Healthier and Fairer Programme

NHS North East and North Cumbria

Burden of Illness – Alcohol

Report outlining the impact alcohol has on males aged 45-59 use of healthcare in North East & North Cumbria

Part of:

North East North Cumbria Health & Care Partnership

Contents

Executive summary

We know that alcohol related-admissions to hospital within the North East and North Cumbria are increasing. We also know that many of these admissions could be prevented and that when people are admitted to hospital due to alcohol it is an opportunity to help and support those people.

The North East & North Cumbria Alcohol Prevention Programme undertook this project to find out more about people who are admitted to hospital who drink at -risky levels. We focused on a group of 27,747 men aged 45-59 who are known to be risky drinkers or to have used health care because of their drinking (the 'alcohol cohort') and compared them to a similar group of 335,829 men without this alcohol risk or experience of healthcare due to their alcohol use (the 'control group').

We wanted to know if these people use hospital care more frequently than people with the same health conditions who do not drink alcohol at risky levels, and whether there is a pattern in this attendance. We used a range of data available through healthcare services, such as hospital codes, to do this. In order to isolate the effect of alcohol use we used statistical analysis to account for other factors that may have an effect on healthcare usage in this population, these were smoking, deprivation and a number of long-term conditions. Throughout the project we worked with and were guided by clinicians, people with lived experience of alcohol harm, and experts in health economics and public health.

We found that the alcohol cohort had significantly more A&E attendances and were almost three times as likely to have had an unplanned hospital stay compared with the control group. Unplanned hospital stays were not only more frequent but also significantly longer - more than twice that of the control group – highlighting alcohol as a key driver of unplanned health care usage, regardless of reason for admission.

In contrast those within the alcohol cohort were shown to have a similar number of planned admissions compared with the control group. Earlier planned healthcare encounters represent potential missed opportunities to intervene to reduce harm & mortality.

The variation in costs aligned with the hospital activity between the alcohol and control group was approximately £16.8 million per year. This equates to an average additional cost of £727 more per year for every person with risky alcohol consumption compared with that of someone with the same health and social factors, without at risk consumption.

We found that the risk of premature mortality was also significantly greater in the alcohol cohort, with 12.5% reported as 'deceased' within the 10-year period compared with 2.5% of the control group. In the alcohol cohort the frequency and length of unplanned hospital stays increased towards the end of life and the use of planned care reduced, again representing potential missed opportunities to intervene to reduce harm & mortality.

Incidental findings of this study identified the men within the alcohol cohort to have almost twice the number of long-term conditions documented on their primary care record compared with those within the control group.

Another incidental finding was the impact of alcohol and smoking as a combination on unplanned admissions. When both were present, the frequency and length of stay was even greater than the variation for alcohol alone (an additional 0.65 admissions and 6.8 bed days per person).

Background and Context

The North East and North Cumbria has some of the highest levels of alcohol related harm in the country. Because as a region we are disproportionately affected[1], this presents a challenge for all of our healthcare providers and wider system partners. This situation is reflected in the alcohol related morbidity and mortality rates we see[2].

In response to these increasing levels of alcohol-related harm, the North East and North Cumbria (NENC) ICS undertook a comprehensive Alcohol Healthcare Needs Assessment (HCNA), completed in 2022 (see Appendix a). This collaborative approach between the Office for Health Improvement & Disparities (OHID), North of England Care System Support (NECS), Association of the Directors of Public Health (ADPH) and NHS England (NHSE) mapped existing patterns of service-utilisation to quantify healthcare needs and inequity in the population and identify gaps. Findings from qualitative and quantitative workstreams were triangulated to produce overarching recommendations, leading to a strategic action plan encompassing primary prevention and improvements in outcomes and data quality.

The Alcohol Healthcare Needs Assessment (HCNA) highlighted significant alcohol related health inequalities for men aged 45 to 59, with men being admitted to hospital twice as often as females for alcohol related reasons. The HCNA recommended that the NENC Alcohol Programme should work with partners to explore opportunities to prevent hospital admissions where alcohol is a factor, with specific work focusing on men aged 45-59. This led to the development of the Burden of Illness (Alcohol) project and informed the key cohort for the project. We wanted to understand more about the patterns and reasons for these admissions and how this related to other health conditions in order to respond to need.

There have been other earlier studies[3] into the impact of alcohol healthcare usage, but most have done so without adjusting for other existing health conditions which can occur more frequently in people who experience alcohol related harm.

[1] https://www.ons.gov.uk/releases/alcoholspecificdeathsintheukregisteredin2023
[2] Alcohol Profile - Data | Fingertips | Department of Health and Social Care
[3] https://doi.org/10.1111/add.15354

A Danish study published in 2021 [4] did consider the impact of broader health conditions, relying upon estimated levels of alcohol consumption within the population and GP record. We know from recent analysis undertaken by the NENC Alcohol Programme that rates of recording of alcohol consumption by GP practices in NENC are low, therefore the steering group agreed, relying solely on this data to identify the alcohol cohort would underrepresent the size of the cohort and the impacts of alcohol on their health and use of health care resources.

The main aim of this work was to determine if there are differences in the use of healthcare services for individuals who experience alcohol related harm or increased risk alcohol consumption compared with a group of similar individuals, with comparable health problems, who do not have alcohol related harm or at risky alcohol consumption.

We looked at key trends in healthcare use for individuals within the alcohol cohort. We did this using survival curves for the various test variables, comparing the average time to event for both the alcohol and control groups. We also looked specifically at the escalation of healthcare usage towards the end of life, focusing upon the cohort of individuals with a date of death recorded and alcohol harm. This analysis is described throughout the report.

Doing this work, we hope to gain a greater understanding of the burden of alcohol harm to the local health system, helping us to consider more targeted and holistic approaches to the care pathways and prevention of alcohol harm, and show us key points in a person's journey to offer help, advice and treatment if needed.

Methodology

Study design

A steering group was established to inform and agree the study design, inclusion criteria and methodology. This included Strategic and Clinical Alcohol Leads from North East and North Cumbria Integrated Care Board (NENC ICB), people with lived experience of alcohol harm, a

[4] https://doi.org/10.1111/acer.14615

public health consultant, healthcare intelligence analysts and an academic partner specialising and experienced in health economics.

The project is a retrospective longitudinal cohort study, using a range of techniques to interrogate and statistically analyse routine healthcare records for two distinct cohorts over a 10 year period. As part of the analysis stage, we included discussion of the findings with a group of experts with experience to help interpret the meaning behind the data and to produce recommendations.

At each stage of the project, data has been quality checked by individuals independent to the work and routine check points with the steering group have enabled initial findings to be discussed and methods to be challenged or improved as required.

Identifying case and control populations

As this work was undertaken by North England Commissioning Support (NECS) on behalf of NENC ICB with the specific aim of improving patient care, routine healthcare commissioning datasets were able to be used.

These routine healthcare commissioning datasets were used to identify the case and control groups for analysis. Datasets included, Primary Care patient records, Secondary Uses Service (SUS) data, Emergency Care Dataset, Mental Health Minimum Dataset and Office for National Statistics (ONS) Deaths data.

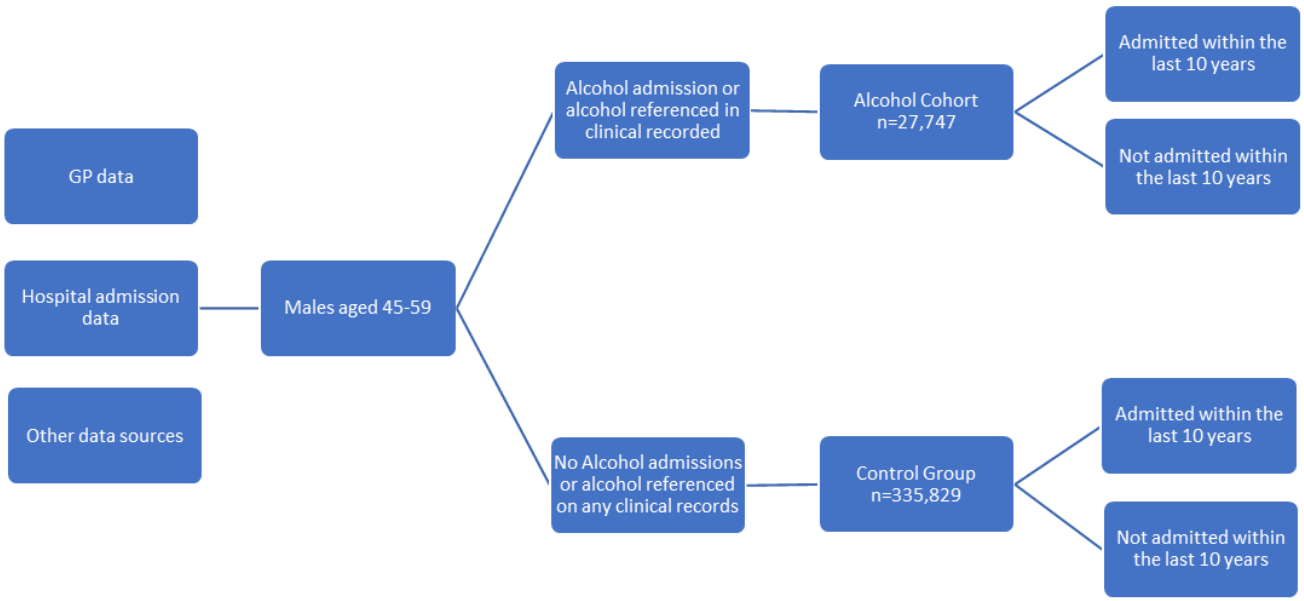
All health records included within the analysis were linked at pseudonymised patient level for males aged 45-59, registered with GP within NENC as of the 31st December 2023.

