NHS Health Scotland

Monitoring and Evaluating Scotland's Alcohol Strategy

Third Annual Report

December 2013

ISD SCOTLAND

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The MESAS project team all provide intellectual thinking to the MESAS project and review of this report. In addition, their contribution to this report is as follows:
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Executive Summary

Background

This report is the third annual report that provides an update on Scotland's alcohol strategy. It includes the evaluation plan, the trends in price and affordability, alcohol sales and consumption, and alcohol-related harm as detailed in the baseline report. New chapters incorporating findings from the evaluation of the Licensing Act and the contribution of the economic downturn to recent falls in alcohol-related harms in Scotland are also included.

Methods

The report draws together findings from a portfolio of studies evaluating Scotland's alcohol strategy. Methodological details for the study findings are provided within the relevant chapters of the report.

Findings

Licensing Act evaluation

- The activities outlined in the Licensing Act were, in the main, perceived to have been implemented as intended. Although compliance with the legislation was thought to be high its overall impact is unknown.
- Licensing Boards found it difficult to define and measure overprovision. Licensing Forums struggled to function effectively; understanding and addressing the public health objective has been challenging for Licensing Boards.
- Unless there has been a breach of legislation, Licensing Boards do not have the ability to withdraw existing licenses and are restricted to refusing new licenses (limiting the ability of Licensing Boards to reduce alcohol availability). Consequently the Licensing Act, as yet, is unlikely to have a large impact on alcohol consumption in Scotland.

Alcohol consumption

- There has been a downward trend in the volume of pure alcohol sold per adult in Scotland since 2009, decreasing by a total of 8% between 2009 and 2012 (Figure 1).
- Per adult sales in Scotland have been 19-21% higher than in England and Wales over the past five years. This is mostly due to higher off-trade sales in Scotland, particularly spirits.
- The downward trend in self-reported weekly alcohol consumption, particularly since 2008, has been driven by young adults (aged 16-24 years) and those characterised as drinking at 'harmful' levels.
- The mean weekly alcohol consumption of harmful drinkers is substantially higher among those living in the most deprived quintile areas in Scotland (based on SIMD or household income) (Figure 2).

Price & Affordability

- The affordability of alcohol has increased substantially since the 1980s, driven by rising disposable incomes. Despite falls between 2007 and 2011 probably due to the economic downturn, affordability remains high compared to the 1990s and early 2000s. Affordability has increased most in the off-trade.
- Sixty per cent of off-trade alcohol sold in Scotland in 2012 was sold at below 50ppu, the initial level proposed by the Scottish Government if the Alcohol (Minimum Pricing) (Scotland) Act 2012 is implemented (Figure 3). This compares with 81% in 2009,

highlighting the importance of reviewing regularly the level at which the minimum price for alcohol is set.
- Although the proportions of off-trade alcohol sold at different price bands in 2012 were similar in Scotland and England & Wales, there are large differences in the volume of alcohol sold per adult at different price bands: higher off-trade sales in Scotland were common across almost the entire price distribution but were particularly marked in the 35-54.9ppu range, driven by higher spirits sales in Scotland within this price range, particularly vodka.

Alcohol-related harms

- Although alcohol-related mortality in Scotland has declined in recent years, alcohol-related mortality rates remain higher than they were in the early 1980s and also remain higher than those in England & Wales (Figure 4).
- There have been falls in some indicators of alcohol-related mortality and morbidity. However, this is not consistent across genders, age groups and diagnoses. In particular, the increase in discharge rates for alcohol psychoses over the past thirty years is of concern. It has been driven by increased rates of the clinical diagnosis of alcohol withdrawal, a cluster of symptoms which result from reduction or cessation of alcohol consumption in patients with alcohol dependence.
- Inequalities in alcohol-related-harm in Scotland have changed in recent years. In the last ten years the relative gap in alcohol-related mortality rates between the most and least deprived communities in Scotland has narrowed (Figure 5).

