

Research Report

Impact of Minimum Unit Pricing among people who are alcohol dependent and accessing treatment services: Interim report: Structured interview data

Buykx, P.; Perkins, A., Hughes, J., Livingston, W., Johnston, A., McCarthy, T., McLean, A., Wright, A., Little, S. and Holmes, J.

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Impact of Minimum Unit Pricing among people who are alcohol dependent and accessing treatment services:

Interim report: Structured interview data

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Study conducted on behalf of Public Health Scotland as part of the wider MESAS evaluation of Minimum Unit Alcohol Pricing

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List of acronyms

AUDIT	Alcohol Use Disorders Identification Test
IQR	Inter-quartile range
IMD	Index of Multiple Deprivation
MUP	Minimum unit price
PPU	Price per unit
SADQ	Severity of Alcohol Dependence Questionnaire
SD	Standard deviation
TLFB	Time Line Follow Back

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Declaration of interests

This study was funded by NHS Health Scotland (now Public Health Scotland). Members of the Harmful drinking Evaluation Advisory Group provided comment on the draft of this report. This group includes members from academic organisations, alcohol advocacy organisations, Scottish Government and NHS Health Scotland (now part of Public Health Scotland). All comments were advisory only. Decision

making on the research design, investigation, analyses, and content of the report rested with the research team. Membership of the EAG can be found on the [MUP evaluation website](#).

Several members of the research team have been involved in previous research on alcohol, including (in some cases) on minimum unit pricing. A list of current and previous research interests, publications and affiliations for most members of the team can be accessed through their page on the university/organisational website as listed below. None of the authors have received any funding from the alcoholic drinks industry, alcohol retailers, or affiliated bodies.

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Executive summary

1.1. Background

The Scottish Government introduced a minimum unit price (MUP) for alcohol on 1 May 2018. Retailers in Scotland can no longer sell alcohol to consumers for less than £0.50 per unit (1 unit = 8g ethanol). There is robust modelling and empirical evidence that increasing alcohol prices in general, and minimum pricing policies in particular, lead to reductions in alcohol consumption and alcohol-related harm at a population level. There is, however, less evidence on how people who are dependent on alcohol respond to such policies. This is important as the complex needs of this population mean they may respond in ways that have negative consequences for their own health and wellbeing, or for the health and wellbeing of those around them, and wider society. This report describes a study evaluating the effects of MUP in Scotland among people presenting to alcohol treatment, gastroenterology/liver services, or general practice (GP) with alcohol dependence at three time points (one prior to implementation and two following implementation), with comparison to England, where MUP was not implemented.

1.2. Aim of this report

This report has three aims:

- 1) To describe recruitment data (i.e. achieved sample, recruitment challenges, and sample characteristics) for the structured interview component of a study evaluating the impact of MUP among people entering treatment/attending services with alcohol dependence.
- 2) To describe the presence of subgroups among those recruited to the study, focusing on five subgroups among whom positive or negative primary and secondary effects of the policy have been theorised to occur. These overlapping subgroups are characterised by:
 - consumption of 'cheap' alcohol (i.e. on average less than £0.50 per unit)
 - use of illicit substances
 - poor health
 - economic vulnerability

- having dependent children.
- 3) To present early findings in selected areas, specifically:
- anticipated and actual responses to MUP
 - observed changes in reported product price and availability following the introduction of MUP
 - awareness of and need for 'harm minimisation' support strategies to respond to MUP.

The study was commissioned by Public Health Scotland as one component of its programme evaluating MUP in Scotland.

1.3. Methods

The study collected three waves of cross-sectional structured interview survey data from people with probable alcohol dependence presenting to treatment services in Scotland and northern England (hereafter referred to as 'England'). Service types from which we recruited included alcohol and drug treatment services, gastroenterology and liver services, and general practitioners (GPs). The first wave of data was collected from November 2017 to April 2018, prior to MUP implementation. The second wave of data was collected from August 2018 to February 2019, between three and nine months after the introduction of MUP. The third wave of data, collected from November 2019 to March 2020, was finished early due to the COVID-19 pandemic. At each wave, we aimed to recruit 200 respondents in Scotland and 80 respondents in England.

Inclusion criteria for participation were being aged at least 18 years old and scoring 16 or more on the Alcohol Use Disorders Identification Test (AUDIT). An AUDIT score of 16 to 19 out of a possible 40 is considered indicative of 'harmful drinking and/or mild dependence' and a score more than 20 is considered indicative of 'probable dependence'. The structured interview schedule covered a broad range of topics relating to alcohol use and also wider characteristics that may indicate positive or negative secondary effects of MUP.

The structured interview data presented in this report were collected as part of a larger mixed-methods study. The larger study (to be reported in the final project report) involves the collection of both quantitative and qualitative data from people

presenting to treatment services, as well as additional qualitative data from service providers. These two types of data will be mutually supportive in providing a robust understanding of how MUP has affected this population.

1.4. Results

Recruitment data

In Scotland, we achieved a sample of 170 respondents at Wave 1, 190 respondents at Wave 2 and 123 respondents at Wave 3. In England, the achieved sample for each wave was 85, 86 and 52 respondents respectively. A large majority of respondents were recruited from alcohol and drug services, with the remainder recruited from gastroenterology and liver services or, in a small number of cases, GP services. Approximately two-thirds of respondents were males, with most aged between 30 and 59 years, and over 90% scoring in the 'probable dependence' range of the AUDIT (i.e. 20 to 40). The characteristics of the sample varied to a modest extent between waves, particularly in England. For example, in that country 71.8% of respondents were male at Wave 1 compared to 58.0% at Wave 2. Similarly, approximately one in five respondents in England were aged in their thirties in Waves 1 and 2 but this increased to one in three at Wave 3. While we were largely successful in recruiting people to take part in the study, the short time frame for recruitment at Wave 1, early finish to recruitment at Wave 3 due to the onset of the pandemic, and challenges in accessing some services and in achieving a balanced sample across waves and between countries mean that there are variations in sample composition between waves. Analyses aiming to adjust for these differences in demographic characteristics and recruitment location will be included in the final project report.

Presence of subgroups at each wave

At Wave 1 in Scotland, 59.0% of respondents drank 'cheap' alcohol (i.e. their average price paid was less than £0.50 per unit), 34.1% used illicit substances, 49.1% were in poor health, 41.2% were economically vulnerable and 25.9% had dependent children. At Wave 2 in Scotland, following the introduction of MUP, the proportion of the sample drinking 'cheap' alcohol dropped to 6.3%, but then increased to 16.9% at Wave 3. The proportion who reported they used illicit

substances or were economically vulnerable was relatively stable across waves (although with a slight drop at Wave 2). The proportion reporting poor health rose slightly at each wave and there was an increase in the proportion reporting dependent children at Wave 3 (to 35.8%).

In England, the proportion of respondents who reported drinking 'cheap' alcohol dropped from 57.8% at Wave 1 to 45.2% at Wave 2 and then further dropped to 37.0% at Wave 3. The proportion of respondents in other subgroups did not change between Waves 1 and 2 in England (with approximately 29% using illicit substances, 48% in poor health, 32% economically vulnerable and 41% having dependent children), but rose slightly at Wave 3.

Early findings

- Anticipated and actual response to MUP

In both Scotland and England, the most commonly anticipated response to MUP was to 'drink about the same as before', endorsed by about two-thirds of respondents, followed by various finance-related behaviours, such as reducing spending on 'other things'. About a third of respondents anticipated they would seek treatment, while less than a fifth anticipated drinking black market, stolen or non-beverage alcohol, or substituting with other drugs.

When Wave 2 and Wave 3 respondents in Scotland were asked about their actual behaviours since MUP was introduced, once again, the most reported behaviour was to 'drink about the same as before' (endorsed by over two-thirds of respondents), followed by 'sought treatment' (endorsed by nearly half). At Wave 2, a sizeable minority reported reduced alcohol consumption since the introduction of MUP, with up to one in five respondents reporting each of 'drinking less alcohol on each day', 'drinking alcohol on fewer days', and 'giving up drinking'. A lesser proportion reported each of these behaviours at Wave 3. About one in five respondents reported they had reduced expenditure on 'other things' (i.e. non-alcohol expenditure) at Wave 2 compared to one in three at Wave 3.

- Changes in product availability and price

In Scotland between Waves 1 and 2, there was a clear increase in the proportion of respondents who had noticed products disappearing from sale (from 6.5% to 23.7%)

and/or prices increasing (from 24.7% to 62.1%). These figures then decreased from Wave 2 to Wave 3, though were still higher than Wave 1. The product most commonly mentioned as having disappeared from sale and having risen in price was high-strength cider. Spirits, high-strength beer, and wine were also commonly mentioned products in relation to price rises. Relatively few respondents noticed changes to product availability and price in England.

- Harm-minimisation support strategies

About half of the Wave 1 respondents in Scotland thought support would be needed to help people adjust to the implementation of MUP. However, at all three waves over 95% of respondents indicated they were not aware of any support being provided. Suggested strategies for support included treatment, financial support, and advice/education/awareness raising.

1.5. Main conclusions

Early findings from structured interview data collected from people presenting to treatment services with alcohol dependence suggest the following:

- Variation in sample composition between waves (for example in terms of gender, age and recruitment location) will require that weighting procedures be applied in the evaluation analyses for the final project report with the aim of adjusting for this variation.
- In Scotland, few respondents reported drinking at an average cost lower than £0.50 per unit in the 3 to 9 months following the introduction of MUP (i.e. the size of the 'drank cheap alcohol' subgroup decreased markedly from 59% to <7%). At 18 to 22 months after the introduction of MUP, the proportion in this subgroup was 16.9%. The proportion of respondents in England in the 'drank cheap alcohol' subgroup also decreased between Waves (from 57.8% at Wave 1 to 37.0% at Wave 3), but less markedly so than in Scotland.
- There were no clear changes in Scotland in the size of the other four subgroups of special interest (i.e. those who use illicit substances, are in poor health, economically vulnerable, have dependent children).
- There is little evidence of any significant negative consequences following the introduction of MUP in Scotland in terms of substitution to other substances or

consumption of stolen or black market alcohol among this population.

However, for a minority (19.8% at Wave 1 and 29.3% at Wave 2), there may be some diversion of other daily living expenditure.

- Both prior to and following the implementation of MUP, there was a perceived lack of support available to people accessing alcohol treatment services to help them in adjusting to the policy.

Research on the impact of MUP on people with alcohol dependence, as well as others drinking at harmful levels, is ongoing. A final report will be published in 2022, including statistical analyses of the structured interview data as well as qualitative interview data collected from a sub-set of respondents and from service providers.

2. Background

There is a substantial body of evidence indicating that increases in alcohol prices are associated with reductions in alcohol consumption and, further, that lower levels of consumption are associated with lower levels of harms such as alcohol-related hospitalisations and deaths.^[1-4] In 2012 the Scottish Government, as part of a wider strategy to address high health, social and economic costs of alcohol consumption evident in Scotland,^[5] passed legislation to introduce a Minimum Unit Price (MUP) for alcohol.^[6] Under this legislation, alcohol cannot be sold to consumers for less than a floor price. The floor price has been set at £0.50 per unit, where 1 unit = 8g ethanol.

Although MUP legislation was passed in 2012, the policy was not introduced until May 2018, following a legal challenge led by the Scotch Whisky Association who argued that the legislation contravened European Union trade law. After a series of court cases, including a hearing by the Court of Justice of the European Union,^[7] MUP was finally ruled permissible by the UK Supreme Court in November 2017 on the grounds of proportionality (i.e. reducing harm from alcohol is a legitimate public health aim of Government, and Parliament was entitled to conclude that MUP was the best mechanism to achieve this).^[8] Following further legislation that set the MUP at £0.50 per unit, the legislation was then enacted on 1 May 2018.