The alcohol cohort included individuals with alcohol harm or increasing risk alcohol consumption documented on any clinical record over the 10-year period. This included 'increased risk' drinking[5] documented on their Primary Care record, an alcohol related Accident and Emergency attendance, an Alcohol related admission (defined using ICD10 codes within the Alcohol Specific admission definition, see appendix b).

[5] UK Chief Medical Officers' Low Risk Drinking Guidelines

The control group cohort was inclusive of all other males aged 45 – 59 within the registered population.

Figure 1 - Data linkage model



Analysis

The first stage of analysis was to produce descriptive statistics on the two cohorts to understand the population profile of each. This was used to help determine whether there were any significant differences within the population profiles which may confound the findings of the study.

It was agreed that any factors leading to statistically variation would be adjusted for within the weighted analysis, using appropriate statistical methods. In this instance, the method deemed most appropriate was one way analysis of variation. The weighted analysis was compared with the unweighted analysis (analysis undertaken without adjusting for the confounding factors) in all cases, it was appropriate to adjust for the factors included. The unweighted analysis is included in appendix B.

The factors compared across the two cohorts were, Age, socio-economic status (defined using Index of Multiple deprivation based upon the derived lower super output of individuals), number of long-term conditions documented on their primary care record and most frequently coded ICD10 diagnosis codes on admission data.

The factors identified as potential confounders were:

- Socio-economic status
- Smoking status (identified through ICD diagnosis analysis)
- Number of long term conditions

The age profile did not vary significantly between case and control and was therefore not included in any adjustments.

Following the finding of significant variation in the proportion of each cohort who had experienced an admission across the 10 year period, a decision was made by the steering group to further stratify the cohorts into two sub cohorts, those with at least one admission and those without any recorded admission.

The test variables were agreed within the steering group with a primary focus on activity, length of stay and cost. The variables included:

- Number of unplanned admissions within 10 year
- Combined costs of unplanned admissions within 10 years
- Number of bed days used from unplanned admissions within 10 years
- Number of planned admissions within 10 year
- Number of Accident and emergency attendances within 10 years
- Cost of Accident and emergency attendances within 10 years
- Number of referrals to Mental health specialist services within 10 years

The analysis was undertaking using a multivariant regression model to enable us to adjust for the factors within the populations which were significantly different.

For the sub cohort without any recorded admissions, only number of accident and emergency attendances, cost of accident and emergency attendances and the number of mental health referrals were tested.

Time to event analysis was undertaken to further understand any potential differences between the case and control. Using this method enabled us to determine the proportion of each cohort accessing points of healthcare (for those points included in the study) at each stage across the 10 year period as well as the proportion who remained alive at each stage. This analysis was undertaken using the Kaplan-Meier estimate and highlighted the statistical variation between the two groups over time.

Throughout this study, long-term conditions, co-morbidities or 'other health conditions' have been using interchangeably but refer to the same condition applying to different datasets (i.e long-term conditions relating to Primary Care, co-morbidities relating to admission data). All three terms were defined using the World Health Organisation ICD10 definitions[6] to ensure we are measuring consistently across the different datasets.

Lived Experience framing of the findings

As part of the study, a focus group was held with a group of men who had experience of alcohol related harm. Initial analytical findings were presented to the group and these were illustrated using patient vignettes, representing healthcare activity journeys of individuals from the alcohol cohort who were reported as deceased.

The men were asked to discuss the findings based on their own experiences of healthcare usage due to alcohol, and explore their interpretation of the data. They discussed how this linked to real life experiences, and how the findings could support improvements in the care of people experiencing alcohol related harm to enable more effective and earlier intervention.

To produce the vignettes, a change of methodology was applied. Using ONS death data, individuals with a cause of death coded with an alcohol specific ICD10 code was used to identify a cohort. The cohort data was then linked with boarder healthcare datasets and analysed, with the exception of Primary Care data.

[6] International Classification of Diseases (ICD)

Once the alcohol cohort within the deaths data was identified and linked, the frequency of contacts (all healthcare contacts combined) was analysed and segmented into additional sub cohorts based upon frequency. From these sub cohorts, example, 3 anonymised patients were chosen at random to depict a 'typical healthcare utilisation' timelines. One example patient was representative of the most chaotic sub cohort (25% quartile of most healthcare contacts), one from mid-range and one with very few healthcare contacts (25% least healthcare contacts). These patients were presented as patient vignettes.

The men were asked to discuss the findings based on their own experiences of healthcare usage due to alcohol, an explore their interpretation of the data, how this linked to real life experiences, and how the findings could support improvements in the care of people experiencing alcohol related harm.

Limitations

The data sources included within the analysis was not fully inclusive of all organisations which may have had contact with individuals throughout the 10 year period. This included Local Authority Substance misuse treatment service data or Social Services data. There is a possibility that there is a small cohort of dependant alcohol users who are accessing Local Authority Commissioned services but are not accessing healthcare. This would potentially lead to underestimation of the numbers within the alcohol cohort. It is expected that very few individuals would fall into this category and the size of the study should mitigate this to some extent. If these individuals were unknown to healthcare services (including inpatient care), their absence within the cohort would have no impact on the analysis in this instance. However, if the project was broadened to include activity and costs broader than direct healthcare, this would be an area for consideration.

There may be individuals within the control group who have no alcohol harm documented within their health records but have in fact experienced some alcohol harm. It is acknowledged that coding of alcohol related harm varies by healthcare setting, individuals with fewer noticeable impacts upon their health are less likely to have alcohol consumption recorded in Primary Care than someone who is experiencing detrimental harm and

presenting with associate health issues. The inclusion of these individuals within the control group rather than the alcohol group could potentially lead to an underestimation of the impact of alcohol. The likelihood of an individual with risky alcohol use not having the issue documented on any of the linked health records during a 10 year period is possible but hopefully minimal and mitigated by the scale of the population included within this study.

The use of SUS data is limited by Organisational coding methodology and by the number of Co-morbidities which can be recorded in one episode of care. If individuals had more than 13 co-morbidities to record, only the most relevant would be include. There is a risk that alcohol related symptom may occasionally be classified as less relevant. This could potentially lead to an underestimation of the impact of alcohol within the analysis.

Findings

Descriptive statistics

There were 335,829 individuals within the control cohort and 27,747 individuals within the case cohort (12:1 ratio), all males aged between the ages of 45-59 as of the 31st December 2023.

Over the 10 year period, 23,151 (83%) within the case cohort had a recorded admission and, 4,596 (17%) had no recorded admission. The total number of admissions for the case cohort was 143,889.

Within the Control cohort, 176,242 (52%) had a recorded admission within the last 10 years, 159,587 (48%) had no recorded admission.

