

## **A mixed method outcome evaluation of a specialist Alcohol Hospital Liaison Team**

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## **Abstract**

**Aims:** To evaluate the effectiveness of an alcohol hospital liaison team at reducing alcohol specific hospital attendances and admissions. **Methods:** In a mixed method evaluation 96 patients who accessed the team were monitored using data for alcohol specific hospital attendances and accident and emergency (A&E) admissions before, during, and after engaging with the team. A feedback survey was sent to patients and a focus group was held with staff from the team to identify barriers and facilitators to the successful delivery of this service. **Results:** No differences were observed when looking at alcohol admissions or A&E attendances before patients engaged with the service to those after discharge. Whilst hospital admissions decreased slightly, and A&E attendances increased slightly, these differences were not significant. Hospital admissions and A&E attendances increased significantly during engagement with the service. The focus group identified confusion over who should be delivering brief interventions, and that the team were holding onto patients for too long. **Conclusions:** The results of this evaluation demonstrated that this team were not effective at reducing alcohol attendances or admissions due to a number of factors. Policy makers should make note of the barriers to effectiveness highlighted in this paper before commissioning alcohol care teams in the future.

## **Introduction**

The number of alcohol related deaths in the United Kingdom (UK) has risen from 9.1 deaths per 100,000 people in 1992 to 14.3 per 100,000 in 2014 [1] with 6,831 alcohol related mortalities in England alone in 2014 [2]. The World Health Organisation (WHO) states that the protection of health by preventing risky drinking (increasing and high risk drinking) is a public health priority [3]. Used by around 2 billion people, risky drinking is responsible for 4.5% of the global disease burden [4].

Risky drinking can lead to a number of health problems such as various cancers, [5, 6] dementia, amnesia [7, 8] and myocardial infarctions [9]. Nationally 13-20% of hospital admissions are alcohol related, accounting for 1,059,390 admissions in England in 2013/14 [2, 10]. Alcohol related hospital attendances represent a large financial cost for the National Health Service (NHS), estimated at around £3.5 billion annually [10], with the wider annual cost to society, including criminal activity and lost productivity, estimated at £21.3 billion [10-13]. The Royal College of Physicians recommended that major UK hospitals employ specialised alcohol care teams [14]. Research suggests that such services are effective at reducing alcohol related hospital admissions, and reducing the number of bed days for those patients who are admitted [15]. Research has shown that such teams can improve the care and health outcomes of patients admitted for alcohol use. In Portsmouth there was a reduction of 72 alcohol admissions per year, saving 830 bed days, and £96,579 after the implementation of an alcohol care team [15]. Similar results were found in Nottingham where an average of 437 bed days per year were saved, whilst attendances for alcohol detoxification fell from 70 per quarter to 10 per quarter between 2002 and 2005 [16].

In 2012, the National Institute for Health and Care Excellence (NICE) published 'Alcohol care teams: reducing acute hospital admissions and improving quality of care' outlining recommendations for specialist hospital alcohol care teams [13]. NICE recommends that treatment for alcohol related problems should be coordinated across acute departments, including Accident and Emergency (A&E) departments with patients offered alcohol screening and brief interventions (ASBI) within 24 hours of an alcohol use disorder being detected. Furthermore, appropriate care pathways should be established so that those attending with alcohol related problems can be referred onto

community support services with any such service evaluated to ensure effectiveness [13].