The legislation includes a sunset clause that will cause the policy to expire after six years of implementation unless the Scottish Parliament votes for its continuance. This vote is to be informed by an independent review report to be presented by Public Health Scotland (formerly NHS Health Scotland) after the policy has been in place for five years. Public Health Scotland, via their Monitoring and Evaluating Scotland's Alcohol Strategy (MESAS)^[9] programme, has therefore designed a portfolio of evaluation studies. This portfolio is based on a Theory of Change, that posits how MUP could contribute to reduced harm via a series of linked outcomes (Figure 1)^[10] and comprises studies across four outcome areas: (1) implementation and compliance, (2) the alcoholic drinks industry, (3) consumption, and (4) health and social harms.^[11] There are also other independent studies of MUP in Scotland underway or completed.

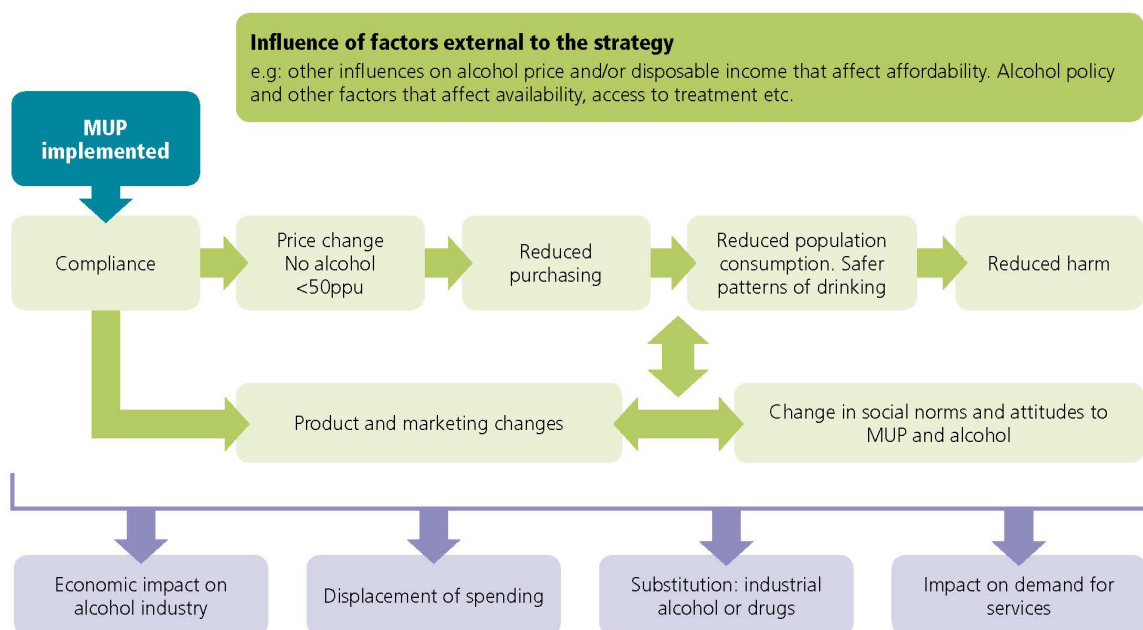
Findings from evaluation studies published to date suggest that alcohol sales and purchasing decreased in Scotland after the introduction of MUP while increasing in

England over the same time period,^[12, 13] with the largest changes seen among households with the lowest incomes or which purchased the most alcohol each week.^[14] There is little evidence of compliance problems among retailers.^[15] The alcohol market in Scotland has changed, however, with a study of small retailers finding fewer ciders available for purchase and some reductions in the alcoholic content and container size of other products previously sold below £0.50 per unit.^[16] There is little evidence to date regarding the impact of MUP on higher-risk groups, but one study found positive views of the policy among practitioners working with families affected by alcohol, as they believed it would benefit people drinking at hazardous or harmful levels, although not necessarily those with alcohol dependence.^[17] A separate qualitative study found little evidence that MUP had affected experiences of alcohol purchasing, consumption or harm among children aged 13 to 17.^[18]

Our team (a partnership between the University of Sheffield, the University of Newcastle [Australia], and Figure 8 Consulting Services) was commissioned to examine the effects of MUP for those drinking at harmful levels as part of Public Health Scotland's portfolio of studies on health and social harms. We defined harmful drinkers broadly as people who are dependent or non-dependent on alcohol and who consume more than 35 units of alcohol per week for females and more than 50 units per week for males. Those who are **dependent** on alcohol are especially important to consider, because while policy modelling estimates that MUP will lead to an overall reduction in alcohol-related harm, particularly due to reduced consumption among those drinking at harmful levels, this may not fully capture the response to MUP of those with alcohol dependence. Previous research in Scotland found those receiving treatment for alcohol problems consume large amounts of alcohol sold below £0.50 per unit^[19, 20] and, although some researchers argue this population would reduce their consumption following the introduction of MUP,^[21] others have raised concerns about the potential for increased alcohol prices to cause detrimental health and social effects.^[22] Published evidence on this topic is scarce. However, a 2018 Canadian study and a 2015 New Zealand study asked people who were alcohol dependent how they managed when alcohol became unaffordable. Both positive and concerning coping strategies were mentioned including reducing consumption, re-budgeting, using drugs and drinking non-beverage alcohol.^[23, 24]

The Theory of Change underpinning the Scottish MUP evaluation also identifies that there may be unintended policy effects, such as substitution to other substances (Figure 1).^[10]

Figure 1: Theory of Change underpinning the MUP evaluation (source Public Health Scotland)^[10]



2.1. The ‘Harmful Drinking’ study

The ‘Harmful Drinking’ study is made up of four work packages consisting of a range of primary quantitative and qualitative data collection, plus additional secondary quantitative data analysis:

- Work package 1: Mixed-methods primary data collection with people accessing treatment in relation to alcohol dependence and service providers in Scotland and England.
- Work package 2: Qualitative data collection with those drinking at harmful levels in the community involving Privileged Access Interviewers in Scotland.
- Work package 3: Secondary analysis of drinking diary data obtained via commercial market research.

- Work package 4: Secondary analysis of primary care data linked to health outcomes.

In this report we provide a summary of our study design for work package 1 (see Section 3), with a detailed description of the quantitative aspect of the work package. Overall study outcomes for all four work packages will be published in the final project report in 2022.

2.2. Aim of this report

This interim report has the following three aims:

- 1) To describe recruitment data (i.e. achieved sample, recruitment challenges, and sample characteristics) for the structured interview component of a study evaluating the impact of MUP among people entering treatment/attending services with alcohol dependence.
- 2) To describe the presence of subgroups among those recruited to the study, focusing on five subgroups among whom positive or negative primary and secondary effects of the policy have been theorised to occur. These overlapping subgroups are characterised by:
 - consumption of 'cheap' alcohol (i.e. on average less than £0.50 per unit)
 - use of illicit substances
 - poor health
 - economic vulnerability
 - having dependent children.
- 3) To present early findings in selected areas, specifically:
 - anticipated and actual responses to MUP
 - observed changes in reported product price and availability following the introduction of MUP
 - awareness of and need for 'harm minimisation' support strategies to respond to MUP.

3. Methods

3.1. Design

We used a difference-in-difference design based around three waves of repeat cross-sectional data collected in two countries. Respondents entering treatment in relation to alcohol dependence were recruited from (1) alcohol treatment services, (2) gastroenterology and liver clinics, and (3) GP practices in Scotland and northern England at three time points (see list below). These time points covered the period before and after the introduction of MUP in Scotland on 1 May 2018.

- Wave 1 (pre-MUP implementation [baseline]): November 2017 to April 2018.
- Wave 2 (3 to 9 months post MUP implementation): August 2018 to February 2019.
- Wave 3 (18 to 22 months post MUP implementation): November 2019 to March 2020.*

This design was chosen to enable us to explore shorter- and longer-term effects of the introduction of MUP in Scotland and to compare Scotland with a comparison site (northern England, hereafter England) where MUP does not apply. We adopted a repeat cross-sectional design rather than following a group of individuals over time because of the challenges of retaining respondents in a longitudinal study and of disentangling the effects of MUP from the effects of treatment on respondents.

The repeat cross-sectional design has important implications for the research methods selected and for interpreting results from the study. This is because MUP may lead to changes in who presents to treatment services as well as changes in the behaviours of those who do so. It is therefore difficult to assess which of these processes is causing any observed changes in the average characteristics of people presenting for treatment. For example, if people with alcohol dependence reduce their consumption in response to MUP, those who are drinking smaller amounts may be less likely to present to treatment. However, removing lighter drinkers from the treatment population could increase the average consumption level among those still

* Data collection ceased earlier than planned due to COVID-19 restrictions.

presenting to treatment, even in situations where individuals presenting to treatment had actually reduced their consumption. To address this problem, the study collects both quantitative and qualitative data from people presenting to treatment services, as well as additional qualitative data from service providers (qualitative data to be reported in the final project report). The two types of data are mutually supportive in providing a robust understanding of how MUP has affected this population. The quantitative data provide insights into changes and continuities in the characteristics and behaviours of those who do present to treatment services following the introduction of MUP, while the qualitative data will provide deeper understanding of how and why those changes and continuities occurred. This includes understanding whether the treatment population has changed, rather than the behaviours of that population. Similarly, data from other work packages within this project and findings from the wider MUP evaluation provide further information to support interpretations of the present study's data. Given the above, the purely quantitative data presented in this report should be interpreted carefully.

A full description of the methods for recruitment, data collection and preparation of data for analysis is provided in the accompanying Technical Appendix and we provide a short summary below.

3.2. Site selection

We collected data from ten NHS Health Board areas/trusts, six NHS Health Boards in Scotland (covering Glasgow, Edinburgh, Aberdeen, Dumfries and Galloway, Highlands, Dundee) and four NHS Health Trusts in England (covering Sheffield, Stockport, Newcastle, Liverpool). These locations were selected to provide geographic and socio-demographic diversity, to provide insight into particular areas of interest (e.g. the Scottish border with England and remote or rural areas), and to build on established relationships between the research team and key personnel working in services within those areas. The study was also 'endorsed' in Scotland by a member of the EAG with contacts across the Scottish service system and in England by a senior Public Health England public servant with responsibility for alcohol, which contributed to positive uptake by services.

In total, 16 sites in Scotland and 4 sites in England participated (between 1 and 5 sites in each area). These included in-patient and community-based alcohol and drug services (including detoxification services and a low threshold methadone programme), gastroenterology and liver services, and general practices. Sites received no direct reimbursement from the research team for involvement. However, the study had National Institute for Health Research 'portfolio status', which enables sites to access research supports.*

3.3. Target sample and recruitment procedures

At each wave, we aimed to recruit 200 people from sites in Scotland and 80 people from sites in England. These sample sizes were informed by three considerations that we address in turn below: (i) pragmatic considerations given the time and resources available to the study; (ii) the research design; and (iii) statistical power calculations.

Pragmatic considerations: The study faced important time constraints at Wave 1 in particular which limited the sample size that could be achieved. Data collection could

* For details of support offered to portfolio studies, see www.nihr.ac.uk/researchers/collaborations-services-and-support-for-your-research/run-your-study/crn-portfolio.htm

not begin until around the time the legal challenge to MUP concluded in November 2017. This meant the research team had only six months to complete Wave 1 data collection before introduction of the policy. Particular challenges were anticipated in England, where the team had fewer established links with treatment providers to facilitate rapid data collection, and in smaller recruitment sites, where the number of new presentations to treatment limited the pace of data collection.

Research design considerations: As described in Section 3.1, the difficulty in separating changes in the composition of the treatment population from the behaviours of that population means the study did not aim to provide a definitive estimate of the effect of MUP on people with alcohol dependence akin to the output of a randomised control trial. Instead, it sought to identify changes among people presenting to treatment that would be large enough to be of significant public health importance, as either potential benefits or harmful outcomes of the policy that would not be detected by other studies within the evaluation programme. Such large effects would also be more likely to be identified within qualitative interviews, which would therefore help understand whether outcomes observed were attributable to MUP or other explanations.