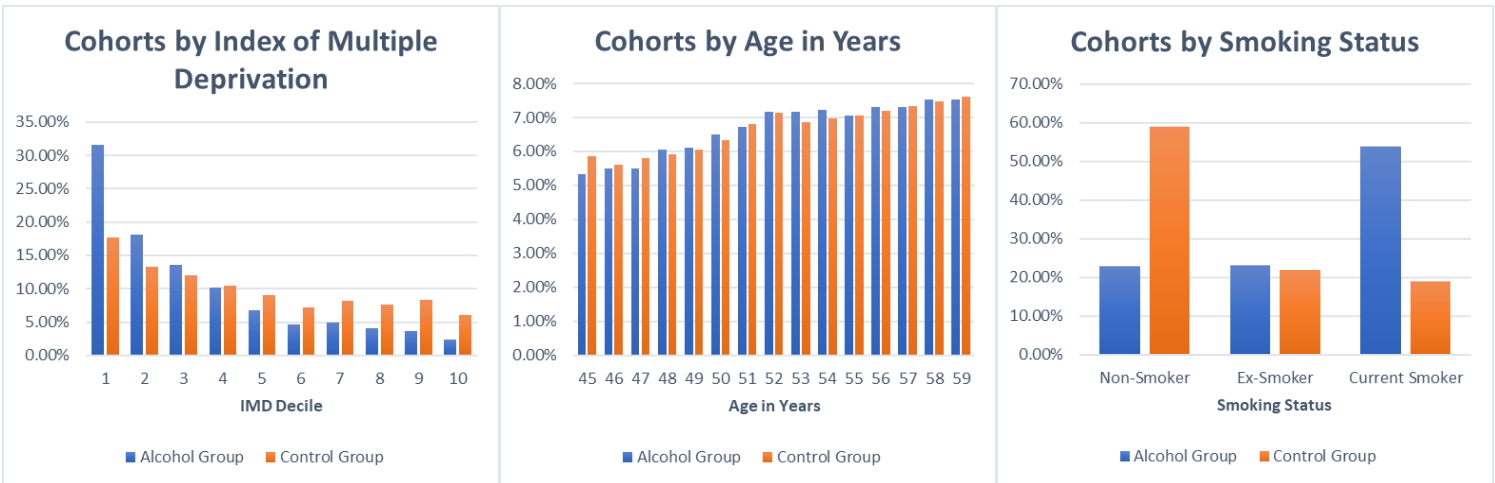
Figure 2 - Sub-cohort numbers by cohort

Alcohol cohort		**27,747**
	Admitted alcohol cohort	23,151
	non-admitted alcohol cohort	4,596
Control Cohort		**335,829**
	Admitted control cohort	176,242
	non-admitted control cohort	159,587

As described in the methodology section of this paper, the population profile of the case and control cohorts were tested across a number of factors to ensure we were considering any possible influencing variable which may lead to differences in the final output. The three factors identified as being significantly different were socio-economic status (defined as IMD), number of recorded long-term conditions and smoking status.

Figures 3 and 4 show the variation between case and control. The age profile between the two cohorts did not differ with any statistical significance and was therefore not included in the adjustments.

Figure 3 - Demographic and smoking use variation between cohorts

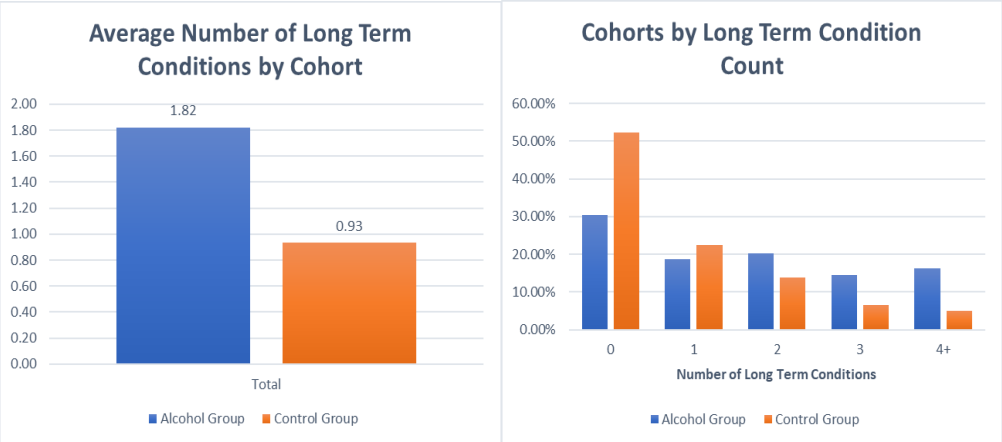


A greater proportion of the case cohort (31% compared to 17%) resided in the 10% most deprived communities within NENC compared with the control group. Those within the case

group also had a higher recorded prevalence of 'current smoking status' recorded on their Primary Care record in the last 12 months.

Those within the alcohol cohort, had on average twice as many diagnosed long-term conditions. On average, those within the alcohol cohort had 1.82 long term conditions per person, compared with 0.93 within the control group. 80% of the alcohol cohort had at least one recorded long-term conditions compared with 48% of the control group. The greatest variation was seen for those with 4 or more long term conditions (figure 4(b)).

Figure 4 **a) Average Number of Long-Term Conditions by Cohort**
b) Variation in Number of Long-Term Condition by Cohort



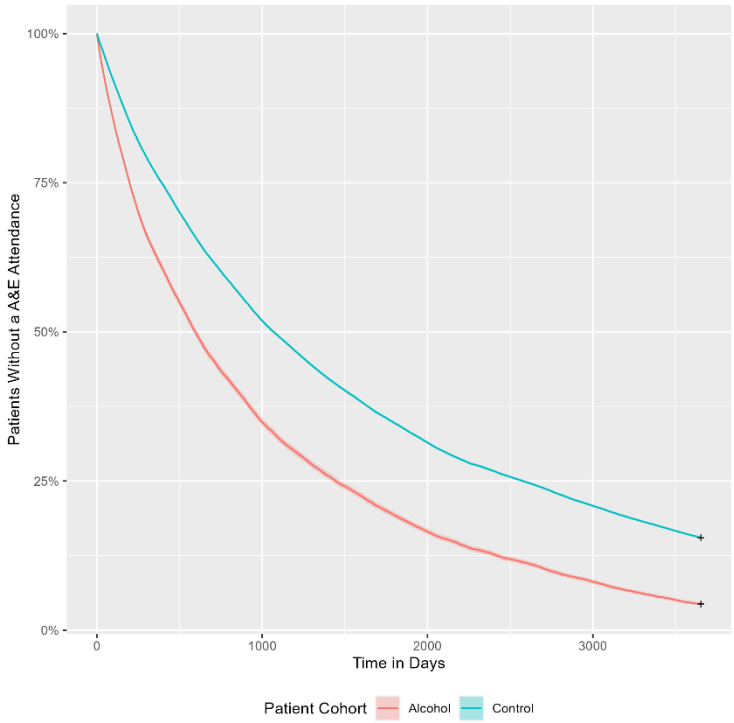
Main Quantitative findings

1. Admitted sub Cohort

1.1 Accident and Emergency attendance

Between December 2013 and December 2023, 95.6% *(95% CI 95.3- 95.7)* of the admitted alcohol cohort had at least one A&E attendance. In comparison, 84.5% *(95% CI 84.3 - 84.7)* of controls admitted control cohort had at least one A&E attendance. The admitted alcohol cohort was calculated as significantly higher than the control cohort (Figure 5).

Figure 5 - First A&E attendance alcohol verse control group – Admitted patients



The median time to first A&E attendance within the admitted alcohol cohort was 1.6 years, with the second occurring on average within 3.5 years. Within the control group the median time to first A&E attendance was 2.9 years, with the second occurring on average within 6.7 years.

On average, the admitted alcohol cohort had 4.5 *(95% CI: 4.38-4.62)* more accident and emergency attendances each than the admitted control cohort over a 10 year period. In both cases the variation was statistically significant *(p-value<0.0001).*

1.2 Hospital Admissions

On average, the admitted alcohol cohort had and 2 *(95% CI: 1.85-2.05)* more hospital admissions (unplanned and planned combined) than the admitted control group.