Economic context

- Falls in alcohol-related mortality (Figure 4) pre-dated the falls in alcohol sales in Scotland (Figure 1), which coincided with the start of the economic recession (Figure 6).
- Aggregate measures of economic conditions such as Gross Domestic Product (GDP) disguise changes in economic circumstances in particular socio-economic groups, which appear to have contributed to the pre-recession falls in alcohol-related mortality in Scotland. Incomes in the lowest income decile in Scotland began to fall before the economic downturn and coincided with the start of falls in alcohol-related mortality. Pre-downturn falls in the incomes of the lowest income decile also occurred in England and Wales but mortality did not begin to fall until the start of the downturn.
- Since the early 1990s, Wales and the English regions that are similar economically to Scotland have seen proportionate increases in alcohol-related mortality that are comparable to Scotland and substantially larger than less industrialised regions of England. These similarities also suggest a role for the economic context in driving alcohol-related mortality.
- The recent economic downturn appears to be a partial explanation for recent falls in alcohol-related mortality but the precise causal mechanism remains unclear.

Conclusion

Scotland is experiencing a recent and sustained decline in alcohol-related harm across most measures but still at levels higher than one decade ago and is persistently higher than England & Wales. It is likely that some elements of Scotland's alcohol strategy are contributing to this decline. Falling incomes in the lowest income deciles are also likely to explain part of the decline, although the analysis is not conclusive and other factors are probably also important. Monitoring trends for the purposes of both on-going policy development and evaluation to understand the effects already in place as planned should continue.

Supporting Figures

Figure 1: Litres of pure alcohol sold per adult (aged ≥16 years) in Scotland and England &Wales, 1994-2012