Statistical power calculations: The power calculations were designed with the above considerations in mind. A sample size of 200 people per wave in Scotland was selected as this would allow detection of a 20% reduction in consumption from a mean of 200 units per week (i.e. a large effect within a sample of achievable size), with the assumption regarding mean consumption levels informed by previous research.^[19] The research team and commissioners, in consultation with advisory group members, decided not to include England within the power calculations given the principal focus on Scotland, the mixed-methods approach to attributing changes to MUP and the anticipated difficulties in recruiting Wave 1 data in England. As such, the English sample size of 80 people per wave largely reflects the more pragmatic considerations about the resources available after accounting for collecting data in Scotland.

Recruitment procedures varied across services and over time to fit in with working practices at the sites. The basic model was for service providers to mention the study to potentially eligible clients, and if the person was interested, to refer them to the researcher for more information. To be eligible, respondents needed to be over

18 years old, able to understand and speak English, and assessed by the service provider as probably alcohol dependent, i.e. having an Alcohol Use Disorders Identification Test [AUDIT]^[25] score of 16+ (or using another service provider assessment). The threshold of 16 was chosen to be consistent with the categories described in the report of the Adult Psychiatric Morbidity Survey, where an AUDIT score of 16 to 19 is considered indicative of 'harmful drinking and/or mild dependence' and a score more than 20 is considered indicative of 'probable dependence.'^[26] (Please refer to the accompanying Technical Appendix to this report for further detail regarding assessment of dependence). Treatment service staff excluded those judged unable to provide informed consent (e.g. due to cognitive impairment). We also asked service providers to focus on referring clients who had entered treatment within the last four weeks, as they were likely to have more recent experiences of alcohol purchase and consumption. In practice, however, some services had more long-term than new clients and we included long-term clients if they were able to recall their most recent typical drinking pattern, that is, details of their typical alcohol purchasing and consumption prior to entering treatment. Although we recruited from a range of services and aimed for our sample to be broadly similar to treatment populations in terms of age and gender, we did not seek a representative sample in terms of the proportion of respondents attending different treatment types or by geographic region due to the difficulties of achieving this within the time and resources available.

3.4. Procedures

Upon referral, the researcher provided respondents with detailed written and verbal information about the study and gave them the opportunity to ask questions before deciding whether to take part. Interviews were then conducted in a suitable space within the service. This was usually a private interview room; however, we conducted some bedside interviews with respondents in in-patient settings. In these instances, interviewers made additional efforts to ensure the respondent was comfortable being interviewed in that setting and gave informed, voluntary consent to do so. Additional notes were taken in these instances by the researcher regarding the informed consent discussion.

Interviews involved completion of a researcher-administered structured interview which took approximately 45 minutes to complete, although interview lengths varied substantially between about 30 minutes to over two hours. Respondents were then offered a £10 voucher for one of two major high street retailers in recognition of their time and expertise.

3.5. Interview schedule

The structured interview schedule comprised the following 11 sections:

- Socio-demographic information
- Current health status
- Past alcohol and drug use
- Treatment history
- Recent alcohol and drug use
- Anticipated or actual responses to alcohol price changes
- Impact of alcohol use on family, social and work life
- Experiences of crime
- Awareness of changes in alcohol prices and product availability
- How to minimise any harm arising from MUP
- Other factors relevant to drinking

These 11 sections are described in full in the accompanying Technical Appendix, which also includes a copy of the interview schedule. Of particular relevance here due to the methods used are the measures of recent alcohol and drug use and the anticipated or actual responses to alcohol price changes.

Respondents' recent alcohol and drug use were measured via a seven-day retrospective alcohol and drug consumption diary using the Time Line Follow Back (TLFB) method.^[27] Respondents reported on their drinking on the day before entering treatment or, if recruited from an out-patient liver clinic or GP practice, their last day of drinking starting from yesterday. For this day and each of the six preceding days they were asked to recall the type, brand, volume and price paid for all alcohol they consumed. They were also asked where they purchased or acquired the alcohol (e.g. supermarket), in which country, whether it was ordered via the internet and whether it was home-delivered. Finally, they were asked for each day

whether they had consumed any of the following: non-commercially produced alcohol (e.g. homebrew), alcohol substitutes (e.g. aftershave), tobacco, antidepressants, benzodiazepines, painkillers, or illegal drugs. After completing the diary, respondents were asked to indicate on a 5-point scale whether they drank more, less or the about same as usual in the TLFB week and to rate their memory of what they consumed on a 0–20 scale.

Anticipated and actual responses to price changes were explored by showing respondents pictures of common alcohol products with their prices pre- and post-MUP. At Wave 1, the post-MUP prices were either the price required by MUP or the current price if this was already above the MUP. We then asked respondents to rate how likely they were to take a series of 12 actions (e.g. I would give up drinking; I would reduce how much money I spend on other things to buy alcohol) on a 5-point scale from ‘very unlikely’ to ‘very likely’. At Wave 2, we updated the Scottish pictures and questions to show the actual post-MUP price of products, to ask respondents whether they had actually taken each of the 12 actions and, if yes, to ask whether the action was ‘a lot’, ‘a little’ or ‘not at all’ related to MUP.

Level of deprivation quintile for each respondent was determined from residential postcode and measured using Index of Multiple Deprivation (IMD) data for each country. (Please see the accompanying Technical Appendix for further details.)

3.6. Analysis

Here we firstly provide an overview of the planned analytic strategy for the structured interview data. This is to outline the approach we intend to use to generate findings to be included in the final project report. We then describe the specific analyses conducted for this interim report.

3.6.1. Planned analytic strategy for the structured interview data

The analysis planned for our final report aims to understand the effects of MUP on the characteristics and behaviours of the sample related to alcohol use, potential positive and negative secondary effects of the policy, and responses of the sample to the reduced availability of ‘cheap’ alcohol. This analytical strategy is informed by the overall Theory of Change proposed for the policy (Figure 1) and has been agreed with our project’s Evaluation Advisory Group.

Firstly, we intend to examine changes in the prevalence of five population subgroups within our sample as a snapshot of those entering treatment before and after MUP. These subgroups are not mutually exclusive and are all potentially affected by MUP. They relate to alcohol use and other areas where MUP may have positive or negative effects. The groups are defined as those who: drink 'cheap' alcohol; use illicit substances; are in poor health; are economically vulnerable; and have dependent children (see Table 1 for definitions).

Secondly, we plan to examine changes in a set of key outcome measures spread across five domains potentially affected by MUP: alcohol use and dependence; other substance use; health status; levels of deprivation; and negative parenting outcomes (see Table 2 for measures). We will examine these changes within the population as a whole (except for 'negative parenting outcomes' which will be examined among those with dependent children only) and within each of our population subgroups. We will also examine experiences of crime across the three waves.

Table 1: Definition of subgroups

People who:	Defined by:
1. Drink 'cheap' alcohol	Mean expenditure in TLFB week <£0.50 per unit (or where this cannot be calculated due to missing data, expenditure is <£0.50 per unit on more individual days than not)
2. Use illicit substances	Any illicit substance use in past 30 days (including illicitly obtained benzodiazepines, antidepressants or painkillers)
3. Are in poor health	Score 4-5 in any EQ-5D-5L domain
4. Are economically vulnerable ^a	Have 3 or more of the following: <ul style="list-style-type: none">• Household income <£300 per week• Benefits are main source of income• Find it 'quite' or 'very' difficult to manage financially• Acute housing problem past 3 months• Foodbank/charity use in past 3 months
5. Have dependent children	Have one or both of the following: <ul style="list-style-type: none">• Have dependent children (whether or not living in the same household)• Live with children under 18 (whether or not they are the parent)

a. We opted not to use IMD deprivation quintile = 1 as an indicator for the 'economically vulnerable' subgroup due to extent of missing data (>10%). For all other indicators of economic vulnerability, missing values were counted as zero in constructing the composite variable (missing income data approx. 5% for income band [primarily due to people preferring not to disclose income] and <2% for all other variables)

Table 2: Definition of key outcome measures

Outcome domain	Specific measures
1. Alcohol use & dependence	
a. Alcohol use in TLFB week	<ul style="list-style-type: none"> • Proportion reporting price paid for the first drink of the TLFB week <£0.50 per unit • Proportion who on average drank alcohol <£0.50 per unit for all drinks in TLFB week • Proportion reporting drinking high strength cider (7.5+% ABV) • Total units consumed (median, mean, interquartile range, standard deviation)
b. Alcohol dependence (SADQ) ^a	<ul style="list-style-type: none"> • Proportion in each dependence category (mild, moderate, severe) • SADQ scores (median, mean, interquartile range, standard deviation)
2. Other substance use	<ul style="list-style-type: none"> • In past 30 days, proportion using: <ul style="list-style-type: none"> - Any illicit substance (excluding illicitly obtained benzodiazepines, antidepressants or painkillers) - Illicitly obtained benzodiazepines, antidepressants or painkillers - Prescribed benzodiazepines, antidepressants or painkillers
3. Health status (EQ-5D-5L)^b	<ul style="list-style-type: none"> • Proportion scoring 4-5 in each of five health domains • Self-rating of health (0-100) (median, mean, interquartile range, standard deviation)
4. Level of deprivation ^c	<ul style="list-style-type: none"> • Proportion reporting: <ul style="list-style-type: none"> - Household income <£300 per week - Living in most deprived IMD quintile - Acute housing problem in past 3 months - Foodbank/charity use in past 3 months - Benefits as main source of income - Finding it 'quite' or 'very' difficult to manage financially
5. Negative parenting outcomes	<ul style="list-style-type: none"> • Proportion reporting negative impact of drinking on: ^d <ul style="list-style-type: none"> - How they have felt about their parenting - Getting children to school/appointments - Children having treats - Children having to act more grown up

a. SADQ: Severity of alcohol dependence questionnaire. Scores range from 0–60 with <16 indicating low dependency, 16–30 indicating moderate dependency and 31–60 indicating severe dependency. ^[28]

b. EQ-5D-5L: A standardised instrument measuring quality of life across five domains (mobility, self-care, usual activities, pain/discomfort, and anxiety/depression) and a visual analogue scale where respondents rate their health today from 0 to 100. ^[29, 30]

- c. As the 'economically vulnerable' subgroup is defined as having 3 out of 5 of these deprivation measures (except IMD), we do not explore deprivation outcomes by this subgroup.
- d. Where denominator is those who either (1) have dependent children under 18 (whether or not respondent living in the same household and / or (2) live with children under 18 (whether or not respondent is the parent).

3.6.2. Data analysis for this report

In this interim report we provide descriptive data regarding location of recruitment and sample characteristics (i.e. frequencies and percentages). For age data, we report mean, standard deviation [SD], median and interquartile range [IQR]. In describing the five respondent subgroups, anticipated and actual response to MUP, awareness of changing alcohol prices and product availability, and harm minimisation strategies, we report frequencies, percentages and 95% confidence intervals. Throughout, numeric data are presented separately for each country and data collection wave. Where there are between one and five cases in a cell, we have suppressed the values, to minimise the likelihood of a respondent being identified from the data. This is shown with a star (★).

For questions where a short, non-numeric answer had been sought (e.g. naming the product types for which a price change had been noticed, suggesting useful supports to cope with the introduction of MUP), we reviewed all answers given and report the most common responses.

3.7. Ethics, governance and safeguarding

Ethics approval for the project was received from NHS Scotland West of Scotland Research Ethics Committee 3 (dated 01/09/2017).

Governance of the project was approved nationally by NHS Research Scotland Permissions Co-ordinating Centre in Scotland and the Health Research Authority in England. In addition, local approvals were received from the NHS Board for each of the regions in which recruitment occurred. The study sponsor is the University of Sheffield.