The variation in admissions between the alcohol and control cohort was primarily driven by unplanned admissions, equating to 2.1 *(95% CI: 2.05-2.14)* more admissions per person for

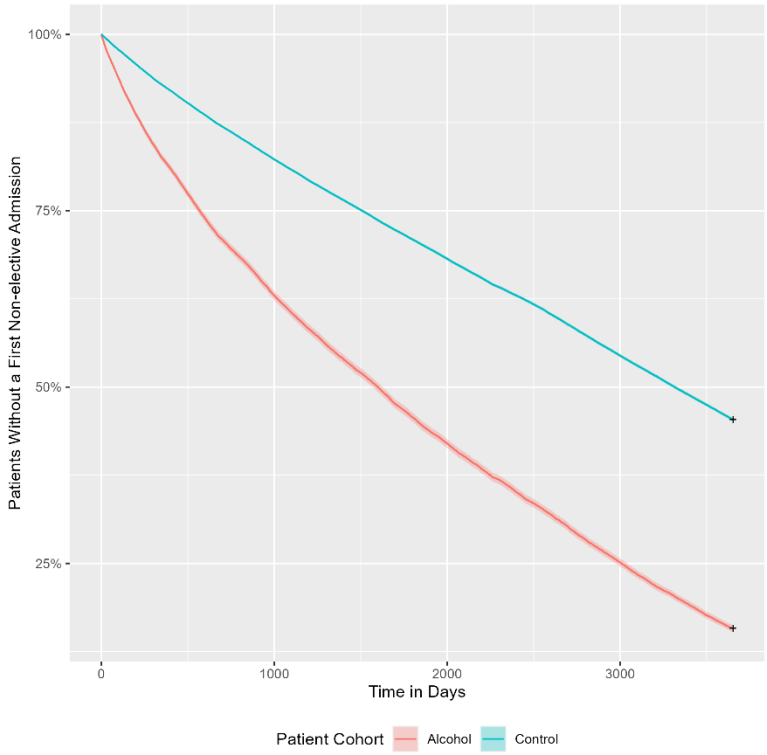
the alcohol cohort. This demonstrates that even if males within the two cohorts had similar levels of health conditions and social factors, those within the alcohol cohort still accessed unplanned hospital care more frequently than those in the control group.

Using 'time to event analysis', figure 6 (below) shows the proportion of each cohort without an unplanned admission at each point of the 10 year period (in days). The graph shows a greater proportion of the alcohol cohort had their first unplanned admission more quickly than the control cohort.

For those admitted, the median time to first admission within the alcohol cohort was within 2.5 years from the study start date and median time to first unplanned admission was 4.4 years. For the control group, the median time to first admission was longer, at 3.4 years but 9.1 years for unplanned admissions.

By December 2023, 84.6% *(95% CI 83.7 – 84.7)* of the admitted alcohol cohort had at an unplanned admission compared to 54.6% *(95% CI 54.4 – 54.9)* within the admitted control group.

Figure 6 - First Unplanned admission alcohol verse control group – Admitted patients



The variation between the two groups for planned admissions was not statistically significant, with the alcohol cohort reporting slightly fewer (on average) than the control group.

1.3 Length of Hospital Stay

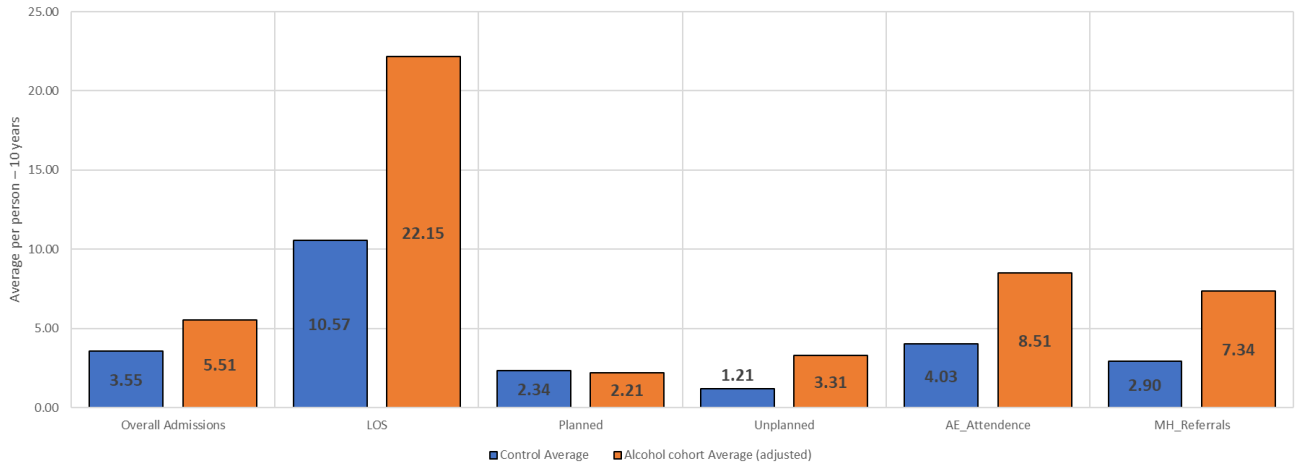
The average length of stay per person for the alcohol cohort was more than twice that of the control group, significantly higher *(p-value <0.0001).* This included both planned and unplanned care. On average, individuals within case cohort were in hospital for 22 days over the 10 year period compared with 10.6 days for the control group, a variance of 11.4 days *(95% CI: 10.41-12.39).* This suggests a greater level of need or complexity when admitted and alcohol is an influencing factor.

1.4 Mental Health Care referrals

Over the 10 year period, individuals within the case cohort were shown (on average) to have 7.3 referrals to mental health services. These services included Community, Inpatient Mental Health services and Talking Therapies. The average for the control group was 2.9, a calculated variation of 4.7 referrals *(95% CI: 4.46-4.94, p-value<0.03)* between the two cohorts. Further work is needed to determine the outcomes of those referrals for the two cohorts. It was not clear from this methodology if these referrals resulted in greater access and successful discharges for one cohort or the other.

Figure 7 below shows the variation for each test variable between case and control for those who has at least one admission.

Figure 7 Adjusted outputs for activity test variables – Alcohol verse Control admitted sub cohort



1.5 Cost

The 10 year healthcare costs variation aligned to A&E attendances and admissions between the case and control cohort equated to **£168,417,944** or £16.8 million per year in total.

On average, the study determined significant variation in the average costs generated by case and control cohorts. Individual within the alcohol cohort who experienced at least one admission, cost (on average) £14,733 per year compared with £7,458 for the control group (Figure 8), a variance of £7,275 *(95% CI: £7,014-£7,536).*

Figure 8 Adjusted outputs for cost test variables – Alcohol verse Control

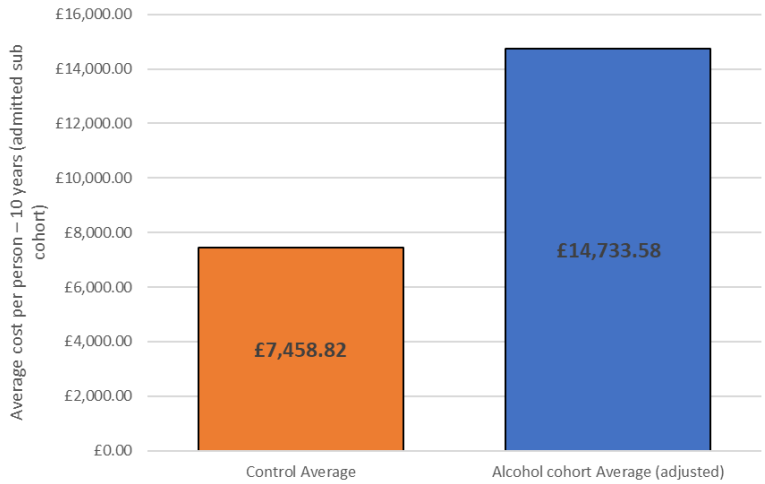


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Figure 9 - Adjusted average activity per person over a 10 year period – Admitted

	Alcohol	Cohort	Variation	p-value
Overall Admissions	5.51	3.55	*1.96*	*<0.0001*
Length of Stay	22.15	10.57	*11.58*	*<0.0001*
Planned admissions	2.21	2.34	*-0.13*	*<0.01*
Unplanned admissions	3.31	1.21	*2.10*	*<0.0001*
A&E attendances	8.51	4.03	*4.48*	*<0.01*
Mental Health Referrals	7.34	2.90	*4.74*	*<0.03*
Cost of activity per person	£14,733	£7,458	*£7,275*	*<0.0001*

2. Non-admitted sub cohort

The variation between the two cohorts within the non-admitted sub cohort was much less than the admitted sub cohort. This potentially signifies that once a person with alcohol related harm has been admitted once, their needs increase at a significantly greater rate than those without alcohol related harm

Within the non-admitted sub cohorts (those without an admission over the time period), the variation in accident and emergency attendance was considerably smaller at 0.5 *(95% CI: 0.44-0.56)* attendances more per person over a 10 year period and was not statistically significant *(p-value 0.20).*

However, the variation in the average number of mental health referrals received for the case cohort was significant, with 3.1 per person over the 10 year period in the alcohol sub-cohort compared with 1 for the control group, a variance of 2.1 (95% CI: 1.84-2.36, p-value 0.04). Similar to the admitted sub-cohort, further analysis is needed to understand variation access, outcomes and experiences for this element of care.