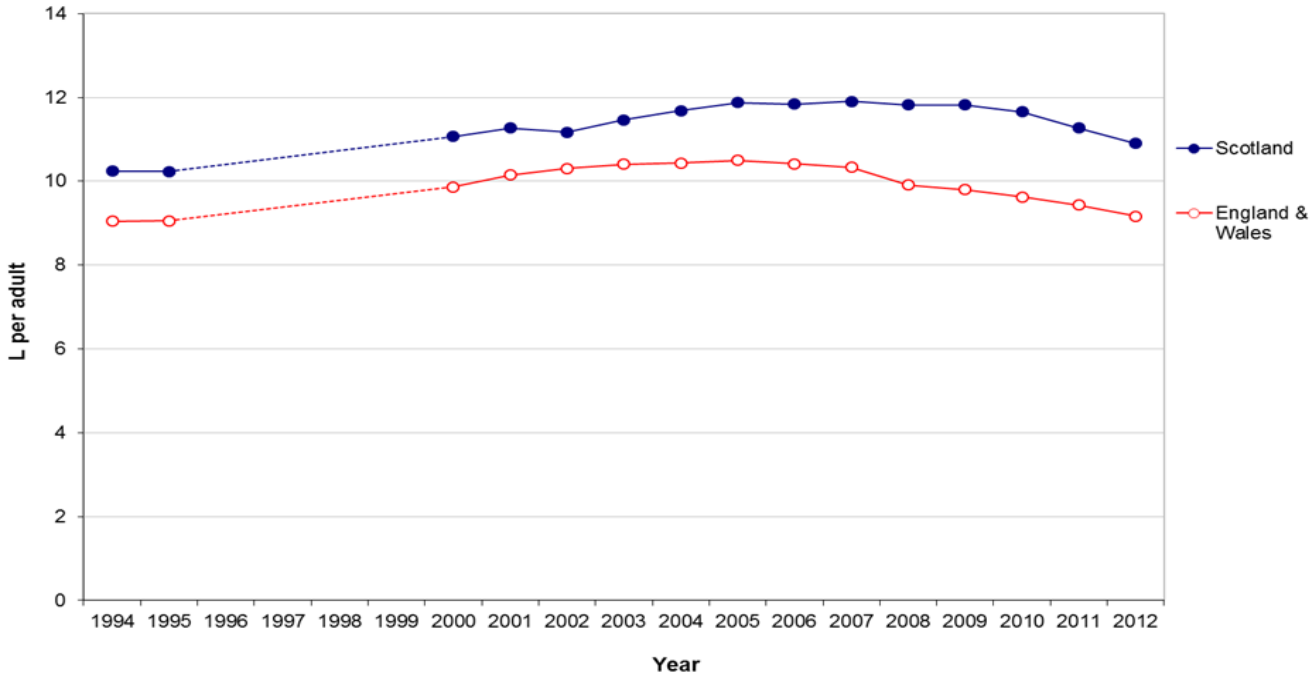
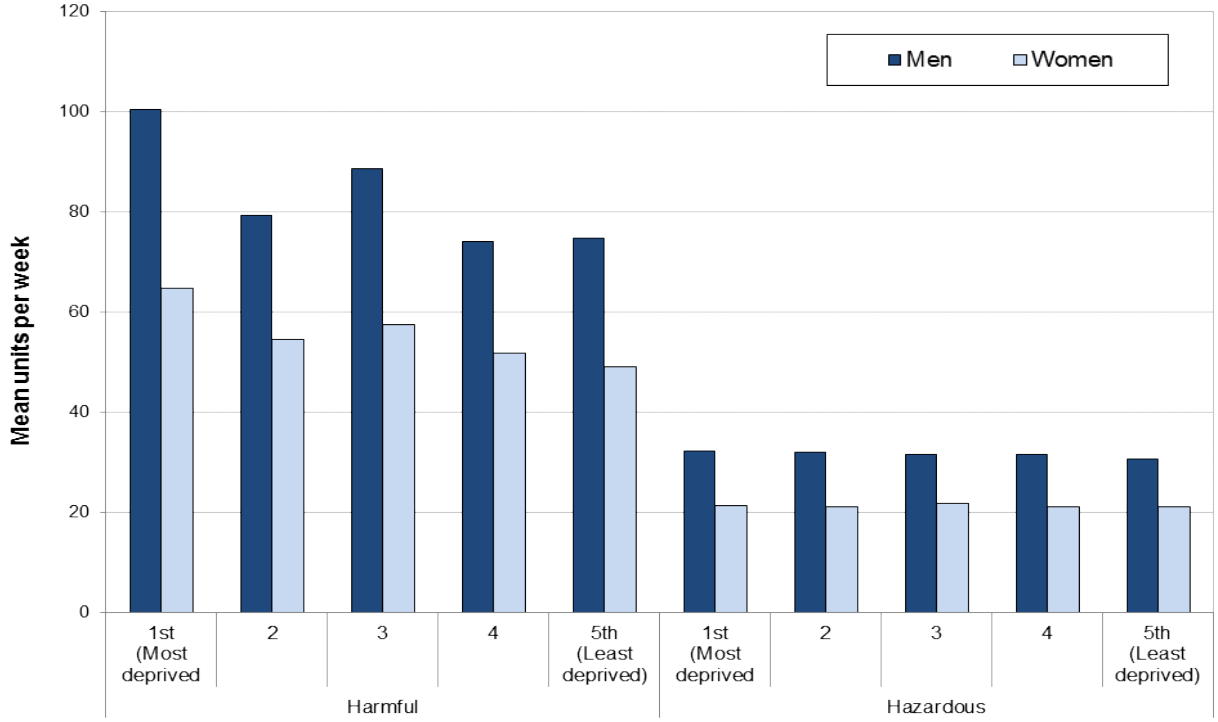


Figure 2: Mean weekly alcohol consumption of men and women in Scotland categorised as hazardous and harmful drinkers*, by SIMD quintile (age-standardised), 2008-2011 combined



Source: Scottish Health Survey. *Hazardous (>21 units and up to 50 units per week for men; >14 units and up to 35 units per week for women); Harmful (men over 50 units per week; women over 35 unit per week).

