27,817 are aged 18-35 years.
- Halton has two small NTEs, one in Widnes and one in Runcorn.

Local alcohol and violence context

- Alcohol-specific mortality rate: 16.8 per 100,000 population (2014-16) (higher than the national average).
- Hospital admission episodes for alcohol-related conditions (narrow definition): 842 per 100,000 population (2016-17) (higher than the national average).
- Number of premises licensed to sell alcohol per square kilometre: 3.8 (2016-17) (higher than the national average).
- Percentage of adults drinking over 14 units of alcohol a week: 42.7% (2011-14) higher than the national average).
- Emergency hospital admissions for violence: 84.0 per 100,000 population (2014/15-2016/17) (higher than the national average).
- Violent crime (violence against the person offences): 22.8 per 1,000 population (2016-17).

DLEM intervention components

The intervention involved the collective implementation of three core components, implemented via a multi-agency partnership between October and December 2017:

Community mobilisation and awareness raising: Range of activities implemented during key times and/or tailored to local activities/target groups, e.g.

- A comprehensive programme of communications activity was developed to run from October-December 2017 to cover the Christmas and New Year period. Activities included internal communication/employee engagement, press releases/photo calls, articles in the resident e-newsletter and a social media campaign (10 posts, reaching 8575 individuals) including target led, paid-for advertising.
- Distribution of DLEM materials to venues included bar staff t-shirts (80 at a cost of £328), bar runners (180 at a cost of £1755) and posters (200 at a cost of £24).

Responsible bar server training: Training was carried out by Trading Standards. The focus of this training was to reinforce bar staff awareness on the law around selling alcohol to people who are drunk and preventing under-age sales. The training video was also shared through the Pub Watch scheme for venues to use on an ad hoc basis.

Strengthened law enforcement: Local police supported the intervention - police and licensing team regularly conduct joint visits to venues. Widnes Club Watch liaise with each other to ensure that drunken customers are refused entry, ensuring a consistent stance to drunkenness in the NTE.

What worked well?

- The video was seen as a useful tool to train up new bar staff.
- The campaign was viewed by the Safer Halton Partnership as a positive addition to existing work going on in the area.
- Bar runners were seen to be a successful tool - three times the original order was needed due to bars demand for them.

Issues/areas for development?

- Further consideration needed around who should lead the intervention.
- Halton does not have the same NTE as a major city like Liverpool/Chester. Some early resistance was faced from the local partners as they believed that the campaign wasn't needed as people in target demographic tend to travel outside the borough to socialise. A different approach is required based on local area needs/profile i.e. a greater focus on the health and social risks of preloading rather than legislation would be more suitable for an area like Halton.
- Materials needed for the intervention were not accounted for in the budget, this could affect future implementation of the intervention.

Knowsley

Intervention site

- Knowsley is located within Merseyside, an area of the North West of England.
- The total population is approximately 148,560 (mid-year 2017); around 35,000 are aged 18-35 years.
- Knowsley has no main NTE, but rather a number of pubs and bars across towns in the local authority area.

Local alcohol and violence context:

- Alcohol-specific mortality rate: 16.5 per 100,000 population (2014-16) (higher than the national average).
- Hospital admission episodes for alcohol-related conditions (narrow definition): 836 per 100,000 population (2016-17) (higher than the national average).
- Number of premises licensed to sell alcohol per square kilometre: 2.4 (2016-17) (higher than the national average).
- Percentage of adults drinking over 14 units of alcohol a week: 28.3% (2011-14) (similar to the national average).
- Emergency hospital admissions for violence: 100.0 per 100,000 population (2014/15-2016/17) (higher than the national average).
- Violent crime (violence against the person offences): 17.4 per 1,000 population (2016-17).

DLEM intervention components

The intervention involved the collective implementation of three core components, implemented via a multi-agency partnership (including police, trading standards, licensing teams, communications teams and public health) between October and December 2017 (and ad hoc thereafter):

Community mobilisation and awareness raising: It was acknowledged from the start that there is no obvious NTE in Knowsley and residents aged 18-35 years would ordinarily travel to either Liverpool City Centre or St Helens for a night out. Thus, Knowsley focused on the preloading element of the campaign by targeting both on and off-licensed venues, placing materials (e.g. posters) within such venues, and advertising as near to those premises as possible. Licensing officers visited every establishment (as part of scheduled visits) and discussed DLEM with the managers and staff, and informed them that they will receive the DLEM resources (posters, information sheets for display in venues) to be sent at a later point. Awareness was raised through local press, and a social media campaign was ran. Knowsley printed posters and staff leaflets which cost approximately £300; bar mats cost £950.00; outdoor media cost £7500; and access to DLEM artwork cost £420²¹.