Figure 10 Adjusted outputs for activity test variables – Alcohol verse Control non-admitted sub cohort

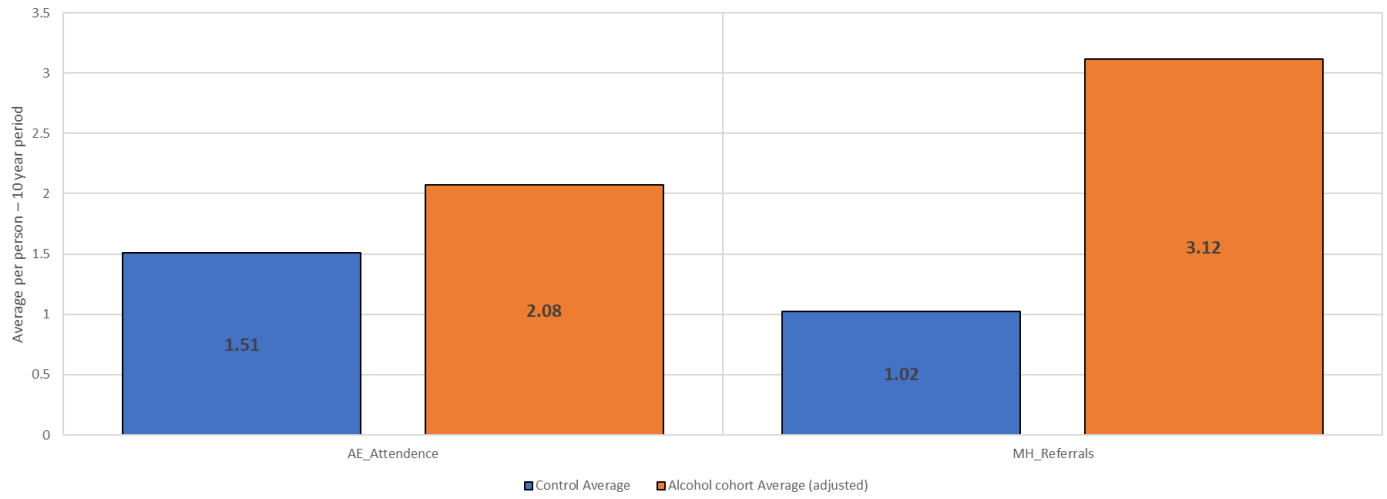


Figure 11 - Adjusted average activity per person over a 10 year period – Not admitted

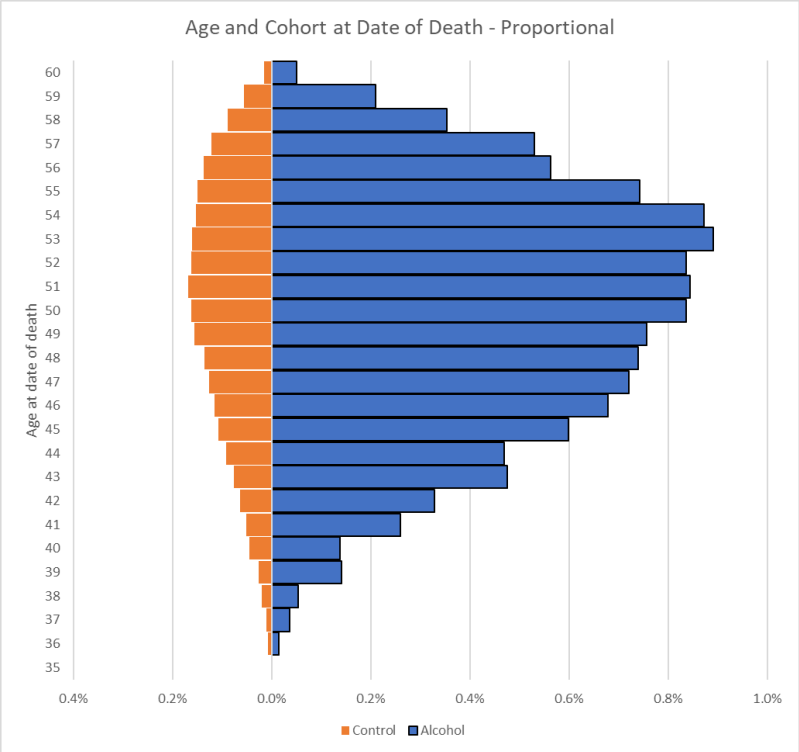
	Alcohol	Cohort	Variation	p-value
A&E attendances	2.08	1.51	*0.57*	0.20
Mental Health Referrals	3.12	1.02	*2.10*	0.042
Cost of activity per person	£352	£353	*-£1*	0.038

3. Mortality

Between December 2013 and December 2023, 12% (n=3,364) of the alcohol cohort died. Only 2.4% (n=8,112) of the control group died within the same period.

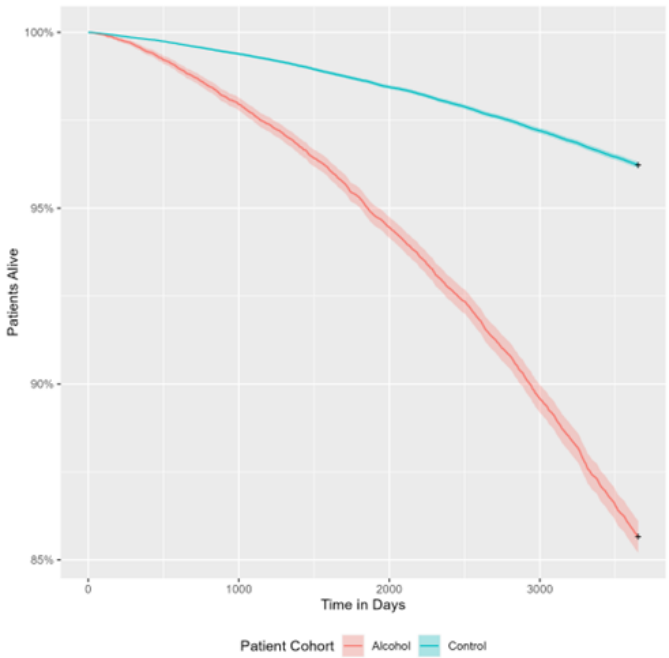
The average age of death within the alcohol cohort was 49.9 years, figure 12 below shows the age distribution of the individuals who died within the study time period. Almost 2% of deaths for men aged 45-59 in NENC occurring within the 10 year period were for those within the alcohol cohort aged 53-54 years.

Figure 12 – Age profile of deceased patients, alcohol verse control cohort



Similar to the accident and emergency and admissions graphs, figure 13 shows the proportion of each cohort who remained alive at each stage of the 10 year period. This shows, clearly the difference between the two cohorts, with the alcohol cohort reducing at a greater rate than the control cohort.

Figure 13 - Death, alcohol verse control group – All patients



The proportion reported as deceased within the admitted sub-cohorts was greater at 14.3% *(95% CI 13.9 – 14.8)* of the alcohol cohort and 3.8% *(95% CI 3.7 – 3.9)* of the control group.

Figures 14 - 16 below are the visual patient vignettes produced for the patient and public involvement session.

Figure 14 is representative of patients within the upper quartile of healthcare contacts within the deaths data analysis. It presents the activity of an individual in the years leading up to data of death. Within the upper quartile, we found that individuals had unplanned care, not always primarily associated with their alcohol use, although this was often documented as a contributing factor. The use of unplanned care increased towards the end of life.

We also found that planned care was frequently document but was shown to lessen towards the end of life. The data used did not specify whether these outpatient appointments (highlighted in blue) were attended or missed so further work is required to understand this.