Given the sensitive nature of the interview topics and the potential for safeguarding issues to arise, we developed a protocol for responding issues of concern within interviews. Supervision from an experienced team member, who is a registered

social worker, was also made available to interviewers to ensure there was an opportunity for them to discuss and compare their experience of data collection.

3.8. Patient and public involvement and pilot testing

The Sheffield Addiction Recovery Research Panel (SHARRP) provided input to the development of the interview tools and participant information and consent forms for this project. The SHARRP group have lived experience (either their own or a close loved one) of substance use, dependence, and treatment. We attended a SHARRP meeting to seek the panel members' views on the project in general, the interview tool and whether the group anticipated any other possible effects of MUP that we had not included. In particular, we sought SHARRP's advice about whether respondents would be able to recall past drinking and on asking people about sensitive issues (such as whether they live with their children). Panel members felt that many people, although not all, would recall their consumption accurately, particularly those with stable drinking patterns. The group also noted that some people, particularly women, may be cautious about the parenting questions for reasons of stigma and concerns about child protection services. This concern is reflected in our decision to ask about impact on families at a high level only.

The interview schedule was also piloted by an experienced team member with two people in recovery who provided feedback on the proposed interview process and elements of the structured interview schedule, particularly the TLFb and MUP-related questions. Pilot data were not included in the analyses.

4. Results

In this section we report on the achieved sample size and location of recruitment and outline key challenges for recruitment to the study. We then describe study respondents' demographic characteristics and AUDIT scores and provide the proportion of respondents in each of the five subgroups of interest (i.e. drink 'cheap' alcohol, use illicit substances, in poor health, economically vulnerable, have dependent children). Finally, we present data regarding anticipated/actual responses to MUP, changes in product availability and price, and support in preparing for/responding to MUP.

4.1. Recruitment data

4.1.1. Achieved sample size

In comparison to our target of 200, in Scotland, we recruited 174 respondents at Wave 1, 193 respondents at Wave 2 and 123 respondents at Wave 3. Four Wave 1 respondents and three Wave 2 respondents were subsequently excluded because they did not meet the AUDIT threshold of 16 and/or they provided insufficient data to be included in the analysis. In England, where we had a target of 80 interviews per wave, we recruited 85 respondents at Wave 1, 87 respondents at Wave 2, and 52 respondents at Wave 3. One respondent at Wave 2 was excluded for insufficient data. Table 3 shows the number of individuals recruited by location and the final sample sizes for each wave.

In Scotland, the greatest number of participants at each wave were recruited in Glasgow, followed by Edinburgh. However, the proportion recruited in Glasgow increased between waves (from 41.2% at Wave 1 to 65.0% at Wave 3), while Edinburgh was relatively stable (22.9% at Wave 1 and 20.3% at Wave 3), and the proportion in some other locations decreased, notably Aberdeen and the Highlands (Table 3). There was also variation in the proportion recruited in the English locations over time. For example, 42.4% were recruited in Sheffield at Wave 1 and 15.4% at Wave 3, while comparative figures for Liverpool were 14.1% and 38.5%. In both countries and across waves, respondents were most commonly recruited from alcohol and drug services. However, in Scotland, between 13.0% and 21.2% of respondents were recruited in gastroenterology/liver services, compared to 4.7% to

10.5% in England. A small number of Wave 1 and 2 respondents in Scotland only were recruited while attending general practice. The majority of respondents in Scotland at Wave 1 were recruited in community/outpatient settings (62.3%). However, for Waves 2 and 3, most were recruited in inpatient settings (53.2% and 65.0% respectively). All respondents in England were recruited in community/outpatient settings.

4.1.2. Recruitment challenges

There was a very narrow window for baseline data collection. Due to the short lead time for the project, in addition to the need to secure ethics and governance approvals, we were not able to commence data collection in our first recruitment sites until November 2017 for a policy due for implementation in May 2018. As separate governance approvals were required for each NHS area, meeting these requirements delayed the onset of data collection in some recruitment sites until well into 2018, shortening our data collection window prior to the introduction of MUP. For this reason, we fell somewhat short of our recruitment target for Wave 1 in Scotland. For Waves 2 and 3, governance approvals were already in place and we came closer to reaching our Wave 2 target in Scotland. However, Wave 3 recruitment was stopped early (March 2021), due to the onset of the COVID-19 pandemic. This meant that not only did we fall short of our target in both Scotland and England for that wave, but also, for the final report, we will need to undertake sensitivity analyses to assess whether data collected in February and March 2020 were affected by the emerging crisis. The early conclusion of data collection also contributed to a change in the extent to which some sites were represented in the Wave 3 data collection compared to earlier waves. For example, in England, Wave 3 data collection was undertaken in Newcastle and Liverpool first, with planned recruitment visits to Sheffield and Stockport abandoned as the pandemic unfolded. Again, future analyses will consider this aspect of sample composition.

In addition to the shorter than anticipated timeframe in which we were able to collect data in Waves 1 and 3, recruitment to this study was highly labour intensive (as is perhaps typical of research conducted in treatment services). For example, we found that recruitment sites varied in the extent to which the nominated contact person was available to respond to our requests to commence data collection, necessitating

multiple contact attempts at some services. Once contact was established, interviewers sought information about which days would be best to recruit. However, even with prior discussion, it was common to find few or no eligible respondents available when the interviewer attended the service. There were also some changes in staffing of services between waves, including in some instances the loss of 'project champions', necessitating the establishment of new connections between the research team and service staff. These factors contributed to challenges in meeting our recruitment targets, to recruitment being more concentrated in some sites than others, and to an increase in the proportion of respondents recruited from in-patient (where recruitment is generally easier) compared to out-patient settings in Scotland over time. Although our study was not designed for representative sampling, and previous experience in conducting research in treatment settings had taught us that within sites, recruitment is often better characterised as 'convenience' than 'representative' or 'random' sampling, it was nonetheless our intention to monitor location of recruitment, age and gender throughout data collection in order to achieve some balance in demographic profile across waves. However, the time and other constraints on the study meant this was not possible and have resulted in substantial differences in sample composition between waves. The consequence of this is that as we progress to more detailed analyses than are presented in this report, we will need to conduct analyses with the aim of controlling for possible differences in sample characteristics between countries and over time. (Such analyses will be presented in our final report.)

Table 3: Interviews by country, region, service type and setting

Scotland						
Location	Wave 1	Wave 1	Wave 2	Wave 2	Wave 3	Wave 3
	(N=170)	(N=170)	(N=190)	(N=190)	(N=123)	(N=123)
	n	%	n	%	n	%
Region						
Glasgow	70	41.2	92	48.4	80	65.0
Edinburgh (Lothian)	39	22.9	35	18.4	25	20.3
Aberdeen (Grampian)	30	17.6	30	15.8	6	4.9
Dumfries & Galloway	18	10.6	16	8.4	7	5.7
Highlands	11	6.5	8	4.2	1	0.8
Dundee (Tayside)	2	1.2	9	4.7	4	3.3
Service type & setting ^a						
Alcohol & drug services	126	74.1	154	81.1	107	87.0
Community/outpatient	98	57.6	74	38.9	43	35.0
Inpatient	28	16.5	80	42.1	64	52.0
Gastroenterology/liver services	36	21.2	33	17.4	16	13.0
Community/outpatient	8	4.7	12	6.3	0	0.0
Inpatient	28	16.5	21	11.1	16	13.0
General practitioner	8	4.7	3	1.6	0	0.0
England						
Location	Wave 1	Wave 1	Wave 2	Wave 2	Wave 3	Wave 3
	(N=85)	(N=85)	(N=86)	(N=86)	(N=52)	(N=52)
	n	%	n	%	n	%
Region						
Sheffield	36	42.4	25	29.1	8	15.4
Stockport (Pennines)	20	23.5	16	18.6	5	9.6
Newcastle (Northumberland)	17	20.0	21	24.4	19	36.5
Liverpool	12	14.1	24	27.9	20	38.5
Service type & setting ^a						
Alcohol & drug services	81	95.3	77	89.5	47	90.4
Community/outpatient	81	95.3	77	89.5	47	90.4
Inpatient	0	0.0	0	0.0	0	0.0
Gastroenterology/liver services	4	4.7	9	10.5	5	9.6
Community/outpatient	4	4.7	9	10.5	5	9.6
Inpatient	0	0.0	0	0.0	0	0.0
General practitioner	0	0.0	0	0.0	0	0.0

a. Percentages are of column total, not service type sub-category.

4.1.3. Sample characteristics

In both countries and at all three waves, more males were recruited than females and most respondents were in their thirties, forties or fifties, with a median age in the forties (Table 4). Over 90% of the sample scored in the 'probable dependence' range of the AUDIT (i.e. 20 to 40), with the remainder in the 'harmful drinking or mild dependence range' (i.e. 16 to 19). The sample was relatively homogenous in terms of nationality/ethnicity (data not shown). In Scotland at all three waves, more than 83% self-identified as 'White Scottish', whereas in England, over 70% self-identified as 'White English'. In both countries and at all waves, the majority of the remainder identified as other some other type of white British. The small number of other nationality/ethnicity self-identifications are too small to report.

Further details regarding the demographic characteristics of respondents and in each wave are included in tables in Appendix 1 (living circumstances – i.e. relationship status, whether have dependent children, with whom live, housing and deprivation quintile of residence) and Appendix 2 (socio-economic status – i.e. education, employment, income and subjective financial status), but are not commented on in detail here.

Table 4: Respondent characteristics – sex, age group and AUDIT score band

Scotland						
Demographic characteristics	Wave 1	Wave 1	Wave 2	Wave 2	Wave 3	Wave 3
	(N=170)	(N=170)	(N=190)	(N=190)	(N=123)	(N=123)
	n	%	n	%	n	%
Sex						
Male	118	69.4	128	67.4	80	65.0
Female	52	30.6	62	32.6	43	35.0
Age group						
29 or less	11	6.5	10	5.3	3	2.4
30–39 years	37	21.8	33	17.4	28	22.8
40–49 years	47	27.6	61	32.1	33	26.8
50–59 years	59	34.7	54	28.4	39	31.7
60+ years	16	9.4	32	16.8	20	16.3
Age						
Mean (SD)	46.4	(10.9)	48.7	(11.2)	48.5	(10.5)
Median (IQR)	47	(39-54)	48	(42-56)	49	(39-56)
AUDIT score						
16–19	6	3.5	11	5.8	6	4.9
20–40	164	96.5	179	94.2	117	95.1
England						
Demographic characteristics	Wave 1	Wave 1	Wave 2	Wave 2	Wave 3	Wave 3
	(N=85)	(N=85)	(N=86)	(N=86)	(N=52)	(N=52)
	n	%	n	%	n	%
Sex						
Male	61	71.8	50	58.1	35	67.3
Female	24	28.2	36	41.9	17	32.7
Age group						
29 or less	10	11.8	11	12.8	3	5.8
30–39 years	19	22.4	19	22.1	19	36.5
40–49 years	28	32.9	25	29.1	15	28.8
50–59 years	23	27.1	21	24.4	13	25.0
60+ years	5	5.9	10	11.6	2	3.8
Age						
Mean (SD)	43.7	(10.9)	44.9	(12.6)	43.3	(10.5)
Median (IQR)	44	(36-52)	45	(35-54)	42	(35-50)
AUDIT score						
16–19	5	5.9	7	8.1	3	5.8
20–40	80	94.1	79	91.9	49	94.2

4.2. Respondent subgroups

As noted earlier, there are five subgroups of particular interest: those who drink ‘cheap’ alcohol, use illicit substances, are in poor health, are economically vulnerable, and/or who have dependent children (see Table 1 for operational definitions). The number and percentage of respondents in each subgroup at each wave and in both countries is presented in Figure 2 and Table 5. Please note, with the exception of the ‘drank cheap alcohol’ subgroup in Scotland, the 95% confidence intervals for each subgroup overlap between waves, which may indicate that the changes described below are not significant.