This article outlines the results of an evaluation of an Alcohol Hospital Liaison Team (AHLT) based in North East England. The AHLT was commissioned by the Drug and Alcohol Action Team to reduce the harm associated with alcohol use, aiding recovery and offering an alternative to hospital admission. The AHLT was divided into two distinct functions: *hospital liaison*; designed to enhance clinical pathways between the hospital and the community alcohol services and *high intensity user team*; designed to work intensively with those individuals who were frequent attenders to the hospital. The team as a whole consisted of a band-7 hospital team leader, three band-6 nurses, and three band-4 alcohol health support workers. The AHLT work with all patients admitted to hospital with an alcohol specific code (as listed in the International Classification of Diseases, 10<sup>th</sup> Revision (ICD-10)) [17]. Furthermore, the team receive referrals from within the hospital for any patient who has screened positive for an alcohol use disorder on the validated AUDIT-C, (scoring 10 or above), patients should have received a brief intervention with acute hospital staff before being passed over to the AHLT [18-19]. The team offer support both in the hospital and on discharge back to the community. Patients are offered tailored support including, psychosocial interventions, pharmacological interventions and possible detoxification with tri-weekly home visits with a member of the team. Patients are usually discharged from the service to community alcohol teams once their drinking is under control, it is important to note that the remit of the team is not to promote abstinence from alcohol, but rather to reduce alcohol consumption.

The primary aim of the evaluation was to assess how effective the AHLT are at reducing the numbers of alcohol specific hospital admissions for a cohort of patients who were engaged with them between June and December 2013.

A secondary aim of this evaluation was to gain feedback on the service from patients who had engaged with the AHLT.

## **Methods**

A mixed methods approach was used for this evaluation. Data was accessed retrospectively comparing alcohol specific hospital attendances and admissions before

patients engaged with the AHLT to those whilst they were engaged with the AHLT, and those once they had been discharged. All patients were sent a feedback survey, and a focus group was held with AHLT staff.

Ethical approval for this study was granted by Newcastle University Research Ethics Committee (**773/2014**), and by the research and governance group within the local authority. Consent for this study was gained retrospectively from patients following identification by the Drug and Alcohol Commissioning Team.

### ***Participants***

#### *Hospital Admissions and A&E attendances*

All patients who accessed the AHLT between June and December 2013 were eligible to take part in the evaluation. The AHLT contacted all eligible patients for consent to include their data in the evaluation. Following consent, the Drug and Alcohol Commissioning Team within the local authority accessed their hospital admission and attendance records using their NHS number. A total of 176 participants engaged with the AHLT during the evaluation period, 96 consented to participation in the evaluation (55%). Eight participants had passed away (4.7%); 64 participants could not be contacted (37.4%) and 3 participants declined to participate (1.8%). All data was anonymised.

The outcomes measured were total number of hospital admissions or A&E attendances for an alcohol specific condition. Alcohol specific hospital admission codes were defined as those prior to methodological updates published in 2013 [21] as these were the most up to date at the time of the study design. Admissions for alcoholic liver disease patients were included in the analysis given that the AHLT was targeting problematic drinking which was known to be typical of this patient group. All other non-specific alcohol related admission types such as hypertension or cancers, were excluded on the basis that they could not be so readily linked to the type of problematic drinking that is being addressed by the AHLT.

Data was collected at three time points: Baseline data comprised of all alcohol specific hospital attendances and admission for the 6-month period prior to their initial

engagement with the AHLT; which was compared to all alcohol specific hospital attendances and admissions whilst they were engaged with the AHLT; and all those for a period of 6-months after they were discharged.

#### *Client Feedback survey*

A feedback survey was designed, and posted to all patients who consented to the evaluation. The survey took approximately ten minutes to complete, and was returned to the university in a free post envelope. Of the 96 patients who consented to participation in the evaluation, 38 (39.5%) completed a survey.

#### *Focus Group*

All seven AHLT staff members were invited, by their team manager to participate in a focus group to provide in-depth feedback on the service from their perspective. Six members agreed to participate in the focus group which took place in September 2014 and lasted for one hour. Five out of the six participants were female, five participants were nurses, and one participant was an administrator.

#### *Analysis*

Descriptive statistics were used to outline the participant characteristics.

#### *Hospital admissions and A&E attendances*

A series of Wilcoxon Signed Ranks Tests were conducted to compare the differences in the number of average hospital admissions and A&E attendances for the cohort across the three time-points.