Figure 3: Price distribution (%) of pure alcohol sold off-trade in Scotland, 2009-2012

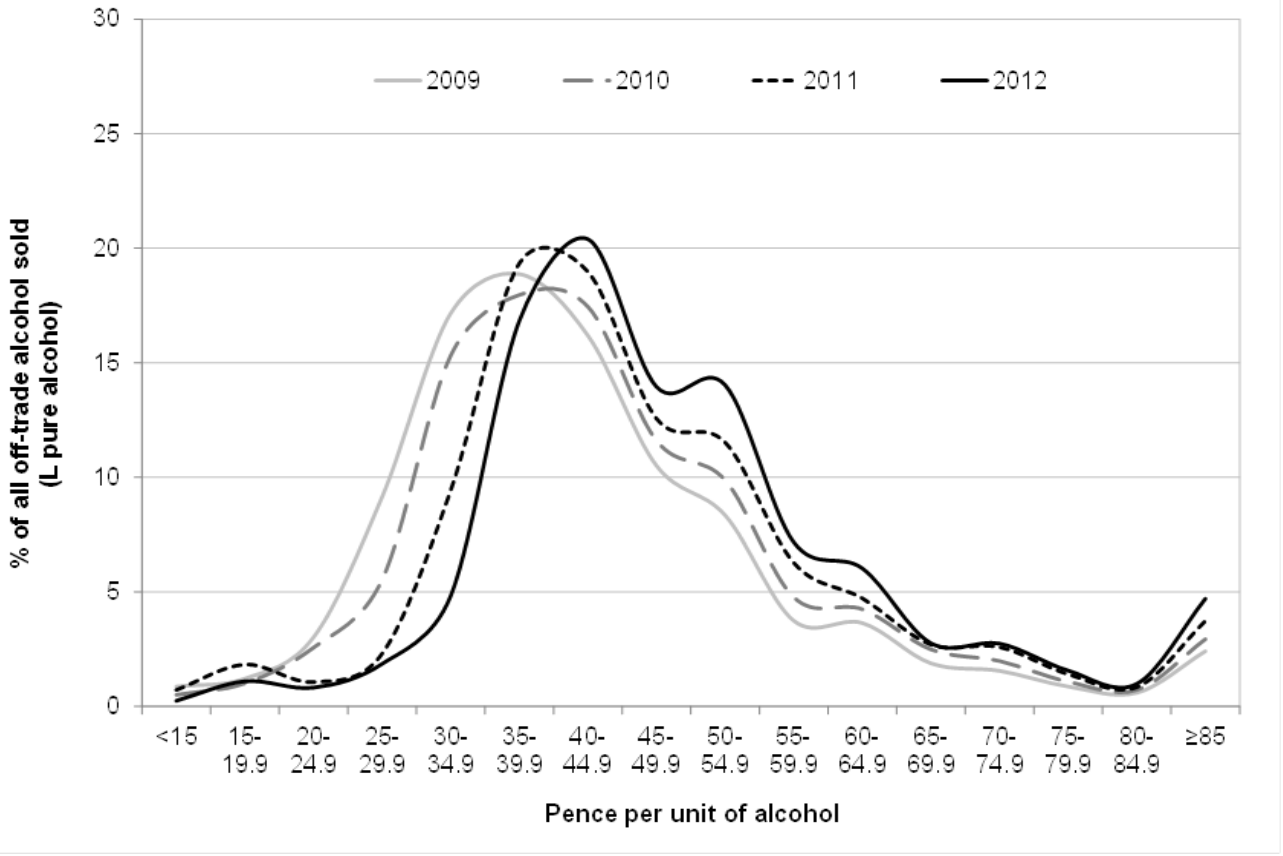


Figure 4: Alcohol-related deaths (underlying cause), Scotland, England & Wales, EASR, by gender, 1991-2011