Responsible bar server training: A letter was sent to venues about the training video which was developed to raise awareness of the key messages, and deliver the knowledge and skills needed to recognise signs of drunkenness, refuse service and recognise the role that bar staff can play in

²¹ Via Liverpool City Council – accessed by all areas.

improving the NTE. Venues were requested to contact the council to access the link to the training video. This approach was taken to monitor access to the training video.

Strengthened law enforcement: Local police supported the intervention. While the original intention was for the police to accompany the licensing officers on some visits to licensed premises to discuss DLEM, logistically, that proved too difficult to co-ordinate. Police officers agreed to discuss and highlight DLEM whenever they had cause to visit a premise and reinforce the campaign messages around the law.

What worked well?

- Licensing officers found the campaign really useful to raise awareness of the law around not serving alcohol to someone who is clearly drunk. Many staff were unaware that they personally could be fined and in a minority of cases some staff were unaware that it was illegal.
- Direct engagement with licensed trade to speak to staff and owners about the campaign gave the 'authority' visibility. This was done as part of routine visits from the licensing team therefore was not additional work. It also gave the team an added 'hook' for positive engagement.
- As Knowsley does not really have a defined NTE, partners tailored the resources to focus the campaign on preloading before the target audience went on into the bigger hubs of Liverpool or St Helens.
- Overall, Knowsley partners found the DLEM campaign to be very effective in raising awareness of the laws around serving alcohol to people who are clearly drunk. Some of the DLEM resources were used again as part of preparations around the World Cup and licensing officers have visited venues again.

Issues/areas for development?

- Despite this lack of awareness of the law amongst venue staff, requests for access to the training video was very low. Whilst efforts were made to increase uptake, this appears to have made no impact.
- While local police were supportive of the campaign, resourcing and timetabling meant it was difficult to get police presence in the establishments, although they did commit to raising awareness of DLEM when visiting premises in the future.
- More use of social media, with further consideration of the most suitable platforms for the target group (e.g. Instagram, Twitter or Facebook).

Sefton

Intervention site

- Sefton is located in Merseyside, an area of the North West of England.
- The total population is approximately 274,589 (mid-year 2017); around 53,260 are aged 18-35 years.
- Sefton has one main NTE in Southport (where DLEM was implemented), with smaller NTE areas developing in other towns (e.g. Waterloo, Crosby).

Local alcohol and violence context

- Alcohol-specific mortality rate: 18.0 per 100,000 population (2014-16) (higher than the national average).
- Hospital admission episodes for alcohol-related conditions (narrow definition): 800 per 100,000 population (2016-17) (higher than the national average).
- Number of premises licensed to sell alcohol per square kilometre: 5.5 (2016-17) (higher than the national average).
- Percentage of adults drinking over 14 units of alcohol a week: 29.9% (2011-14) (similar to the national average).
- Emergency hospital admissions for violence: 76.6 per 100,000 population (2014/15-2016/17) (higher than the national average).
- Violent crime (violence against the person offences): 17.0 per 1,000 population (2016-17).

DLEM intervention components

The intervention involved the collective implementation of three core components, implemented via a multi-agency partnership (public health, licensing, police) between October and December 2017:

Community mobilisation: A media release was sent out at the start of the programme. An outdoor media campaign started later in October and included DLEM media on taxis and phone boxes and at Merseyrail train stations. Bars within the NTE of Southport received materials for in-bar promotion and to remind staff of their responsibilities. Alongside this, a Social media campaign via Twitter, Yammer and MySefton was implemented. In total, £220 was spent on printing posters and leaflets and £8,000 on outdoor media.

Responsible bar server training: Following completion of the pre-intervention alcohol test purchases for sales of alcohol to pseudo-drunks (see [24]), bar owners and managers were sent a letter informing them of the alcohol test purchases and including a link to the online DLEM RBS training video and were asked to show the video as part of a staff training event. The letter went on to describing the intervention, its purpose, and informing them of the support of the local police in addressing the illegal sales of alcohol to those who are drunk.

Strengthened law enforcement: Local police supported the intervention and made a number of random unannounced visits to venues. Alcohol test purchases for sales of alcohol to pseudo-drunks implemented.

What worked well?

- Collaboration between local authority licensing, public health and communications teams, and LJMU researchers, ensured a good level of communication in the development and implementation of the intervention, including distribution of campaign materials.
- Pre-intervention alcohol test purchases carried out by pseudo-intoxicated actors resulting in an encouragingly high proportion of refusals. Provision of results meant that problem venues could be targeted. Repeat test purchasing carried out post-intervention resulted in a marginally improved refusal rate.