#### *Client Feedback Survey*

The survey was designed to gain feedback on satisfaction with the AHLT, and what impact the AHLT has had on client's drinking behaviour. Questions for this survey were drawn from the evaluation of the Portsmouth alcohol care team, and through consultation with the project steering group [15]. Responses to the survey were measured either by indicating 'yes' or 'no'; marking an answer on a 10-point Likert scale, or by selecting a number of categories that represented the participants views.

A series of cross-tabulations were used to analyse the frequency distribution of responses to the patient feedback survey, whilst a mean score for the cohort was calculated to measure client satisfaction with the AHLT.

### *Focus Group*

A semi-structured topic guide was designed to provoke discussion about the staff's experience of the service, how they help their patients, and their links with community alcohol teams. The session lasted for one hour and was audio recorded and subsequently transcribed verbatim, before being subjected to thematic analysis [21]. In health research, focus groups tend to have between four and eight participants who can comprise of pre-existing clusters or be drawn together specifically for the research [22]. Two researchers facilitated this session with one asking the questions, and the other taking notes and ensuring everyone had a chance to participate [23]. Researchers coded the transcript independently before meeting to discuss emergent themes and how sub-themes connected together. In cases of disagreement the researchers conferred until consensus was achieved. All identifiable information was removed from the transcripts, with pseudonyms used in the results below.

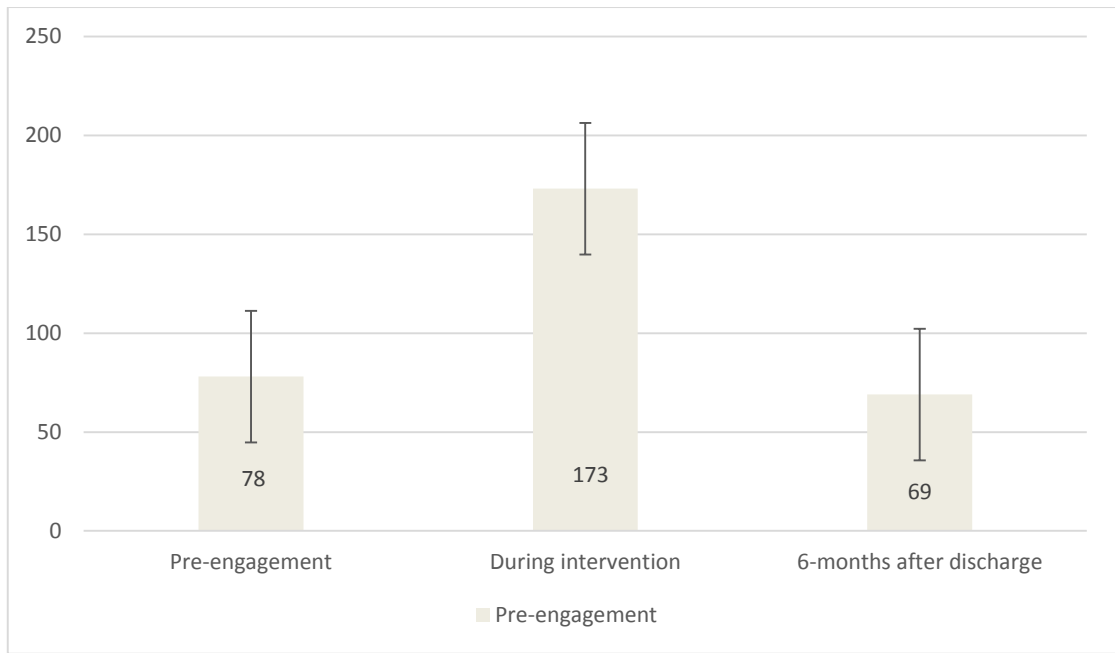
## **Results**

During the evaluation period a total of 176 patients were referred to the AHLT; of whom 96 consented to participate in the evaluation (54.5%). Of the 96 individuals, 57% were male, and 76% were aged 40 years or over.