4.2.1. Drank ‘cheap’ alcohol in the TLFB week

In Scotland at Wave 1, 59.0%, [CI: 51.5–66.3] of respondents reported paying an average price of less than £0.50 per unit during the TLFB week (Table 5). This proportion dropped sharply in Wave 2. As there should have been no ‘cheap’ alcohol available in Scotland after 1 May 2018, we closely inspected the 11 cases from Wave 2 where a person reported drinking at an average price below £0.50 per unit to understand the alcohol price data supplied. Of the 11 cases, two people reported having bought the alcohol in England where MUP does not apply. The remaining nine bought their alcohol in Scotland (eight from small local shops and one from a supermarket) – however, interviewer notes indicate at least five of these were uncertain about their recall of product price and/or size (and so the true number who purchased under £0.50 per unit may be even lower). In ten of the ‘drank cheap alcohol’ cases the price was in the £0.40 to 0.49 per unit range, while one person reported an average of £0.36 per unit. One person specifically reported buying alcohol ‘under the counter’. At Wave 3, there were 20 cases where people reported drinking at an average price below £0.50 per unit and all reported buying their alcohol in Scotland, with only a minority reporting under the counter purchase. Fifteen reported prices in the £0.40 to 0.49 per unit range, four in the £0.30 to 0.39 range, and one in the £0.20 to 0.29 range. In England, 57.8% [CI: 47.1–68.0] reported drinking ‘cheap’ alcohol at Wave 1, decreasing to 45.2% [CI: 34.9–55.9] at Wave 2, and further to 37% [CI: 24.1–51.4] at Wave 3.

Respondents’ rating of their own memory regarding consumption and expenditure during the TLFB week is presented in Appendix 3, but in summary, a majority of respondents in all waves and in both countries rated their memory as 10 out of 20 or higher, although respondents in Scotland generally had lower ratings than respondents in England.

4.2.2. Used illicit substances in the past 30 days

Approximately 30% of respondents in each country reported use of illicit substances (including illicitly obtained antidepressants, benzodiazepines and painkillers) in the 30 days prior to entering the service from which they were recruited (Table 5). The percentage of respondents reporting illicit substance use in Scotland decreased from Wave 1 to Wave 2 (34.1% [CI: 27.3–41.5] and 27.9% [CI: 21.9–34.6] respectively), and rose slightly for Wave 3 to 30.9% [CI: 23.2–39.4], while an increase was observed in England at Wave 3 compared to earlier waves (see Table 5).

4.2.3. Poor health

Ill-health was common among respondents in Scotland, with approximately half respondents in all three waves reporting a score indicating a severe or extreme problem in one or more of the domains of the EQ-5D-5L, a standardised measure of quality of life across five domains (mobility, self-care, undertaking usual activities, pain/discomfort or anxiety/depression) (Table 5). A similar level of ill-health was evident in England and at all waves.

4.2.4. Economically vulnerable

The proportion of respondents in Scotland reporting three or more economic vulnerabilities decreased from 41.2% [CI: 34.0–48.7] at Wave 1 to 34.7% [CI: 28.2–41.7] at Wave 2, before increasing again at Wave 3 to 41.5 [CI: 33.0–50.3] (Table 5). A lower proportion of respondents in England than Scotland reported economic vulnerability at Waves 1 and 2 (approximately 30%) although this increased for Wave 3 (to approximately 40%).

4.2.5. Have dependent children

At Waves 1 and 2, about a quarter of respondents in Scotland reported having dependent children under 18 years (whether or not living with them) and/or living in the same household as children under 18 years, although this was approximately a third for Wave 3 (Table 5, see also Appendix 1 for disaggregated data). Approximately 41% of English respondents at Waves 1 and 2 had dependent children, increasing to approximately 48% at Wave 3.

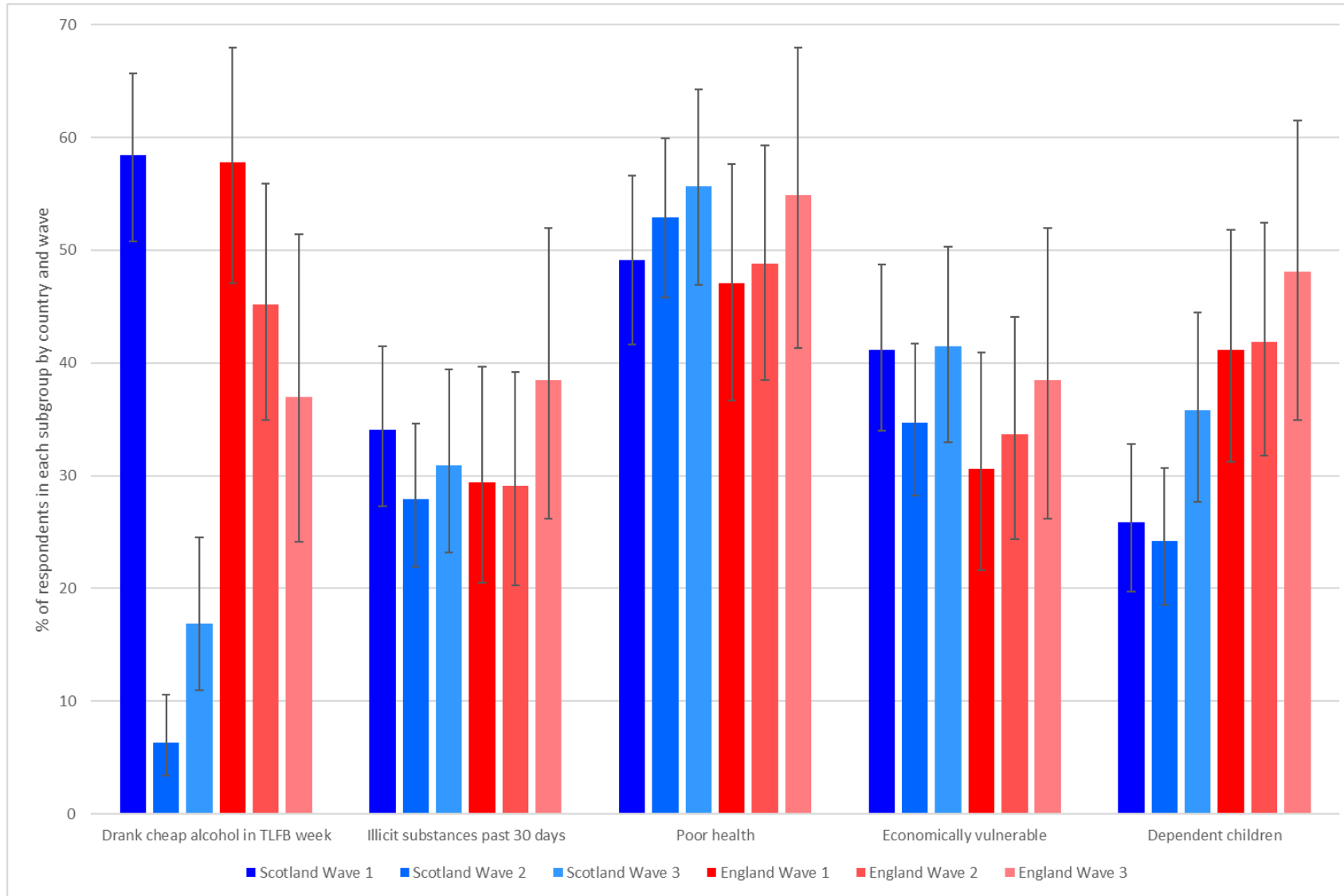


Figure 2: Proportion of respondents in each subgroup by wave and country

Table 5: Proportion of respondents in each subgroup of interest

Scotland

Subgroup	Wave 1	Wave 1	Wave 1	Wave 2	Wave 2	Wave 2	Wave 3	Wave 3	Wave 3
	(N=170)	(N=170)	(N=170)	(N=190)	(N=190)	(N=190)	(N=123)	(N=123)	(N=123)
	n	%	95% CI	n	%	95% CI	n	%	95% CI
Drank cheap alcohol	98	59.0	51.5-66.3	11	6.3	3.4-10.6	20	16.9	11.0-24.5
Illicit substances (30 days)	58	34.1	27.3-41.5	53	27.9	21.9-34.6	38	30.9	23.2-39.4
Poor health ^b	83	49.1	41.6-56.6	100	52.9	45.8-59.9	68	55.7	46.9-64.3
Economically vulnerable	70	41.2	34.0-48.7	66	34.7	28.2-41.7	51	41.5	33.0-50.3
Dependent children	44	25.9	19.7-32.8	46	24.2	18.5-30.7	44	35.8	27.7-44.5

England

Subgroup	Wave 1	Wave 1	Wave 1	Wave 2	Wave 2	Wave 2	Wave 3	Wave 3	Wave 3
	(N=85)	(N=85)	(N=85)	(N=86)	(N=86)	(N=86)	(N=52)	(N=52)	(N=52)
	n	%	95% CI	n	%	95% CI	n	%	95% CI
Drank cheap alcohol	48	57.8	47.1-68.0	38	45.2	34.9-55.9	17	37.0	24.1-51.4
Illicit substances (30 days)	25	29.4	20.5-39.7	25	29.1	20.3-39.2	20	38.5	26.2-52.0
Poor health ^b	40	47.1	36.7-57.6	42	48.8	38.5-59.3	28	54.9	41.3-68.0
Economically vulnerable	26	30.6	21.6-40.9	29	33.7	24.4-44.1	20	38.5	26.2-52.0
Dependent children	35	41.2	31.2-51.8	36	41.9	31.8-52.4	25	48.1	34.9-61.5

a. Missing 'Drank cheap alcohol in TLFB week' data (due to missing pricing and/or volume data): Wave 1 = 6 [Scot = 4, Eng = 2]; Wave 2 = 16 [Scot = 14, Eng = 2]; Wave 3 = 11 [Scot = 5, Eng = 6]

b. Missing 'Poor health' data (due to missing EQ-5D-5L data): Wave1 = 1 [Scot]; Wave 2 = 1 [Scot]; Wave 2 = 2 [Scot = 1, Eng = 1]

4.3. Early findings

4.3.1. Response to MUP

At Wave 1 we examined how respondents in both countries **anticipated** they would respond to price increases that would occur under MUP (i.e. the proportion who indicated they were 'very likely' or 'likely' to adopt each of twelve different behaviours) (Table 6). We also examined how respondents in Scotland at Waves 2 and 3 indicated they had **actually** behaved since the introduction of MUP and, where relevant, whether they attributed this to the policy (Table 7).

- Anticipated response to MUP

The most frequently endorsed anticipated consumption-related behaviour was 'drink about the same as before', endorsed by just over half of respondents in both countries. Less than one in three respondents anticipated doing any of the other consumption behaviours (i.e. drinking less each day, drinking on fewer days or giving up drinking) (Table 6).

Consistent with the majority anticipating no change to consumption (and so potentially needing to adjust to more costly alcohol), finance-related behaviours were generally considered the next most likely responses to price changes anticipated under MUP. At Wave 1 in Scotland, between 40.5% and 53.0% of respondents endorsed each of the three finance-related responses to MUP, as did 61.9% to 64.3% of respondents in England (see Table 6 for 95% CIs for each item). For the majority (53.0% in Scotland and 63.1% in England) who reported they would spend less on other things, this was generally anticipated to be for food, clothes or utilities. Among the 40.5% in Scotland and 64.3% in England who reported they would obtain more money, this was generally anticipated to be by borrowing from family or friends. Only about a third of respondents in both countries anticipated they would respond to MUP by seeking treatment. In terms of some of the potentially negative unintended consequences of MUP, few respondents in either country anticipated using black market alcohol (with the exception of England at Wave 1), stealing alcohol, increased use of other substances, or non-beverage alcohol consumption.