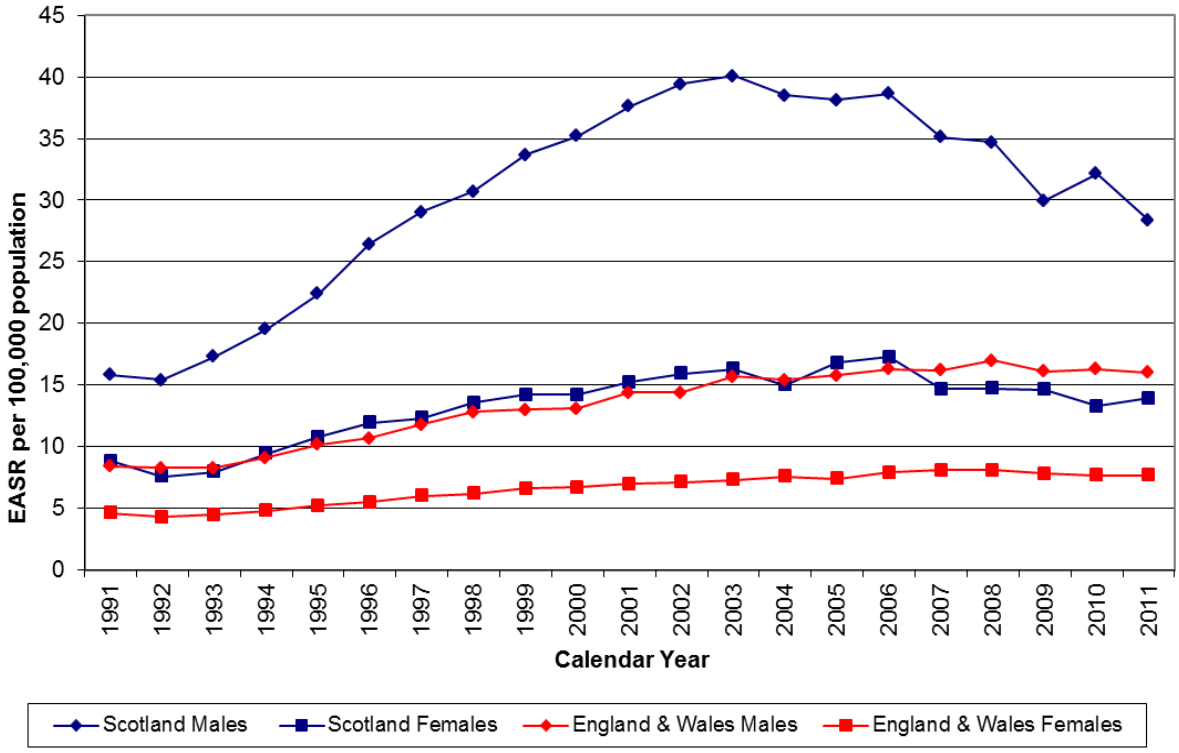


Figure 5: Alcohol-related deaths (underlying cause), by deprivation category, 2007-2011