Issues/areas for development?

- As Southport had a high alcohol sales refusal rate pre and post-intervention, it is difficult to identify if improvements could be made, or if and how the intervention should continue in Southport. However, partners noted a number of considerations for future development/implementation:
- Additional capacity is needed to implement training to bar staff face-to-face, beyond current staff resources.
- Alcohol test purchases could be targeted at premises identified as potential serving alcohol to drunk patrons, rather than targeting all venues.
- Allow enough time prior to intervention implementation to strategically plan the intervention, including identifying partner roles, responsibilities and level of engagement.
- Consider including other smaller NTEs in Sefton for the intervention, with efforts targeted towards venues or areas with high levels of alcohol-related harms.

St Helens

Intervention site:

- St Helens is located in Merseyside, an area in the North West of England.
- The total population is approximately 179,331 (mid-year 2017); around 38,679 are aged 18-35 years.
- St Helens has one main NTE in the town centre.

Local alcohol and violence context:

- Alcohol-specific mortality rate: 17.8 per 100,000 population (2014-16) (higher than the national average).
- Hospital admission episodes for alcohol-related conditions (narrow definition): 867 per 100,000 population (2016-17) (higher than the national average).
- Percentage of adults drinking over 14 units of alcohol a week: 42.7% (2011-14) higher than the national average).
- Emergency hospital admissions for violence: 90.9 per 100,000 population (2014/15-2016/17) (higher than the national average).
- Violent crime (violence against the person offences): 21.2 per 1,000 population (2016-17).

DLEM intervention components

The intervention involved the collective implementation of three core components, implemented via a multi-agency partnership between October and December 2017:

Community mobilisation: Engagement with the alcohol trade via Pub Watch and police and licensing visits to venues. Implementation of an awareness raising campaign, including local media activity and distribution of DLEM materials which were displayed in all venues.

Responsible bar server training: Training was downloaded to 'Drink Less Enjoy More' branded pen drives which were delivered to over 40 licensed premises.

Strengthened law enforcement: Police carried out visits to licensed premises, and have assisted with the deployment of training and DLEM materials.

What worked well?

- The campaign was well supported by the respective local partners.
- By working directly with Pub Watch greater support was provided on all promotional exercises.
- There was a good level of support from the local media.

Issues/areas for development?

- The premises themselves, although expressing initial interest, did not engage particularly well in the promotion and display of the materials, despite visits by licensing and the police.
- Commissioners felt that the main issue for St Helens was that the global messages of the campaign needed to be specifically targeted at the St Helens community, rather than using a global campaign that was designed for a city.

Warrington

Intervention site:

- Warrington is located in the North West of England.
- The total population is approximately 209,704 (mid-year 2017); around 44,660 are aged 18-35 years.
- Warrington has one main NTE in the town centre.

Local alcohol and violence context

- Alcohol-specific mortality rate: 11.3 per 100,000 population (2014-16) (similar to the national average).
- Hospital admission episodes for alcohol-related conditions (narrow definition): 778 per 100,000 population (2016-17) (higher than the national average).
- Number of premises licensed to sell alcohol per square kilometre: 3.2 (2016-17) (higher than the national average).
- Percentage of adults drinking over 14 units of alcohol a week: 26.0% (2011-14) (similar to the national average).
- Emergency hospital admissions for violence: 68.0 per 100,000 population (2014/15-2016/17) (higher than the national average).
- Violent crime (violence against the person offences): 18.0 per 1,000 population (2016-17).

DLEM intervention components

The intervention involved the collective implementation of three core components, implemented via a multi-agency partnership (public health, licensing, and police) between September and December 2017:

Community mobilisation: A comprehensive programme of communications activity was developed to run from September until 31 December 2017 to cover the Christmas and New Year period. PR was used to support licensee training during mid-September to mid-October, followed by targeted PR and marketing activity during late October, November and December. Communications activities included internal communication/employee engagement (e.g. council website and internal communication channels), news releases/photo calls (Warrington Guardian, Warrington Worldwide, Wire FM), articles in the resident e-newsletter (The Wire) and a social media campaign (Facebook, Twitter). There was also a mixture of target led, paid-for advertising including Facebook advertising and placement of promotional materials e.g. posters, bar runners, beer mats, badges for bar staff etc. in local licensed premises.

Responsible bar server training: The Councils Alcohol Harm Reduction Officer delivered four responsible retailer-training sessions to 47 bar staff from a number of town centre bars. The focus of this training was to reinforce bar staff awareness on the law around selling alcohol to people who are drunk and preventing under-age sales.