Figure 14 - Patient Vignette 1 – 25% most healthcare contacts

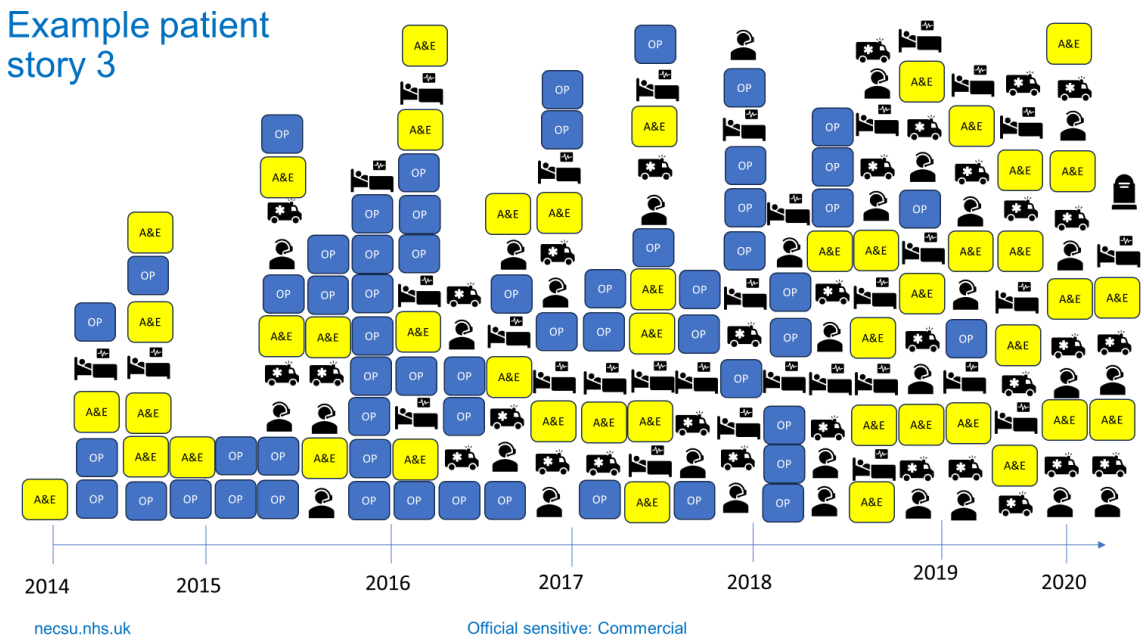
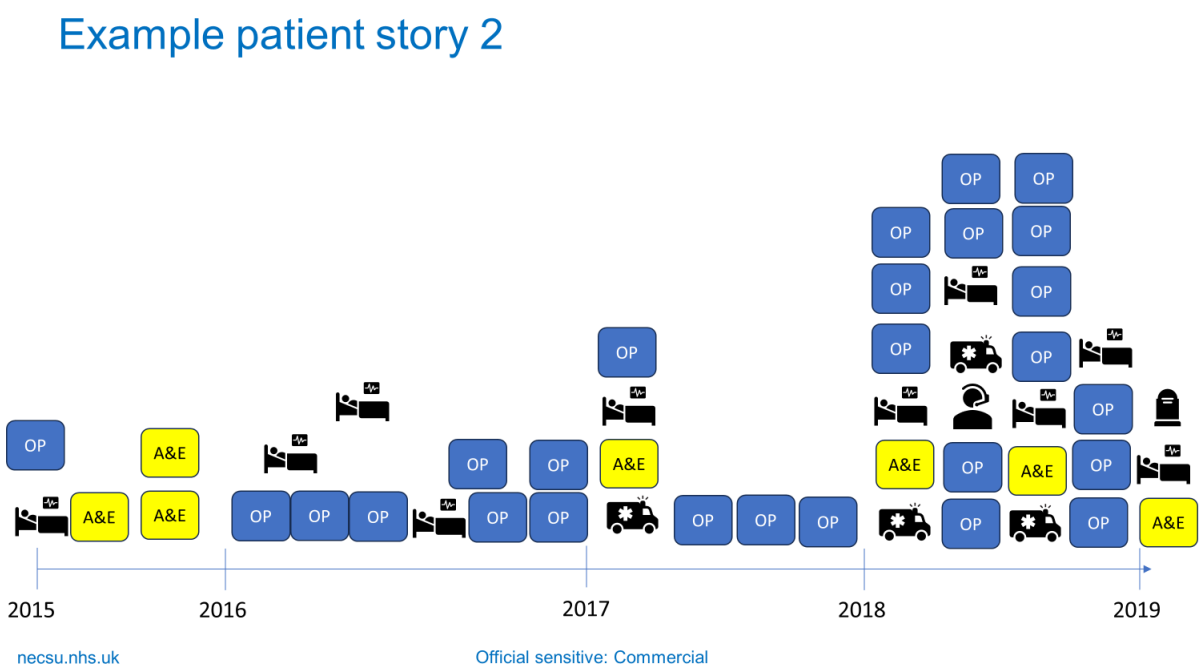


Figure 15 is representative of a patient within the mid-range of the deaths data, within the 50% quintile. The range within this quintile was broad. In this example, similar to the previous

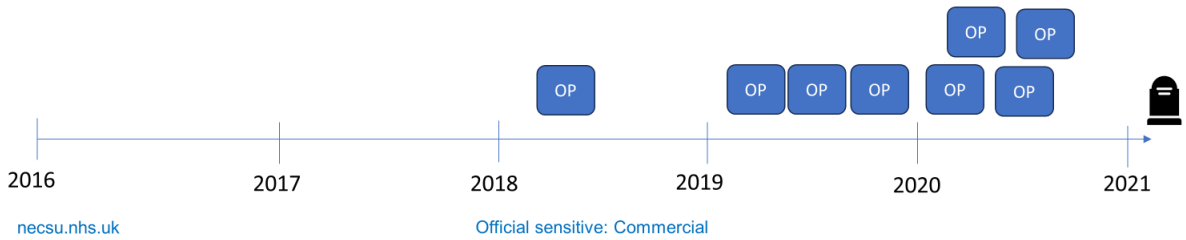
vignette, the individual was accessing planned and unplanned care for a number of years leading up to data of death. Similar to the previous example, the individual saw an increase in access to unplanned care towards the end of life but the number of contacts are fewer.

Figure 15 - Patient Vignette 1 – 50% most healthcare contact



The final example (figure 16) is representative of the patients within the lowest quartile, demonstrating an individual with very few contacts with health service but an alcohol related death. Although there was variation within this sub group, this highlighted that not alcohol individuals with alcohol harm or increased risk alcohol consumption will access healthcare in an unplanned way.

Figure 16 - Patient Vignette 1 – 25% least healthcare contacts



Lived Experience framing of the findings

During the focus group held with men who had experience of alcohol related harm, attendees gave powerful examples of their experiences, bringing the data to life. Many of the group had experienced, or knew people who had experienced, similar journeys to the examples shown to them. All of the group were in recovery from alcohol dependence and they felt it was a limitation of the project that a person's sobriety was not captured within the data of this project.

The attendees explained that during their patient experiences simple conversations with health care workers can make a difference – however, in their experience these conversations do not routinely happen. They felt that every contact with a healthcare worker is an opportunity to advise people to reduce their drinking and if necessary support them into recovery. However, the approach of health care workers makes a difference. They gave examples where health care workers had approached the issue of their drinking with kindness and understanding and this was felt to have made a positive difference in supporting their journey into recovery.

However, the attendees acknowledge that not every contact with a health professional will be at the right time for the person to change their behaviour regarding alcohol use. The group felt that to overcome this, health care workers need to be persistent in offering support and understand that if a patient has declined support in the past, this does not determine whether a future offer of support will be declined.

The group discussed that not everyone wants or needs the same kind of support. Most of the men in the group had had positive experiences of Alcoholics Anonymous (AA) but it was acknowledged that this would not work for everyone, and that there is a variety of other support available, including local authority commissioned specialist treatment. Healthcare staff need to be confident in knowing what is available and where to signpost people for advice.

The group strongly believed that workers in healthcare settings with lived experienced of alcohol dependence are key to identifying, initiating and supporting recovery. Attendees felt

that developing this provision would be key to changing the experiences of people attending healthcare settings, particularly those with alcohol dependence. The group also felt that health care professionals need to involve family and carers to support high risk drinkers and those with dependence into recovery.

The group discussed the need for healthcare workers to have a better awareness of the impact of alcohol harm and dependence on major conditions such as diabetes and heart disease – even if the person no longer drinks. They felt that to enable health care workers to have effective conversations and to support people experiencing alcohol harm there needs to be training available that includes learning from people with lived experience, and this should take place pre-registration.

Conclusions and Recommendations

These findings give us the most detailed indication to date of the burden of alcohol harm and the associated healthcare costs in our region. This report focusses on men aged 45-59 who have already been shown to experience the greatest harm from alcohol (NENC Healthcare Needs Assessment 2022, see Appendix a) but clearly the full burden of alcohol harm in our region will be many times greater when the whole population is taken into account.