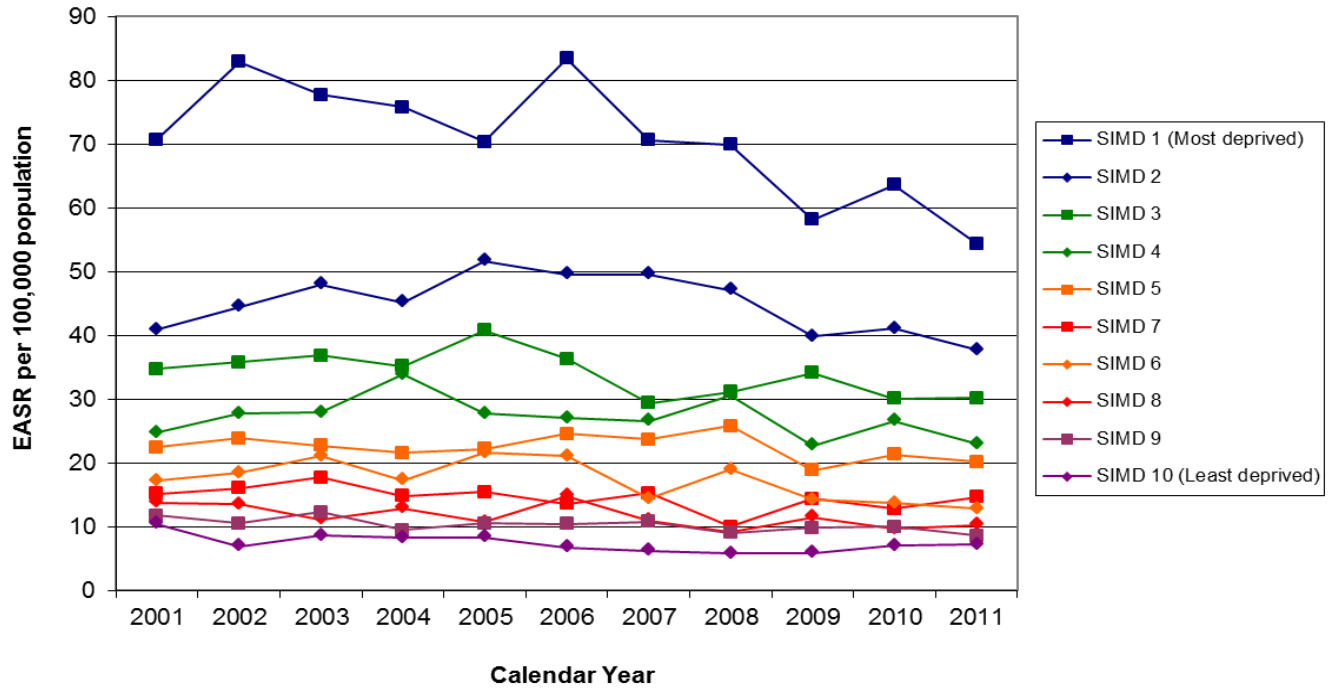
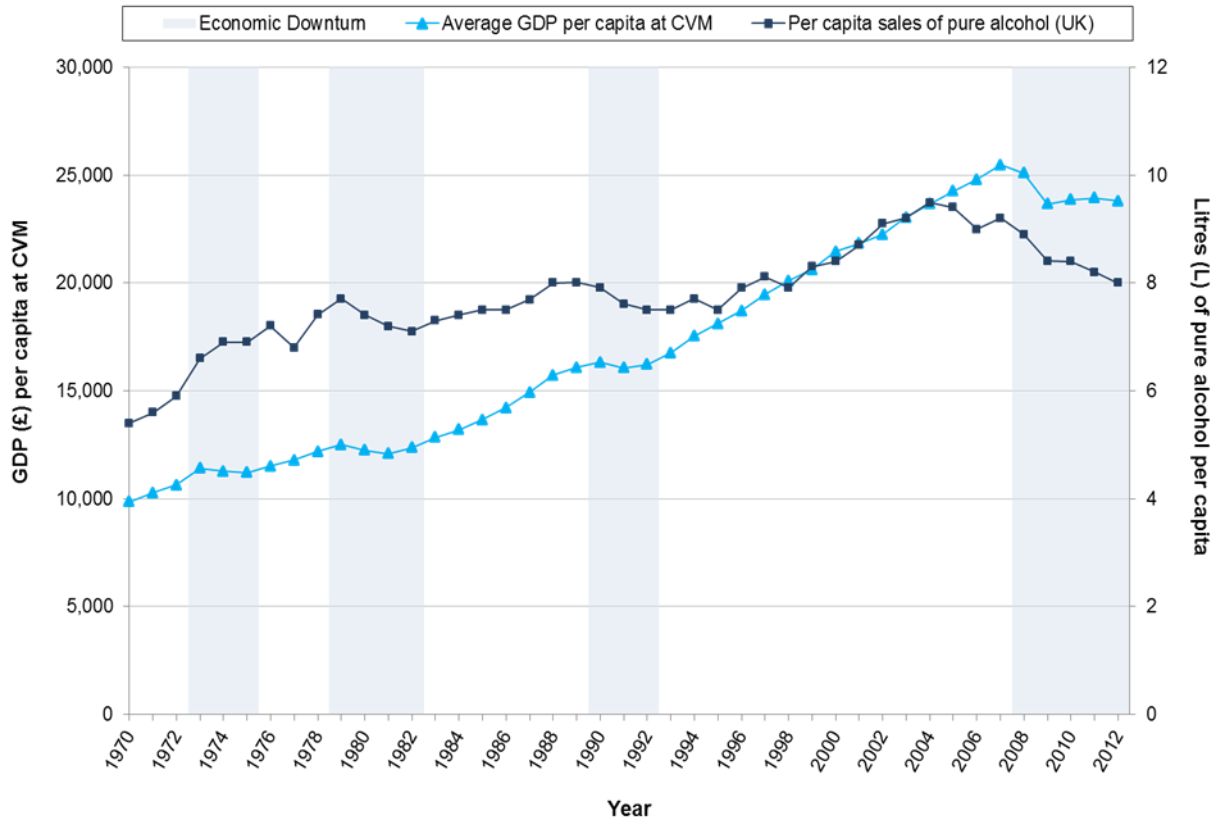