Strengthened law enforcement: The town centre police regularly engaged and carried out visits to the town centre licensed premises throughout the duration of the campaign (as part of their routine

management of the NTE) to remind staff of the campaign and its key messages. In the immediate lead up to Christmas (16th/21st/22nd/23rd December), the Police and Council's Licensing Department visited all town centre licensed premises to remind staff of key messages, including those from the DLEM campaign.

What worked well?

- Utilising the campaign budget to provide the responsible bar server training at no cost to the licensed trade ensured that there was a good take-up.
- Clear, succinct campaign messaging and artwork helped us to develop an effective campaign across social media channels (Facebook, Twitter), local media (Warrington Guardian, Warrington Worldwide, Wire FM), the residents' e-publication The Wire, council website and internal communication channels.

Issues/areas for development?

- Further consideration of the value of DLEM as a vehicle for behaviour change in Warrington alongside other public health campaigns is needed.
- Ensure local interventions, including DLEM messages, avoid duplication or over saturation.
- Whilst Warrington's NTE is fairly concentrated in terms of the town centre, there are still different areas with perhaps a slightly different offer and clientele. By conducting the pre-campaign survey from just one area of the town (albeit one of the busiest areas), the responses may be slightly different to what may be seen elsewhere. Aside from the town centre there are a few other outlying residential areas with a strong NTE, which may produce different findings that would add to the overall understanding of perceptions of the NTE across Warrington as a whole, rather than just one area.

Wirral

Intervention site

- Wirral is located in Merseyside, an area of the North West of England.
- The total population is approximately 322,796 (mid-year 2017); around 63,634 are aged 18-35 years.
- Wirral has a number of small NTEs including Birkenhead, Oxton and Heswall.

Local alcohol and violence context

- Alcohol-specific mortality rate: 15.5 per 100,000 population (2014-16) (higher than the national average).
- Hospital admission episodes for alcohol-related conditions (narrow definition): 889 per 100,000 population (2016-17) (higher than the national average).
- Percentage of adults drinking over 14 units of alcohol a week: 26.3% (2011-14) (similar to the national average).
- Emergency hospital admissions for violence: 89.3 per 100,000 population (2014/15-2016/17) (higher than the national average).
- Violent crime (violence against the person offences): 17.0 per 1,000 population (2016-17).

DLEM intervention components

The intervention involved the collective implementation of three core components, implemented via a multi-agency partnership (public health, licensing, police) between October and November 2017:

Community mobilisation and awareness raising: A range of awareness raising activities (i.e. on alcohol legislation) were targeted towards different audiences, particularly towards the local alcohol trade and public. Communication materials with the DLEM branding were created and included posters and information sheets for display in venues, staff t-shirts, bar runners and badges. Additionally, a social media campaign was run on Facebook and Twitter.

Responsible bar server training: Training ran on one day across two sessions, morning and afternoon. Twenty venues received training via a video, which was developed to raise awareness of the key messages and deliver the knowledge and skills needed to recognise signs of drunkenness, refuse service and recognise the role that bar staff can play in improving the NTE. The training sessions were led by Wirral Council Licensing team and supported by Merseyside Police. The sessions focused on the impact of the irresponsible sale of alcohol, emphasising the important role that bar staff play when working in licensed premises. Training was also provided which raised awareness of sexual assaults, and the role of staff in identifying and supporting potential victims of sexual assault.

Strengthened law enforcement: Alcohol test purchases for sales of alcohol to pseudo-drunks implemented. Premises shown to have served alcohol to the pseudo-intoxicated actors (see [25]) were advised and local police discussed issues around the effects of alcohol-related crime and disorder. It was also stressed that positive action would be taken with regard to enforcement for selling to a drunk person and other offences.

What worked well?

- The multi-agency steering group worked well together in the task of co-ordinating the project. In particular, meetings of the Licensed Premises Network were facilitated by the Council's Licensing team throughout the project.
- Staff training was delivered on time and to a wide variety of premises, and emphasis was placed on the importance of the staff from the identified premises attending the training sessions.
- As a consequence of the input at the Licensed Premises Network meetings, and targeted visits by Merseyside Police and Licensing Officers post the initial pseudo-drunk actor visit, the vast majority of identified premises across Wirral engaged in the project and used the resources provided (t-shirts etc.).
- There was a good mix of social media messages highlighting the consequences of both buying for and serving to a drunk person.
- RBS training sessions were well attended.

Issues/areas for development?

- The training video was not available until quite late in the process and there was concern that it would not be available for our organised training sessions. Having the video earlier would have allowed for more preparation for the officers delivering the training.