### *Hospital admissions*

When comparing hospital admissions between baseline and 6-month follow-up, no differences were observed. Whilst there was a 12% reduction, from 78 admissions to 69 admissions, this was not significant (ns) ( $Z = -.955$ ). However, there was a significant increase in admissions between baseline and the period of engagement with the AHLT, rising from 78 to 173 ( $Z = -2.828$ ,  $p = 0.05$ ). The number of admissions then significantly reduced when comparing those during engagement to those at 6-month follow-up, dropping from 173 to 69 ( $Z = -4.548$ ,  $p < 0.01$ ). See figure 1 below:

**Figure 1: Total number of alcohol specific hospital admissions pre, during, and post intervention for cohort (n = 96).**

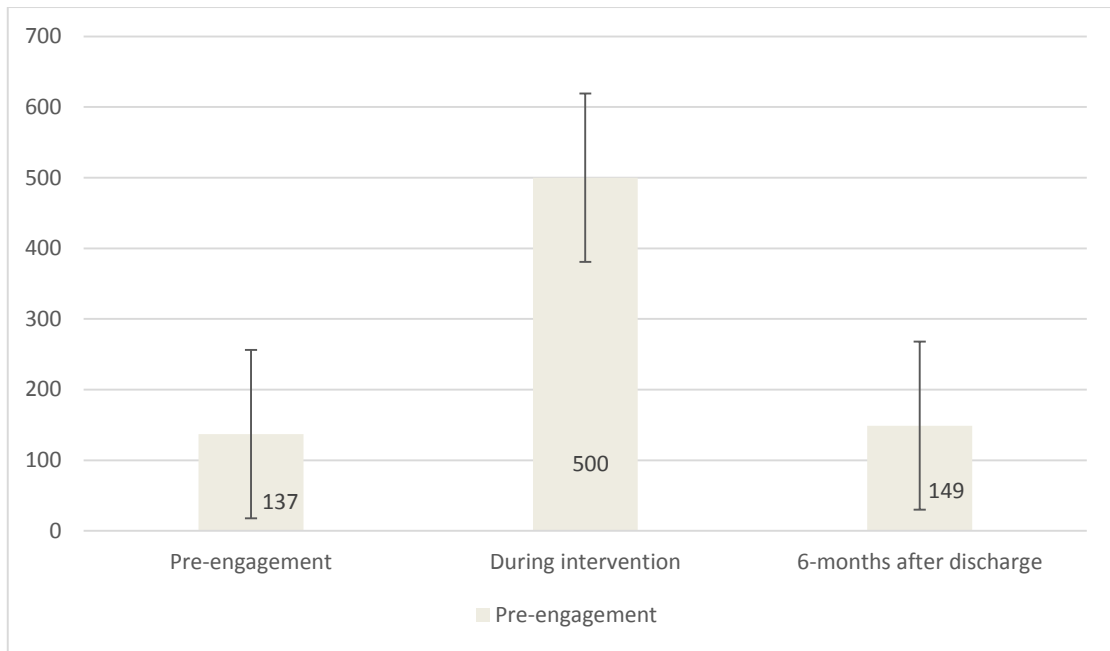


### *A&E Attendances*

No difference was observed when comparing the total number of A&E attendances between baseline and 6-month follow-up. Whilst there was a 9% increase, from 137 attendances to 149, this was not significant ( $Z = -.796$ , **ns**). However, a significant increase in attendances was observed between baseline and the period of engagement with the AHLT, rising from 137 attendances to 500 ( $Z = -7.375$ ,  $p < 0.01$ ). The number of attendances then significantly reduces when comparing the period during engagement with the AHLT to those at 6-month follow-up, dropping from 500 to 149 ( $Z = -6.919$ ,  $p < 0.01$ ); See figure 2 below:

**Figure 2: Total number of alcohol specific A&E attendances pre, during, and post intervention for the cohort (n = 96).**





### Client Feedback Survey

The feedback survey was posted to all 96 participants who agreed to participate in the evaluation, of whom 38 (40%) completed a feedback survey and returned it to the university, of whom 58% were male, and 90% were aged 35 or over.