- Actual behaviour since introduction of MUP

As for anticipated responses to MUP reported above, the most common **actual** behaviour following the introduction of MUP was ‘drinking about the same as before’; endorsed by 67.6% [CI: 60.6–73.9] at Wave 2 in Scotland and 74.8% [CI: 66.6–81.8] at Wave 3 (Table 7). Among the minority who indicated they had changed their consumption since the introduction of MUP (i.e. by drinking less each day, drinking on fewer days or giving up drinking), MUP was considered to be a reason for the change by only a few (range 0.0% to 41.0%).

Fewer than one in five respondents indicated using any of the three finance-related behaviours since the introduction of MUP at Wave 2, though at Wave 3 29.3% [CI: 21.8–37.7] reported reducing spending on other things. Among those who reported finance-related behaviours, a majority of respondents (66.7% to 87.5%) indicated MUP was either a minor or major reason for the changed behaviour.

Almost half of Wave 2 and 3 respondents in Scotland indicated they had ‘sought treatment’ since the introduction of MUP (Wave 2: 43.9% [CI: 36.9–51.0]; Wave 3: 48% [CI: 39.3–56.8]), though few (<15%) attributed this behaviour to MUP.

As for the anticipated responses to MUP outlined above, very few respondents endorsed having used black market alcohol, stealing alcohol, increased use of other substances or non-beverage alcohol following the introduction of MUP (all <7%). Even fewer attributed such behaviour to MUP (data generally not able to be shown due to small numbers).

Table 6: Anticipated likely/very likely response to MUP – Wave 1 only

Scotland			
Anticipated response to MUP	Wave 1 (N=170) ^a n	Wave 1 (N=170) ^a %	Wave 1 (N=170) ^a 95% CI
Consumption			
Drink about the same as before	106	62.7	55.3-69.7
Drink less alcohol on each day	48	28.2	21.9-35.3
Drink alcohol on fewer days	41	24.3	18.3-31.1
Give up drinking	25	14.8	10.1-20.7
Financial			
Reduce other spending	88	53.0	45.4-60.5
Buy cheaper alcohol	76	45.0	37.6-52.5
Get more money	68	40.5	33.3-48.0
Help seeking			
Seek treatment	61	36.7	29.7-44.3
Illegal alcohol			
Black market alcohol	34	20.1	14.6-26.6
Steal alcohol	29	17.4	12.2-23.6
Substitution			
Change/increase substance use	24	14.4	9.7-20.3
Non-beverage alcohol	8	4.7	2.3-8.7
England			
Anticipated response to MUP	Wave 1 (N=85) ^b n	Wave 1 (N=85) ^b %	Wave 1 (N=85) ^b 95% CI
Consumption			
Drink about the same as before	49	58.3	47.7-68.4
Drink less alcohol on each day	24	28.6	19.8-38.8
Drink alcohol on fewer days	24	28.6	19.8-38.8
Give up drinking	15	17.9	10.8-27.1
Financial			
Reduce other spending	53	63.1	52.5-72.8
Buy cheaper alcohol	52	61.9	51.3-71.7
Get more money	54	64.3	53.7-73.9
Help seeking			
Seek treatment	32	38.1	28.3-48.7
Illegal alcohol			
Black market alcohol	37	44.0	33.8-54.7
Steal alcohol	14	16.7	9.9-25.7
Substitution			
Change/increase substance use	18	21.7	13.9-31.4
Non-beverage alcohol	★	★	

a. Missing data Scotland wave 1: n=1 for 'drink about the same', 'drink alcohol on fewer days', 'give up drinking', 'buy cheaper alcohol', 'black market alcohol', 'non beverage

alcohol'; n=2 for 'get more money'; n=3 for 'steal alcohol', 'change to/increase other substance use'; n=4 for 'reduce spending', 'seek treatment'

- b. Missing data England Wave 1: n= 2 for 'change to/increase other substance use'; n=1 for all other items
- c. Missing data England Wave 2: n= 2 for all items

Table 7: Self-reported behaviour since the introduction of MUP in Scotland

Actual behaviour	Wave 2 (N=190)	Wave 2 (N=190)	Wave 2 (N=190)	Wave 3 (N=123)	Wave 3 (N=123)	Wave 3 (N=123)
	n	%	95% CI	n	%	95% CI
<u>Behaviour change since MUP^a</u>						
Consumption						
Drank same as before	127	67.6	60.6-73.9	92	74.8	66.6-81.8
Drank less alcohol each day	40	21.3	15.9-27.5	13	10.6	6.1-16.9
Fewer days drinking	22	11.7	7.7-16.9	8	6.5	3.1-11.9
Gave up drinking	39	20.7	15.4-27.0	18	14.6	9.2-21.7
Financial						
Reduced other spending	37	19.8	14.6-25.9	36	29.3	21.8-37.7
Bought cheaper alcohol	31	16.5	11.7-22.3	16	13.1	8.0-19.9
Got more money to buy alcohol	26	13.8	9.4-19.2	25	20.3	14.0-28.1
Help seeking						
Sought treatment	82	43.9	36.9-51.0	59	48.0	39.3-56.8
Illegal alcohol						
Black market alcohol	8	4.3	2.0-7.9	★	★	
Stole alcohol	6	3.2	1.3-6.5	7	5.7	2.6-10.8
Substitution						
Change/increase other substances	13	6.9	3.9-11.2	6	4.9	2.1-9.8
Non-beverage alcohol	0	0.0		0	0.0	

If behaviour changed reported:						
	Wave 2	Wave 2	Wave 2	Wave 3	Wave 3	Wave 3
	n	%	95% CI	n	%	95% CI
MUP is minor/major reason for change b c						
Consumption						
Drank same as before	NA			NA		
Drank less alcohol each day	16	41.0	26.7-56.6	★	★	
Fewer days drinking	★	★		0	0.0	
Gave up drinking	8	20.5	10.2-35.0	★	★	
Financial						
Reduced other spending	25	69.4	53.3-82.6	27	84.4	69.1-93.8
Bought cheaper alcohol	24	85.7	69.5-95.0	11	84.6	59.1-96.7
Got more money to buy alcohol	16	66.7	46.8-82.8	21	87.5	70.3-96.4
Help seeking						
Sought treatment	9	11.1	5.6-19.3	8	14.0	6.9-24.7
Illegal alcohol						
Black market alcohol	★	★		★	★	
Stole alcohol	★	★		★	★	
Substitution						
Change/increase other substances	8	66.7	38.8-87.5	★	★	
Non-beverage alcohol	NA			NA		

NA = Not applicable

- a. Missing data 'behaviour change': Wave 2 - n= 3 for 'reduced spending other things', 'sought treatment', n = 1 for 'got more money to buy alcohol'; n=2 for all other items. Wave 3 – n=1 'bought cheaper alcohol',
- b. Missing data 'MUP either a minor/major reason for behaviour change': Wave 2 - n= 3 for 'fewer days drinking', 'bought cheaper alcohol', 'black market alcohol'; n=2 for 'got more money to buy alcohol'; n=1 for 'drank less alcohol each day', 'reduced spending other things',

'sought treatment', 'stole alcohol', 'change / increase other substance use'. Wave 3 - n = 4 'reduced spending other things', n= 3 for 'drank less alcohol each day', 'bought cheaper alcohol'; n=2 'sought treatment', 'change / increase other substance use'; n= 1 'fewer days drinking', 'give up drinking', 'black market alcohol', 'got more money to buy alcohol', 'stole alcohol'

- c. The denominator for these percentages are the number endorsing the behaviour, minus missing data. Cells with less than 5 respondents are denoted with a ★ symbol.

4.3.2. Change in product availability and price

In Scotland, there was a substantial increase between Waves 1 and 2 in the proportion of respondents noticing products disappearing from sale (from 6.5% [CI: 3.5–10.9] to 23.7% [CI: 18.1–30.1]) and prices changing (from 24.7 [CI: 18.7–31.6] to 62.1% [CI: 55.1–68.8]) (Table 8). The proportion who reported noticing product disappearances and price changes decreased somewhat at Wave 3, though were still higher than at Wave 1. Among those who had noticed price changes in Scotland, these tended to be ‘a little more expensive’ at Wave 1, whereas at Wave 2, price changes were generally seen to make products ‘much more expensive’. By Wave 3, the price changes noted were reasonably evenly split between ‘a little’ and ‘much more’ expensive. Respondents described which products they had noticed disappearing and these were most commonly high-strength ciders (data not shown). High-strength ciders were also frequently mentioned in relation to price rises, however, spirits, high-strength beers and wine were also mentioned.

In England at all waves, only a minority of respondents noticed prices changing, and where such changes were noted, they were generally rated ‘a little more expensive’. Very few respondents noticed any products disappearing (<2.5%).

4.3.3. Harm minimisation

At Wave 1, prior to the introduction of MUP, over half of respondents in Scotland indicated that support would need to be offered to help people prepare for the policy (Table 9). However, the vast majority (over 95%) indicated they were not aware of any support in place to help people adjust to the policy either before its introduction (Wave 1) or afterwards (Waves 2 and 3). At Waves 1 and 2, about half of the respondents in England thought support would be needed to help people prepare for price rises and 82.7% at Wave 3. Almost none were aware of any support available. This second finding is unsurprising given no price change policies were planned for England.

Among those who provided a suggestion as to what support would be needed prior to implementation of MUP in Scotland and at all three waves in England, about half suggested treatment and support related measures (for example, increased access to detox). Several respondents also indicated there was a need for financial support

or advice and education or awareness raising. A few people expressed concern regarding the impact of MUP on people who were poor and/or suggested there would be more crime. Respondent comments post-MUP implementation indicated they would have welcomed support and awareness raising before the policy was introduced, but this had not happened. Overall, there were very few specific examples of support being given and those generally involved awareness raising (e.g. information provided by service).

Table 8: Change in product availability and price

Scotland									
Change in availability/price	Wave 1	Wave 1	Wave 1	Wave 2	Wave 2	Wave 2	Wave 3	Wave 3	Wave 3
	(N=170)	(N=170)	(N=170)	(N=190)	(N=190)	(N=190)	(N=122) ^a	(N=122) ^a	(N=122) ^a
	n	%	95% CI	n	%	95% CI	n	%	95% CI
Have noticed: ^b									
Products disappearing	11	6.5	3.5-10.9	45	23.7	18.1-30.1	18	14.8	9.3-21.8
Prices changing	42	24.7	18.7-31.6	118	62.1	55.1-68.8	41	34.2	26.1-42.9
If price change, products now ^c									
Much or a little cheaper	★	★		★	★		★	★	
A little more expensive	28	71.8	56.5-84.0	37	31.9	23.9-40.7	16	45.7	30.1-62.0
Much more expensive	7	17.9	8.4-32.0	78	67.2	58.4-75.3	17	48.6	32.7-64.7
England									
Change in availability/price	Wave 1	Wave 1	Wave 1	Wave 2	Wave 2	Wave 2	Wave 3	Wave 3	Wave 3
	(N=85)	(N=85)	(N=85)	(N=83) ^a	(N=83) ^a	(N=83) ^a	(N=52)	(N=52)	(N=52)
	n	%	95% CI	n	%	95% CI	n	%	95% CI
Have noticed: ^b									
Products disappearing	★	★		★	★		★	★	
Prices changing	15	17.6	10.7-26.8	6	7.2	3.1-14.3	★	★	
If price change, products now ^c									
Much or a little cheaper	★	★		★	★		★	★	
A little more expensive	14	93.3	72.8-99.3	★	★		★	★	
Much more expensive	0	0.0	-	★	★		★	★	

Please see footnotes on next page.