Figure 6: Per capita sales of pure alcohol, per capita Gross Domestic Product and periods of economic downturn. UK, 1970-2012



1. Introduction

Background

In 2009, NHS Health Scotland was tasked by the Scottish Government to lead on the evaluation of Scotland's alcohol strategy through the Monitoring and Evaluating Scotland's Alcohol Strategy (MESAS) work programme. This is delivered in collaboration with Information Services Division (ISD), part of NHS National Services Scotland. The objectives of MESAS are:

- To track the implementation, progress and reach of key actions in order to inform any necessary adjustments to policy.
- To assess the extent to which intended policy outcomes are achieved and are attributable to the actions being implemented by the Scottish Government.
- To identify any unintended outcomes or displacement effects, including differential effects or outcomes across different groups within the population which may impact on health inequalities.

The current report

There is a commitment to providing annual reports from MESAS. To date, two annual reports (2011 and 2012) and a number of study specific outputs have been published.[1,2] This publication is the third annual MESAS report. It does not repeat the background and full descriptions of the alcohol strategy or the initial evaluation plan contained in the baseline report.[1] It provides an update on Scotland's alcohol strategy and the plans for evaluating alcohol minimum unit pricing (MUP). The report draws together the outputs on the Licencing Act evaluation and the impact of the Alcohol Act published since the second annual report and provides an update on the analyses of affordability, consumption and alcohol-related harms. In addition, this annual report presents findings (Chapter 7) from analysis undertaken to assess the contribution of economic trends to recent trends in alcohol-related harm, including the impact of the current economic downturn and historical economic and social exposures.