The greatest harm (& associated healthcare costs) disproportionately affects individuals in more deprived groups, in accordance with the Alcohol Harm Paradox first described in 2014 (reference) & corroborated consistently since. However, even when deprivation & other confounding variables are accounted for we have shown a significant impact of alcohol alone compared with the control group.

The drivers of alcohol consumption & harm are complex and our response requires a whole system approach, based on evidence of known effective interventions. Our recommendations are presented build on the recommendations from the NENC Alcohol Healthcare Needs Assessment & Strategic Action Plan. This previous work has already been widely shared and implemented & was awarded High Commendation for Data Driven Transformation at the HSJ Awards in November 2024.

Recommendation 1: people who experience alcohol related harm and/or dependence should be given the appropriate care during contact with health services. In accordance with national guidance this requires:

- All emergency, out of hours, inpatient and outpatient healthcare settings to routinely screening for alcohol use
- All clinical staff in emergency, out of hours, inpatient and outpatient healthcare settings to recognise high risk alcohol as a modifiable risk factor and it's impact on the management of long term conditions
- Referral pathways to alcohol support services, including Alcohol Care Teams (in acute hospitals) for people who are identified as potentially dependent or require additional support

Recommendation 2: people at risk of harm due to their alcohol consumption are identified in all care settings, given advice and referred for support where needed. This requires:

- Mandatory alcohol screening questions in clinical systems in primary care, acute provider Trusts and Mental Health Trusts

- Systems in place to ensure evidence-based advice is routinely offered when at-risk drinking is identified
- Particular awareness of men in areas of high deprivation, who also smoke and have one or more long term condition
- Effective referral pathways to Alcohol Care Teams & other alcohol support services and monitoring of these pathways

Recommendation 3: Address factors that are known to affect how much men drinking to at-risk levels access health care and support:

- Tackling the stigmatising attitudes and behaviour of some healthcare staff towards people in addiction
- Family and carer support and involvement in the care of high-risk drinkers and those with dependence
- Commissioners and providers to strengthen the role of those with lived experience in providing specialist care in health care settings

Recommendation 4: All healthcare providers, including acute trusts, mental health trusts, ambulance trusts and primary care, should utilise a population health management approach to prevent alcohol related health inequalities in men aged 45-59. This may include:

- Identifying at-risk groups based on alcohol risk, age, deprivation, smoking status and long term conditions
- Targeted primary prevention initiatives such as awareness raising to at-risk groups
- Targeted secondary prevention initiatives such as screening and brief intervention to at-risk groups
- Targeted tertiary prevention initiatives such as referral pathways, interventions or additional support to at-risk groups

Recommendation 5: Improved coding & data entry for alcohol related healthcare presentations, interventions & referrals in all clinical settings (including primary & secondary care, Mental Health, community and specialist services). This requires:

- Mandatory alcohol 'fields' supported in clinical systems
- Feedback to services regarding performance to promote improved coding

Recommendation 6: The healthcare workforce requires training and development to equip them with the knowledge and skills to support individuals, their families, and the wider population. This learning should be implemented in their student or pre-registration period and the content and delivery should be shaped by experts across the system, including those with lived experience**.**

Recommendation 7: Training and development should continue throughout their career and the approach taken should build on the current ICB 'Programme for Alcohol Studies' on the Boost platform. The learning should be shaped by experts across the system, including those with lived experience, incorporating:

- The management of alcohol-related health harms
- The prevention of alcohol-related harm through screening and brief intervention
- The key drivers of alcohol related harm in society including health inequalities, policy, and the role of the alcohol industry
- The use of health intelligence tools & case finding approach in all applicable Healthcare settings

Recommendation 8: the prevention of alcohol harm should continue to be prioritised by North East & North Cumbria Integrated Care Board. This should be supported with long term investment and continue to:

- Use an evidence-based data driven approach across NENC
- Maximise benefits of working at scale and driving consistency
- Scale up NHS NENC contribution to prevention
- Demonstrate strong leadership and a collaborative system-based focus

Appendix a

Alcohol Healthcare Needs Assessment

Findings and recommendations

June 2022

In association with: necs A care system support organisation Office for Health Improvement & Disparities NHS England and NHS Improvement Recovery connections

Executive summary

This executive summary summarises the overarching findings of a comprehensive Alcohol Healthcare Needs Assessment (HCNA) undertaken across the North East and North Cumbria (NENC) Integrated Care System (ICS) using a range of data and intelligence covering a 5- year period until 31 March 2021. The focus of the work was the healthcare needs of the population in relation to alcohol, and not the broader health and social needs.

This work was undertaken in response to increasing levels of alcohol related harm and consists of several related workstreams, each of which make their own conclusions and recommendations. The workstreams are: A quantitative analysis of alcohol harm, health needs and healthcare activity, an audit of services in community settings and the secure estate against clinical standards, mapping of alcohol healthcare in acute trusts, and a qualitative analysis of the views of staff (included in the report for the acute trust mapping), service users and their families on alcohol healthcare provision.

The workstream findings have been triangulated to produce overarching findings and 20 recommendations. There are four overarching themes: service delivery, workforce, data and leadership from the healthcare system. The indirect effects of the COVID-19 pandemic were a feature of all workstreams of the HCNA. Reassuringly, service users were largely positive in relation to support from community alcohol services during the pandemic, but issues were identified with their wider healthcare needs being met.

There were some common features across the HCNA in terms of people accessing healthcare and levels of need and harm. The HCNA identified that on the whole, levels of need and harm are higher in the NENC than England as whole, but there was variation and inequity by geography, age, gender and deprivation. The COVID-19 pandemic had a mixed impact on consumption, with some people drinking more and some people drinking less and other fluctuations as various levels of restrictions were in place.

Alcohol places considerable demand on healthcare systems across the NENC, but it is difficult to quantify due to variations in coding practices. There was an average of 6,500 A&E attendances (up to 75% of which involved use of an ambulance), 2,000 planned hospital admissions and 10,000 unplanned admissions each year which were recorded as relating to alcohol across the 5-year period. Sadly, there was also an average of 690 deaths per year

across the 5-year period where alcohol was recorded as a contributing factor, which is a higher rate than England overall. The COVID-19 pandemic had a mixed impact on people being admitted to hospital and attending A&E, however alcohol-related deaths increased considerably in the NENC. There was a 47% increase across the 5-year period, equating to an additional 310 deaths in 2020-2021.

There was variation in healthcare demand/activity at a place-level and by provider across the ICS. There was also variation in the level of unmet need across the NENC, with some areas estimated to have higher unmet need than the England average.

There is a health inequality gap across a range of alcohol-related health and social indicators, and the most deprived communities in the NENC are experiencing the most harm, despite not consuming the highest levels of alcohol at a population level. People in the 10% most deprived areas of the NENC do not consume the most alcohol but represent proportionately more unplanned and unplanned alcohol-related hospital admissions and deaths. These findings reinforce the ‘alcohol harm paradox’. It was not possible to stratify data from structured alcohol treatment services by deprivation decile.

Elements of the HCNA identified that certain groups also had disproportionate healthcare activity or potential barriers to access, and therefore the potential for inequalities, including people in prison, people with mental health issues and other comorbidities, under 18s and pregnant women. However, for some groups or interventions there was limited quantifiable data as above e.g. for ethnic minority population groups. Therefore conclusions could not be made, and further proactive work may be needed to provide equitable access to healthcare for these groups and understand their needs.

When workstream reports were triangulated, there were several issues with data quality identified, which makes it difficult to understand the needs of some populations. For example, alcohol is not a mandatory field in mental health datasets and therefore it is difficult to capture the need and impact on this vulnerable population. As a result of these coding and recording issues, it is likely that the reported levels of healthcare activity are an under-representation of the burden that alcohol places on the system and the level of harm experienced by the population in the NENC. There were also inconsistencies with how data and levels of need are used to inform capacity and service development. There were inconsistencies in service delivery in both acute and community services and more effective use of data will help services to identify whether this variation is due to differing need, or whether there are inequalities in unmet need between areas.

Across all sectors, workforce capacity is an issue and inconsistencies were identified in both community and acute provision. Several training needs were also identified. Service users and some professionals also reported a lack of awareness about what services were available to support people who are dependent on alcohol and what this support consisted of. There is still work to be done to support people to understand the health harms related to alcohol and this means in real terms. Future campaigns to reduce alcohol-related harm in the campaign should aim to address lack of understanding around levels of this and continue to reinforce the health harms in the context of broader social harms. Consideration should also be given to reducing stigma as part of broader campaigns.