- a. Missing 'change in product availability and price' data: Wave 2 = 3 [Eng]; Wave 3 = 1 [Scot]
- b. In Scotland, the reference period for the questions regarding product availability and price was for Wave 1 the 3 months prior to the interview and for Waves 2 and 3 since the introduction of MUP. In England, the reference period at both waves for both questions was the 3 months prior to interview.
- c. Missing scale of price change data: Wave 1 = 3 [Scot]; Wave 2 = 2 [Scot]

Table 9: Need for and awareness of support

Scotland									
Support to prepare	Wave 1	Wave 1	Wave 1	Wave 2	Wave 2	Wave 2	Wave 3	Wave 3	Wave 3
	(N=169)	(N=169)	(N=169)	(N=187)	(N=187)	(N=187)	(N=123)	(N=123)	(N=123)
	n	%	95% CI	n	%	95% CI	n	%	95% CI
Think support needed ^a	89	52.7	45.1-60.1	NA			NA		
Not aware of support ^b	161	95.3	91.3-97.7	180	96.3	92.8-98.3	122	100.0	-

England									
Support to prepare	Wave 1	Wave 1	Wave 1	Wave 2	Wave 2	Wave 2	Wave 3	Wave 3	Wave 3
	(N=85)	(N=85)	(N=85)	(N=86)	(N=86)	(N=86)	(N=52)	(N=52)	(N=52)
	n	%	95% CI	n	%	95% CI	n	%	95% CI
Think support needed ^a	47	56.0	45.3-66.2	42	50.6	40.0-61.2	43	82.7	70.8-91.1
Not aware of support ^b	85	100.0	-	85	100.0	-	49	94.2	85.4-98.3

NA = Not applicable

a. England, Wave 1: n = 84

b. England, Wave 2: n = 83; Scotland, Wave 3: n = 122

5. Discussion

This interim report presents descriptive data regarding a cross-sectional structured interview sample, recruited among people entering treatment in relation to alcohol dependence up to 6 months before (Wave 1) and 3 to 9 months (Wave 2) and 18 to 22 months (Wave 3) following the introduction of MUP.

5.1. Sample composition

In this study we have recruited a large sample of people entering treatment in relation to their alcohol use and have collected extensive and detailed information regarding their alcohol consumption and spending behaviour. Furthermore, this rich dataset spans from 6 months prior to 22 months following the introduction of MUP in Scotland and includes comparison data from England where MUP was not introduced. Given the nature of the study and challenges to recruitment, the sample composition within each country varies across waves with respect to important characteristics such as gender, age and location of recruitment. For this reason, detailed analysis of key study outcomes (as identified in Table 2) will require the data to be weighted with the aim of addressing imbalances in the sample. These analyses are currently underway with results to be presented in the final project report. For this report, it was therefore appropriate to present a limited set of preliminary outcomes, including the demographic characteristics of those entering treatment, representation in five subgroups of interest, the anticipated and actual strategies used in response to MUP, changes in product price and availability, and views about the support needed to adjust to MUP.

5.2. Characteristics of those entering treatment and reported impact of MUP

Existing evidence and theory indicates that increased alcohol prices will lead to lower levels of alcohol consumption, which should in turn lead to reduced health harms.^[1, 4, 9, 31] This study provides evidence of a shift away from the consumption of very cheap alcohol in Scotland immediately following the introduction of MUP. Specifically, in line with evidence of strong compliance with MUP among retailers,^[15] there was a marked decrease in Scotland in the proportion of respondents who on

average drank alcohol for less than £0.50 (i.e. the 'drank cheap alcohol' subgroup). The slight increase between Wave 2 and 3 in this subgroup will be further investigated in the final project report, for example, to identify any patterns in product type or location of purchase. The sharp decrease in the size of the 'drank cheap alcohol' subgroup is consistent with our findings regarding changes in product availability and price. The proportion of respondents in Scotland who reported noticing prices increasing more than doubled between Waves 1 and 2, such that almost two-thirds of those interviewed at Wave 2 were aware of price rises, particularly among high-strength, low-cost products such as some ciders. Our data also suggest some products were less readily available after the introduction of MUP.

In contrast to the 'drank cheap alcohol' subgroup, there was relative stability in the proportion of respondents in Scotland across waves who were economically vulnerable, who used other substances, and who were in poor health, suggesting these subgroups were not more or less likely to enter treatment post-MUP. Evidence collected from service providers as part of the larger study from which these findings are drawn may give additional insight into the profile of people attending treatment services or liver clinics before and after the introduction of MUP.

Previous research has highlighted potential negative consequences of pricing policies such as MUP, including increased criminality or substitution of alcohol for other substances.^[22-24] Our evidence and other studies published to date suggest that concerns regarding substitution have not been realised in the first 18 months of the policy.^[15, 17, 18] We did not find any evidence of increased uptake of illicit drugs in Scotland following the introduction of MUP. Further, use of non-beverage alcohol and acquisition of black market or 'under the counter' alcohol was only very rarely mentioned.

It has also been argued that MUP may cause financial hardship for some as it targets those who can least afford alcohol.^[22] Our findings do not provide any strong evidence for negative social consequences of MUP arising from financial strain. There was some evidence to suggest that a minority (about one in five) of respondents in Scotland had reduced their spending on other things in order to be able to buy alcohol. However, respondents reporting this were divided as to whether or not they considered MUP to be the cause. In general, respondents were

supportive of there being information and support available to help people prepare for and adjust to MUP, though in practice, very few were aware of this being provided.

5.3. Strengths and limitations

This study has a number of strengths. We have collected and analysed detailed alcohol purchasing and consumption data from a large, multi-site sample, taking in a range of geographic areas and services. We set up a pre–post design to enable comparison over time and a two-country comparison between Scotland and northern England, an adjacent comparison area where MUP does not apply and where drinking practices may be more similar to Scotland than for England as a whole. However, differences between Scotland and England in sample composition mean that these comparisons need to be made cautiously. Analyses that aim to address these changes in the sample composition will be needed to fully realise the strength of the study design.

Our detailed structured interview form covers many domains relevant to understanding consumption patterns and from this we have been able to construct a range of outcome measures and also identify subgroups of the population who are of particular interest for policy stakeholders. Analysis of these outcomes will be presented in the final report. The interview measures included both previously used questions and validated scales, alongside newly developed items to capture information specific to this evaluation. Interviews were supported with carefully constructed visual aids to help respondents more accurately report their consumption across the TLFB week.

Although data are drawn from a difficult to access population, our interviewers secured a good number of fully completed interviews compared to the target after taking into account governance approval delays to the commencement of Wave 1 data collection. This study has yielded rich and detailed information about the recent alcohol consumption of 531 individuals presenting to services with alcohol dependence. Alcohol consumption and pricing data have been thoroughly checked against actual products available to ensure robustness.

Although not reported here, we also collected qualitative data from a diverse subsample of our respondents, and this will enable further in-depth exploration of key issues and subgroup differences highlighted by this report (and these will be included in the final report). Further, we also collected qualitative data from service providers which will enable a broader understanding of the impact of MUP as seen by those working in the treatment sector. These additional data sources will enable triangulation of findings to understand the nature and causes of any changes seen between waves. In particular, the qualitative data will support interpretation of findings observed in the quantitative data, while the quantitative data will allow assessment of whether there is any evidence (statistically significant or otherwise) to support apparent changes observed within the qualitative data. This triangulation of data sources will particularly support assessment of whether any responses observed in response to MUP among people who are alcohol dependent arise from changes in treatment demand or changes to the characteristics of those entering treatment.^[32]

The study also had limitations. The decision to recruit primarily via treatment services and gastroenterology clinics was made in order to assist with the identification and recruitment of people who are alcohol dependent, as we recognised it would be difficult to access this population in sufficient numbers by any other means. As a consequence, our sample may not be representative of all people who are alcohol dependent. Many people who are alcohol dependent do not enter treatment due to personal preferences and/or a lack of available or appropriate services.^[33, 34] Service providers did not refer people they considered incapable of giving informed consent to participate in the study, but there may have been some variation between providers in making this judgement and the exclusion of people who were unable to consent means the experiences of this group are not represented. It is also possible that the mix of people who were in treatment in Scotland at Waves 2 and 3 (and therefore available to be recruited) differed somewhat to those who would have been in treatment had there been no MUP. For example, it is possible that some people who were more responsive to the increased prices may have reduced their drinking without treatment and so not be present in our Wave 2 and 3 samples. This should be borne in mind when interpreting our results.

Even with advance communication between the research team and services regarding suitable times to attend, it was not always possible to know whether there would be anyone available for recruitment to the study when our research team visited. Our sampling was therefore convenience rather than representative. Consequently, the Wave 2 sample in England has a higher proportion of females than at Wave 1, and the proportion recruited from different treatment types also varied between waves in both countries. There was no recruitment from in-patient settings or GPs in England. We will need to account for these differences in future analyses.

Our data are cross-sectional which means that we were not able to track changes in individual consumption and other outcomes over time and further, meant that the socio-demographic composition of the sample varied between waves. However, it was not suitable to undertake a longitudinal study of people recruited in treatment settings as we would have been unable to disentangle the effects of MUP from treatment (and as noted above, recruitment of sufficient numbers elsewhere was not practical and retention in a longitudinal study would have also presented challenges).^[35]

The TLFB method relies on individuals' recall of their last week of drinking prior to entering treatment, which may have been affected by the length of time since entering treatment, the effects of previous intoxication or current withdrawal, and memory problems. However, a substantial number of respondents reported a regular pattern of consumption from day to day and so were able to recall products, volumes and prices, with a majority self-rating their recall as greater than 10 out of 20. Although we were painstaking in our conversion of natural measures of alcohol consumption into numeric variables and cross-checked respondent answers with actually available products, it is possible that for a small number of cases there may be some inaccuracy regarding consumption levels and price per unit.

The study was designed to recruit a larger number of respondents in Scotland than England. This decision was made primarily for pragmatic reasons, given anticipated difficulties in recruiting pre-MUP data in England in the time available before implementation, as well as resource constraints given the primary focus on Scotland. However, a consequence is that the study is only likely to have sufficient power to detect large changes within statistical difference-in-difference analyses. This

increases the importance of the triangulation across quantitative and qualitative data discussed above, caution when interpreting each dataset in isolation (as in this interim report) and, finally, consideration of results from other work packages within this project, as well as the wider MUP evaluation programme, when drawing overall conclusions.

Finally, this study focuses on people who are alcohol dependent and accessing treatment services, and so does not examine the effects of MUP among those who, while drinking at harmful levels, are not actually considered dependent, or those not in treatment or attending gastroenterology and liver services.

5.4. Implications

There are a number of implications arising from our interim findings regarding the short-term impact of MUP on people who are alcohol dependent in Scotland. A key finding at this point is that concerns about MUP leading to increased use of illegal alcohol or substitution for other substances among people who are alcohol dependent have not been realised, at least in the short term. There is some evidence that a small number of people have reduced expenditure on other items, however, this was not the case for most of the people we interviewed. Fewer respondents in Scotland reported actually reducing spending on other things at Waves 2 and 3 than anticipated doing so at Wave 1. Nonetheless, it will be important to continue monitoring the financial impact of the policy among people who are alcohol dependent and economically vulnerable.

The descriptive analyses presented in this report do not allow us to draw firm conclusions as to the effect of the policy on overall alcohol consumption levels or the severity of dependence for those presenting to treatment services in Scotland. Our final report will clarify these issues. As the current report is based on cross-sectional, semi-structured interview data, we do not here address individual experiences of MUP (for example, among people consuming high-strength cider, whether they switched products once it became less affordable, and if so, to what). However, our analysis of qualitative interview data (also to be included in the final report) will closely investigate individual experiences of and responses to MUP.