When asked how satisfied they were with the AHLT, patients rated the service highly. Satisfaction with initial consultation with the AHLT was rated on average as 8.51 out of 10 (SD = 1.995); whilst the attitude of the AHLT was rated as 8.68 out of 10 (SD = 2.286).

Table I below outlines the services that were recommended to patients when they engaged with the AHLT. Whilst fewer people were admitted for detox (n = 11) than those who were not (n = 26) there appears to be no other differences when comparing the frequency distribution of responses. Interestingly, there was an even spread of patients who felt they were advised to reduce their drinking (n = 19) and those who were not (n = 18).

**Table I: Services recommended to patients by AHLT**

Service	Yes	No
Admitted to hospital for detox	11 (29.0%)	26 (68.4%)
Referred to community services	20 (52.6%)	17 (44.7%)
Advised to reduce drinking	19 (50.0%)	18 (47.3%)

Cannot Remember	1 (2.6%)	36 (94.7%)
Home Detox	5 (13.2%)	32 (84.2%)
Home follow up visits	19 (50.0%)	17 (44.7%)
Nothing	0 (0.0%)	36 (94.7%)
Other	0 (0.0%)	36 (94.7%)

Participants were significantly more likely to feel that working with the AHLT had an impact on their drinking behaviour (n = 28) than feel it had not (n = 7) ( $\chi^2(1, N = 35) = 12.6$  ( $p < 0.01$ )). A number of reasons why patients felt working with the AHLT had helped them reduce their drinking were reported, the most common of which was referral to outside agencies, and the professional attitude of the team.

### **Focus Group with AHLT Staff**

A focus group was held with six of the seven AHLT staff; of whom five were female, and one was male. The focus group lasted for one hour, was transcribed verbatim with pseudonyms used to maintain confidentiality.

Two themes emerged from the analysis of the focus group data: Clarifying the role of the AHLT; and capacity of the AHLT. Themes are presented below, supported by illustrative quotes.

#### *Clarifying the role of the AHLT*

The theme ‘Clarifying the role of the AHLT’ relates to the participants’ views of their role within the AHLT compared to how they think others within the hospital perceive their role..

*“I’d question the interpretation of the (screening) tool, a number of the scores you get, how could they possibly get that score? Are they erring on the side of caution so that they are getting someone to talk to them as a cover? Which is great cause it’s getting people mended but, when I was a nurse that was my role” – Tom*

In the quote above, Tom expressed concerns that screening tool scores were being exaggerated to trigger a referral to the team due to acute hospital staff not wanting to deliver brief interventions to patients. Whilst he acknowledges that it is a good thing as patients are getting help they may need, his previous work as a nurse highlights to him that acute hospital staff should deliver the brief interventions rather than pass them on to his team. This highlights the possibility that more training may be required within the hospital to help staff understand the benefits of screening and brief advice, and highlight the role of the AHLT.

There also appears to be a breakdown in communication between staff which led Dianne to be concerned that some patients' hospital stays were being prolonged as hospital staff were refusing to discharge patients until they had spoken to a member of the AHLT.

*“[The] consultant wouldn't discharge him unless he saw somebody and I looked through the notes... I said it looks as if he hasn't had a drink for ages you know. She says well would you mind just going and having a chat cause the consultant says he can't go home till you've seen him. So I went and no he hasn't been drinking for seven weeks and so we had a little talk and they discharged him” – Dianne*

In the above quote, Dianne recalls a situation where she believed that the patient did not merit a brief intervention due to the amount of alcohol they had reported drinking. She felt that historical drinking was perhaps influencing care, rather than acute hospital staff basing their decision solely on the current episode of care.

The belief that a patient's history was influencing the care provided by acute hospital staff was further emphasised by Laura.