Appendix b

ICD10 codes for Alcohol specific admissions.

Wholly[6] attributable conditions - Total	**F10**	**Mental and behavioural disorders due to use of alcohol**
	F10.0	Acute intoxication
	F10.1	Harmful use
	F10.2	Dependence syndrome
	F10.3	Withdrawal state
	F10.4	Withdrawal state with delirium
	F10.5	Psychotic disorder
	F10.6	Amnesic syndrome
	F10.7	Residual and late-onset psychotic disorder
	F10.8	Other mental and behavioural disorders due to the use of alcohol
	F10.9	Unspecified mental and behavioural disorders due to the use of alcohol
	K70	**Alcoholic liver disease**
	K70.0	Alcoholic fatty liver
	K70.1	Alcoholic hepatitis
	K70.2	Alcoholic fibrosis and sclerosis of liver
	K70.3	Alcoholic cirrhosis of liver
	K70.4	Alcoholic hepatic failure
	K70.9	Alcoholic liver disease, unspecified
	T51[7]	**Toxic effect of alcohol**
	T51.0	Ethanol poisoning
	T51.1	Methanol poisoning
	T51.9	Toxic effect of alcohol, unspecified
Other wholly - attributable conditions	E24.4	Alcohol-induced pseudo-Cushing's syndrome
	G31.2	Degeneration of nervous system due to alcohol
	G62.1	Alcoholic polyneuropathy
	G72.1	Alcoholic myopathy
	I42.6	Alcoholic cardiomyopathy
	K29.2	Alcoholic gastritis
	K85.2	Alcohol-induced acute pancreatitis
	K86.0	Alcohol-induced chronic pancreatitis
	Q86.0	Fetal alcohol syndrome (dysmorphic)
	R78.0	Excess alcohol blood levels
	X45	Accidental poisoning by and exposure to alcohol
	X65	Intentional self-poisoning by and exposure to alcohol
	Y15	Poisoning by and exposure to alcohol, undetermined intent
	Y90	Evidence of alcohol involvement determined by blood alcohol level
	Y91	Evidence of alcohol involvement determined by level of intoxication

Appendix c

Unadjusted analysis

Without adjusting for activity type, socio-economic status, number of long term conditions or smoking status, the analytical findings are shown in figure 17. The following variation was highlighted between the alcohol and control groups:

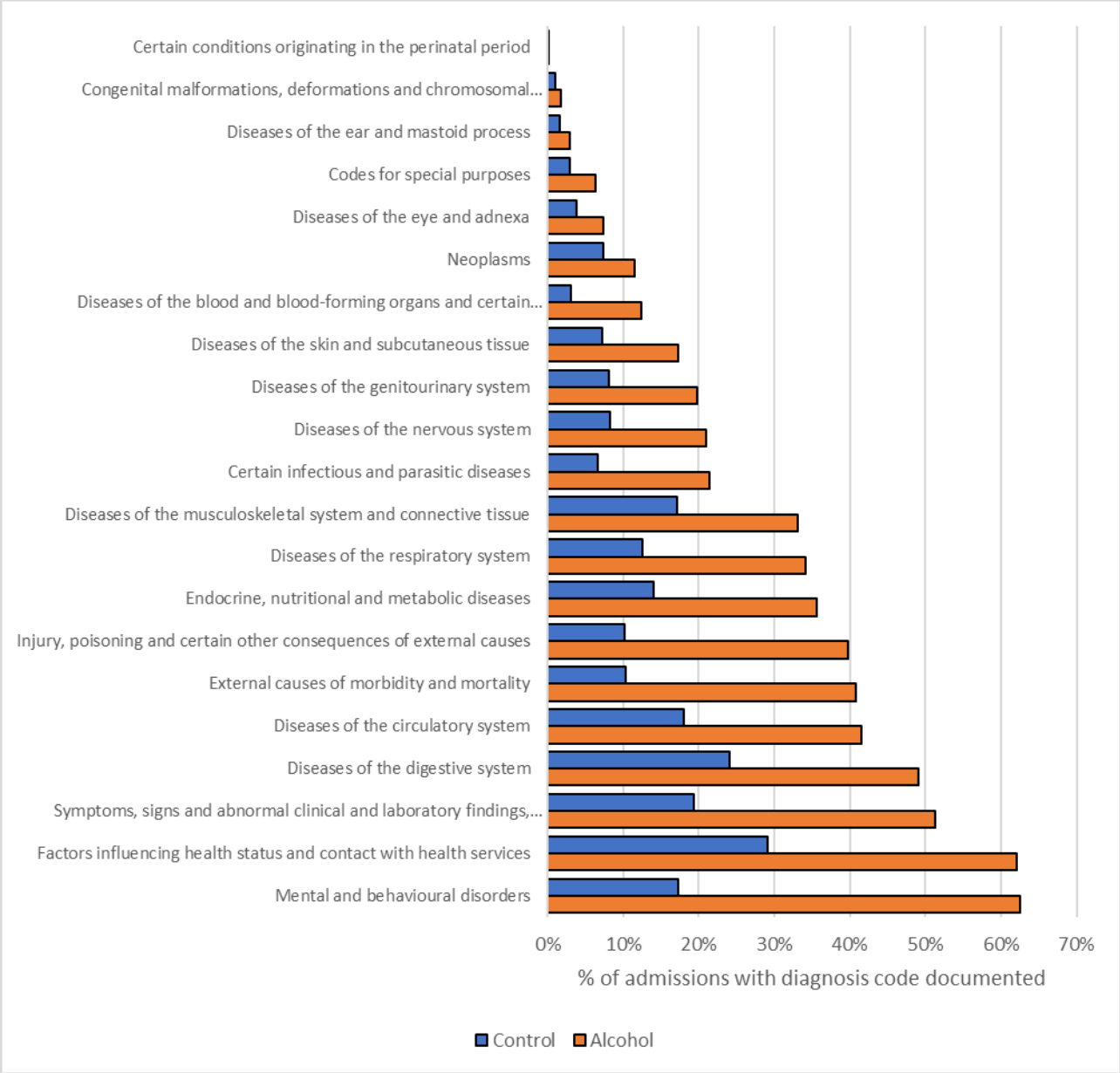
- The alcohol cohort used unplanned health care services on average, 5 times as much as the control cohort.
- The average length of stay for the Alcohol cohort is 4 times the length of stay of the control group.
- There is less variation between the alcohol cohort and control group for planned care
- On average, the cost of inpatient healthcare for the alcohol cohort is £1,275 more per person each year compared with the control group (or £10,275 more over a 10 year period)
- The reason for admissions was higher in all ICD chapters for the alcohol cohort.

Figure 17 - Unadjusted average activity per person over a 10 year period

	Alcohol	***Cohort***	***Variation***
Overall Admissions	5.19	1.88	*3.31*
Length of Stay	22.53	5.61	*16.92*
Planned admissions	1.98	1.24	*0.74*
Unplanned admissions	3.21	0.64	*2.57*
A&E attendances	8.54	2.82	*5.72*
Mental Health Referrals	8.73	2.04	*6.69*
Cost of activity	£14,391	£4,116	*£10,275*

Figure 2 below shows the 22 International classification of diseases chapters (ICD 10) excluding Pregnancy, childbirth and the puerperium and the proportion of admissions and any alcohol specific admission diagnoses where they are documented for both cohorts.

Figure 18 – Most frequently recorded ICD10 chapters for individuals included within the analysis



The top 10 ICD10 sub chapters for the alcohol cohort were;

- Persons with potential health hazards related to family and personal history and certain conditions influencing health status
- Mental and behavioural disorders due to psychoactive substance use
- Mood [affective] disorders
- Accidents
- Diseases of oesophagus, stomach and duodenum
- Metabolic disorders

- Hypertensive diseases
- Neurotic, stress-related and somatoform disorders
- Symptoms and signs involving the digestive system and abdomen
- General symptoms and signs

These are the sub chapter groupings for the diagnosis codes documented most frequently on the alcohol cohort admissions.

Incidental findings

Within the adjustment, we identified that smoking status (current smoker) was the second greatest driver of the variation shown within the unadjusted analysis, particularly in length of stay (Figure 19), suggesting that combined alcohol and tobacco use led to significantly longer lengths of stay in hospital following an unplanned admission.

Figure 19 - Impact of adjustment factors on variation – Admitted