The finding that respondents would have found it useful to receive more information about the impact of the policy on alcohol prices prior to implementation is important for any future adjustment to alcohol pricing policy in Scotland or MUP implementation elsewhere. Indeed, interviewer reflections at Wave 1 were that many respondents only realised MUP was imminent during the course of the interview. Our experience in using the visual aids showing anticipated prices under MUP to support the interview process suggest that, in addition to explaining price by units, such images could also be employed to help people to more closely relate the policy implications to their own consumption (e.g. what the price would be for a particular size bottle of vodka or high-strength cider brand).

5.5. Conclusion

Our study of the short-term impact of MUP in Scotland finds little evidence of illegal alcohol use or widespread substitution of other substances for alcohol among people accessing alcohol dependence treatment 3 to 9 and 18 to 22 months after MUP was introduced. A small minority reported redirecting expenditure away from other essentials. There was a sharp fall in the proportions of people reporting consumption of very low-cost products in Waves 2 and 3 compared to Wave 1.

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Appendix 1: Respondent living circumstances – relationship status, children, who live with, housing and deprivation quintile

Scotland

Demographic characteristics	Wave 1	Wave 1	Wave 2	Wave 2	Wave 3	Wave 3
	(N=170)	(N=170)	(N=190)	(N=190)	(N=123)	(N=123)
	n	%	n	%	n	%
Relationship status						
Single	93	54.7	79	41.6	58	47.2
In relationship (not living together)	12	7.1	23	12.1	18	14.6
In relationship (married/cohabiting)	36	21.2	52	27.4	26	21.1
Separated/divorced/widowed/other	29	17.1	36	18.9	21	17.1
Children						
Have dependent children	44	25.9	45	23.7	40	32.5
Live with children <18	9	5.3	12	6.3	10	8.1
Live with ^a						
Parents and/or other family	24	14.1	23	12.1	15	12.2
Partner/spouse	34	20.0	49	25.8	22	17.9
Children	9	5.3	12	6.3	10	8.1
Friends, housemates, other	6	3.5	7	3.7	4	3.3
Live alone	105	61.8	110	57.9	77	62.6
Housing						
Private ownership	25	14.7	35	18.4	26	21.1
Private rental	28	16.5	32	16.8	9	7.3
Social housing	93	54.7	98	51.6	67	54.5
House of relative, partner or friend	14	8.2	13	6.8	11	8.9
Hostel/shelter/no usual/other	10	5.9	12	6.3	10	8.1
Acute housing problem ^b						
Yes	16	9.4	20	10.6	17	13.8
Deprivation quintile ^c						
1 – most deprived 20%	56	36.4	63	38.2	49	45.4
2	43	27.9	40	24.2	22	20.4
3	21	13.6	33	20.0	20	18.5
4	22	14.3	13	7.9	9	8.3
5 – least deprived 20%	12	7.8	16	9.7	8	7.4

England

Demographic characteristics	Wave 1	Wave 1	Wave 2	Wave 2	Wave 3	Wave 3
	(N=85)	(N=85)	(N=86)	(N=86)	(N=52)	(N=52)
	n	%	n	%	n	%
Relationship status						
Single	35	41.2	44	51.2	28	53.8
In relationship (not living together)	12	14.1	7	8.1	4	7.7
In relationship (married/cohabiting)	28	32.9	26	30.2	17	32.7
Separated/divorced/widowed/other	10	11.8	9	10.5	3	5.8
Children						
Have dependent children	35	41.2	34	39.5	25	48.1
Live with children <18	12	14.1	8	9.3	3	5.8
Live with ^a						
Parents and/or other family	14	16.5	23	26.7	14	26.9
Partner/spouse	27	31.8	26	30.2	17	32.7
Children	12	14.1	8	9.3	3	5.8
Friends, housemates, other	7	8.2	8	9.3	13	25.0
Live alone	38	44.7	33	38.4	9	17.3
Housing						
Private ownership	21	24.7	25	29.1	11	21.2
Private rental	25	29.4	12	14.0	5	9.6
Social housing	25	29.4	33	38.4	16	30.8
House of relative, partner or friend	9	10.6	10	11.6	10	19.2
Hostel/shelter/not usual/other	5	5.9	6	7.0	10	19.2
Acute housing problem ^b						
Yes	9	10.7	16	18.6	13	25.0
Deprivation quintile ^c						
1 – most deprived 20%	40	51.3	40	52.6	26	68.4
2	14	17.9	12	15.8	7	18.4
3	8	10.3	11	14.5	2	5.3
4	7	9.0	8	10.5	1	2.6
5 – least deprived 20%	9	11.5	5	6.6	2	5.3

a. Who live with groups are non-mutually exclusive, except for 'Live alone'

b. Missing data: acute housing problem past 3 months – Wave 1 n=1 (Scot n=0, Eng = 1); Wave 2 n=1 (Scot n=1, Eng = 0)

c. Missing data: deprivation quintile – Wave 1 n=22 (Scot n=15, Eng = 7); Wave 2 n=35 (Scot n=25, Eng = 10); Wave 3 n=29 (Scot n=15, Eng = 14)

Appendix 2: Respondent education, employment, income and subjective financial status

Scotland

Demographic characteristics	Wave 1	Wave 1	Wave 2	Wave 2	Wave 3	Wave 3
	(N=170)	(N=170)	(N=190)	(N=190)	(N=123)	(N=123)
	n	%	n	%	n	%
Highest level education						
Level 1 or no qualifications	50	29.4	69	36.3	48	39.0
Level 2 or equivalent: Scottish Standards, GCSE, apprenticeship	61	35.9	57	30.0	38	30.9
Level 3 or equivalent: Scottish Highers, A level, vocational level 3	23	13.5	26	13.7	14	11.4
> Level 3: including degrees	36	21.2	38	20.0	23	18.7
Occupation ^a						
Employed, training or study full time	23	13.5	30	15.8	18	14.8
Looking for work or training	6	3.5	5	2.6	1	0.8
Intending to look for work, prevented by temporary sickness/injury	47	27.6	32	16.8	31	25.4
Permanently unable to work due to permanent sickness/disability	78	45.9	95	50.0	48	39.3
Retired, looking after home/family, doing something else	16	9.4	28	14.7	24	19.7
Income (main source) ^b						
Wage or salary	19	11.4	28	14.9	10	8.4
Pension, benefit or universal credit	139	83.2	145	77.1	103	86.6
Partner, family or child support	2	1.2	8	4.3	3	2.5
Loans/pawning, betting, sex work, begging, criminal activity	0	0.0	0	0.0	0	0.0
Other	7	4.2	7	3.7	3	2.5
Weekly household income ^c						
<£100	32	19.3	22	12.3	28	24.1
£100-199	73	44.0	86	48.0	45	38.8
£200-299	32	19.3	36	20.1	20	17.2

Scotland

£300-499	19	11.4	17	9.5	10	8.6
£500+	10	6.0	18	10.1	13	11.2
How managing financially ^d						
Living comfortably	14	8.3	30	15.9	16	13.0
Doing alright	45	26.6	47	24.9	16	13.0
Just about getting by	49	29.2	45	23.8	44	35.8
Finding it quite difficult	33	19.6	42	22.2	22	17.9
Finding it very difficult	27	16.1	25	13.2	25	20.3

England

Demographic characteristics	Wave 1	Wave 1	Wave 2	Wave 2	Wave 3	Wave 3
	(N=85)	(N=85)	(N=86)	(N=86)	(N=52)	(N=52)
	n	%	n	%	n	%
Highest level of education						
Level 1 or no qualifications	24	28.2	19	22.1	21	40.4
Level 2 or equivalent: Scottish Standards, GCSE, apprenticeship	22	25.9	23	26.7	15	28.8
Level 3 or equivalent: Scottish Highers, A level, vocational level 3	22	25.9	19	22.1	7	13.5
> Level 3: including degrees	17	20.0	25	29.1	9	17.3
Occupation ^a						
Employed, training or study full time	21	24.7	28	32.6	18	35.3
Looking for work or training	11	12.9	10	11.6	7	13.7
Intending to look for work, prevented by temporary sickness/injury	22	25.9	21	24.4	14	27.5
Permanently unable to work due to permanent sickness/disability	17	20.0	17	19.8	8	15.7
Retired, looking after home/family, doing something else	14	16.5	10	11.6	4	7.8

England

Income (main source)^b

Wage or salary	20	25.0	24	27.9	13	25.5
Pension, benefit or universal credit	44	55.0	54	62.8	34	66.7
Partner, family or child support	9	11.3	3	3.5	1	2.0
Loans/pawning, betting, sex work, begging, criminal activity	4	5.0	0	0.0	0	0.0
Other	3	3.8	5	5.8	3	5.9

Weekly household income^c

<£100	20	25.3	16	21.6	15	31.3
£100-199	27	34.2	21	28.4	10	20.8
£200-299	11	13.9	12	16.2	6	12.5
£300-499	8	10.1	10	13.5	7	14.6
£500+	13	16.5	15	20.3	10	20.8

How managing financially^d

Living comfortably	12	14.1	14	16.3	7	13.7
Doing alright	16	18.8	22	25.6	13	25.5
Just about getting by	27	31.8	17	19.8	13	25.5
Finding it quite difficult	10	11.8	10	11.6	4	7.8
Finding it very difficult	20	23.5	23	26.7	14	27.5

a. Missing data: Occupation – Wave 3: n=2 (Scot = 1, Eng = 1)

b. Missing data: Main income source – Wave 1: n = 8 (Scot = 3, Eng = 5); Wave 2: n = 2 (Scot); Wave 3: n = 5 (Scot = 4, Eng = 1)

c. Missing data: income band data – Wave 1: n =10 (Scot = 4, Eng = 6); Wave 2: n = 33 (Scot = 11, Eng = 12); Wave 3: n = 13 (Scot n = 7, Eng = 5)

d. Missing data: how managing financially – Wave 1: n = 2 (Scot); Wave 2: n = 1 (Scot); Wave 3: n = 1 (Eng)

Appendix 3: Respondent self-rating of memory for TLFB consumption and expenditure data

Scotland

Self-rated memory for TLFB week (0-20) ^a	Wave 1 (N=170)	Wave 1 (N=170)	Wave 1 (N=170)	Wave 2 (N=190)	Wave 2 (N=190)	Wave 2 (N=190)	Wave 3 (N=123)	Wave 3 (N=123)	Wave 3 (N=123)
	n	%	95% CI	n	%	95% CI	n	%	95% CI
0 - 4	15	9.0	5.3-14.0	24	13.0	8.8-18.5	10	8.4	4.4-14.4
5 - 9	24	14.4	9.7-20.3	36	19.6	14.3-25.7	34	28.6	21.0-37.1
10 - 14	28	16.8	11.7-23.0	39	21.2	15.8-27.5	22	18.5	12.3-26.2
15 - 20	100	59.9	52.3-67.1	85	46.2	39.1-53.4	53	44.5	35.8-53.5

England

Self-rated memory for TLFB week (0-20) ^a	Wave 1 (N=85)	Wave 1 (N=85)	Wave 1 (N=85)	Wave 2 (N=86)	Wave 2 (N=86)	Wave 2 (N=86)	Wave 3 (N=52)	Wave 3 (N=52)	Wave 3 (N=52)
	n	%	95% CI	n	%	95% CI	n	%	95% CI
0 - 4	★	★		0	0.0	-	0	0.0	-
5 - 9	★	★		9	10.7	5.4-18.6	★	★	
10 - 14	17	20.2	12.7-29.7	7	8.3	3.8-15.7	★	★	
15 - 20	65	77.4	67.6-85.3	68	81.0	71.6-88.2	48	92.3	82.7-97.3

a. Missing 'Self-rated memory for TLFB' data: Wave 1 = 4 [Scot = 3, Eng = 1]; Wave 2 = 8 [Scot = 6, Eng = 2]; Wave 3 = 4 [Scot]