*“They said we're just about to start him on Chlordiazepoxide and I said why he hasn't drank more than maybes a pint a night and they're wanting to put him on a reducing regime. He'd got a hangover but because they knew him historically and historically he drank really, really heavily they've straight away gonna (medicate)” – Laura*

Here Laura suggests there could be a culture of reliance on medical detoxes (the prescription of medication to assist a client stop drinking alcohol) both within the hospital and with GPs in the region. If such a reliance on medical detox exists, this may be contributing to recidivism within the hospital, as patients become reliant on this form of treatment. However, Laura highlighted that when the AHLT are consulted about a client's treatment within the hospital they will advise that detox is not always the best option.

Uncertainty over the role of the AHLT may have implications for the ability of the team to achieve their principal aim of reducing alcohol related hospital admissions. Taking time out to speak to patients who require brief advice and not more intensive support to control their drinking reduces the ability of the team to work with patients who need support to change their behaviour. Whilst both acute hospital staff and the AHLT have the best interests of the patients at heart the overriding sense from the focus group was that there are competing agendas within the hospital and a lack of clarity over what the AHLT offer which can have implications for patient care.

#### *Capacity of the AHLT*

The theme 'Capacity of the AHLT' refers to factors discussed by focus group participants which may impact on the amount of time they have to work with appropriate patients.

Emma highlighted that the team can spend a lot of their time searching the hospital for patients who would potentially be missed if they were not actively seeking them out.

*“Anybody from A&E that gets admitted... we go into there and we check is there, anybody for us with the staff. We have access to symphony on our computers so we can have a look through and have a think is there anybody we know of. Then we go down to reception and we print off anybody who scores [positive on a screening tool]... so we can work out who's in service, who wants to come into service“- Emma*

Emma identifies a number of ways in which they will search for potential patients in addition to the referrals they receive. Whilst this allows them to identify additional

patients who may need support, the time spent on this task reduces the number of patients who can be engaged at any one time.

The issue of reduced capacity was also highlighted by Tom who expressed concern around passing patients onto community teams.

*“Our caseload is easier to manage and we’ve got a better understanding of our client group anyway, we’re a lot closer and it’s that link from quite intense and we gradually reduce... If we miss an appointment we’ll offer another one the next day or the day after. If they miss an appointment with the locality [team] who are maybe seeing them fortnightly that could be four weeks before the next appointment is due” - Tom*

Tom highlighted that due to the large caseload of patients held by community teams, he feels they are unable to offer the same standard of care as the AHLT. Whilst the AHLT work intensively with patients, seeing them two or three times a week, he felt the community teams only have capacity to see patients once or twice a month. However, it is possible that the reluctance of the AHLT to hand patients over as highlighted by Tom further reduces their capacity to engage with new patients who would benefit from their care.

## **Discussion**

The results of this evaluation demonstrated that in the 6-month period after working with the AHLT there is a small, non-significant reduction in hospital admissions, and a small, non-significant rise in A&E attendances. Furthermore, hospital admissions and A&E attendances significantly increased during the period that patients were engaged with the AHLT. Given that many patients in this service will suffer from chronic illnesses as a result of past alcohol use, then it is expected that they will still attend hospital in the management of these conditions which may be coded as alcohol specific admissions or attendances. However, evidence from other such services has shown alcohol related hospital admissions decrease after contact with a specialist team [13, 15, 16, 24] Whilst the results of this evaluation suggest the team had no impact on levels of hospital attendances and admissions, we were unable to contact 45.5% of the identified patients to gain consent to include their data in the evaluation. In addition,

the lack of a comparison group means we are unable to determine whether or not hospital admissions and attendances would have continued to rise had it not been for the intervention of the AHLT.

When considering that A&E attendances for the patients included increased between baseline and 6-month follow up, but hospital admissions decreased it could be argued that the team had had an impact on preventing hospital admissions with this client group. This is reflected in the results of the patient feedback survey, as 80% of patients who responded felt that working with the team had impacted on their drinking behaviour. This is consistent with findings from other evaluations of hospital based alcohol teams, which have shown that hospital attendances have continued to rise after the introduction of alcohol care teams, whilst admissions have fallen [25].

During the focus group it emerged that the AHLT staff members were reluctant to pass their patients to the community alcohol teams as they felt they did not have the capacity to offer the same level of care as themselves. Given that patients hospital attendances and admissions rose sharply whilst patients were engaged with the AHLT, but dropped again after discharge, this suggests that passing patients onto community teams sooner could reduce recidivism at the hospital. Work in the future should focus in forging better links between the teams.

In general patients seemed pleased with the treatment they received from the AHLT, rating both their satisfaction with the service, and the attitude of the AHLT as positive. Furthermore, they felt that working with the team had had an impact on their drinking behaviour. Interestingly though, only half of respondents of the feedback survey felt that they were advised to reduce their drinking whilst engaged with the AHLT. Whilst the remit of the AHLT is not to promote abstinence, more to stabilise client's drinking, it would be expected that all patients would be advised to reduce their alcohol intake. The results of the focus group highlighted that whilst most patients are being screened for their alcohol use, there is some debate about whose responsibility it is to deliver brief advice to patients. Hospital staff believed it to be the AHLT's responsibility, whilst the AHLT believed it to be the responsibility of hospital staff which shows a clear communication issue between teams. The provision of brief advice is one of the key components of a hospital based alcohol care team [14] which involves 15-20

minutes of structured feedback about the health and social consequences of risky drinking along with a list of benefits that would result from reduced drinking [24]. Research has demonstrated that this is an effective way to reduce drinking amongst people with alcohol use disorders [26]. Therefore there is a need for clinical staff within this hospital to be delivering alcohol screening and brief advice to patients, which does not appear to be happening on a routine basis.

A significant limitation of this study was that due to issues around consent to link data, we were unable to utilise data for everyone identified in our cohort. Whilst details of patients who had been engaged with the AHLT were owned by the local authority, hospital admission data was owned by the Foundation Trust, therefore consent had to be sought from patients to link the data sets. Whilst 197 participants engaged with this service during the evaluation, only 99 of them could be contacted and asked if they would consent to their data being used, with three participants declining. Therefore, it is possible that had all data been available the results of this evaluation may have been different. In addition to this we only had access to aggregated anonymised data which had been compiled by the Foundation Trust on the basis of the requested alcohol specific ICD10 codes. Whilst it would have been useful to look at the frequency of different codes, such as mental and behavioural disorder admissions due to alcohol use, this was not possible.

The lack of a control group limits the scope of these findings, however due to funding restrictions this evaluation was never set up to act as a randomised controlled trial. This work does highlight the need for more robust evidence of the effectiveness of hospital based alcohol care teams as had we had a control group we would have had a clearer idea of whether the fluctuations in alcohol specific hospital attendances and admissions was specific to our cohort in relation to their time engaged with the AHLT or a feature common to patients with alcohol use disorders.

## Conclusion

In summary, results of this evaluation suggest that the AHLT service may not have been an effective way to treat patients who frequently attend hospital for their alcohol use. However, due to the limitations highlighted above it is not possible to determine what impact the service has had in reducing alcohol specific hospital attendances or

admissions. However, the evaluation did highlight some weaknesses with this service. There seems to be a lack of communication around whose responsibility it was to deliver ASBI to patients whilst in the hospital setting which may be contributing to their continued attendances. The research team felt that the AHLT should be better integrated into the hospital setting, as part of a multi-disciplinary team with clear treatment pathways. This should reduce confusion about their role, help them to promote brief interventions and increase their confidence in passing patients on to locality teams.

### **Declaration of Conflicting Interests**

The following authors are employed by Durham County Council who commissioned the evaluation of this service; Gillian O'Neill, Kirsty Wilkinson, and Dr Lynn Wilson

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