Scotland's alcohol strategy in 2013

Scotland's alcohol strategy consists of a blend of legislation and policy actions aiming to reduce the harm caused by alcohol in Scotland. The baseline report detailed the main components of the three complementary strands that composed Scotland's alcohol strategy at the time, with an update on any changes or developments provided in the 2012 annual report.[2] Since then, there has been consultation on changes to the drink driving legislation and on licensing, but no new legislation or policy initiatives have been approved or implemented in the past year. Scotland's alcohol strategy in 2013 therefore remains unchanged from 2012. In the last annual report it was noted that the Scotch Whisky Association (SWA), in collaboration with some other European alcohol producers, had submitted a legal challenge against MUP. The Outer House Court of Session in Scotland rejected the challenge but it has been appealed to the Inner House. The implementation date for MUP in Scotland therefore remains uncertain. Box 1.1 summarises the key legislation, regulation and strategic initiatives that comprise Scotland's alcohol strategy in 2013.

Box 1.1: The key features of Scotland's alcohol strategy in 2013

Licensing (Scotland) Act 2005 - Implemented September 2009

- Test purchasing
- Refusal of new licenses in areas deemed overprovided
- Mandatory training for Licensing Board members, licence holders and staff
- Ban on irresponsible promotions in the on-trade
- Restriction on place of display in off-trade
- Public health objective for licensing
- Licensing Standard Officers
- Local Licensing Forums
- Public right to object

Framework for Action (plus related actions) 2009 onwards

- Advice for parents and carers
- Diversionary activities for young people
- Initiatives to tackle alcohol-related violence
- Improve identification of those affected by parental substance misuse
- Education and awareness
- Routine screening and Alcohol Brief Interventions (ABIs) in the NHS, with funding, resources, training and a target for delivery, changed to a standard in 2012
- Limited extension of ABIs to more settings
- Additional investment for treatment and care services
- Essential services review of specialist services
- A target for specialist alcohol treatment waiting times, changed to a standard in 2012
- Establishment of Alcohol and Drug Partnerships
- Improved identification and treatment of offenders with alcohol problems

Alcohol etc. (Scotland) Act 2010 - Implemented October 2011

- Ban on quantity discounts in off-sales
- Restrictions on alcohol display and promotions in off-sales
- Mandatory Challenge 25 age verification policy
- Powers to introduce a social responsibility levy on licence holders
- Health Boards to be notified of premises licence applications
- Annual Chief Constable reports to be provided

Alcohol (Minimum Pricing) (Scotland) Act 2012. To be implemented

- A minimum unit price for all alcohol sold through licensed premises in Scotland
- Expiry of minimum unit pricing (MUP) after 6 years of implementation unless the Scottish Ministers make provision for it to continue after the end of 5 years implementation (the sunset clause)
- A report for Scottish Parliament on the operation and effect of MUP after 5 years of implementation (the review clause)

The changing context

The success or otherwise of Scotland's alcohol strategy will not be achieved in isolation, but will be influenced by external factors such as policies and activities in other related fields, regulation and legislation beyond Scottish Government control, and the wider macro-economic climate. The following developments have occurred since the publication of the baseline report.[1]

Regulation beyond Scottish Government control

The regulatory framework for alcohol is shared between the Scottish Government, the UK Government and the European Parliament.

The UK Government is responsible for setting the level of alcohol excise duty. The amount of duty payable varies by drink type from 2008 the duty on all products increased automatically each year at 2% above the rate of inflation and this alcohol duty escalator continued to be applied in the 2012 budget. However in 2013 the duty escalator was not applied to beer, and the duty rate was cut.

In July 2013, the UK Government announced that it was not taking forward proposals to implement MUP or a ban on quantity discounts in England and Wales, but will introduce a ban on below cost selling.

Wider Macro Socioeconomic Environment

The wider macro-economic environment and, in particular, changes to the economy may have an independent effect on consumption and alcohol-related harms. The economic contraction that started in 2008/09 continued in 2012, with retail price inflation exceeding average growth in earnings. Reduced disposable income is likely to make alcohol less affordable and may reduce population consumption, although this may hide differential impacts within certain groups.[3,4,5] The hypothesis that the wider economic context provided some explanation for the current trends in consumption and alcohol-related harms was posed in the last annual report. Since then, further analysis has been undertaken and is reported in Chapter 7.

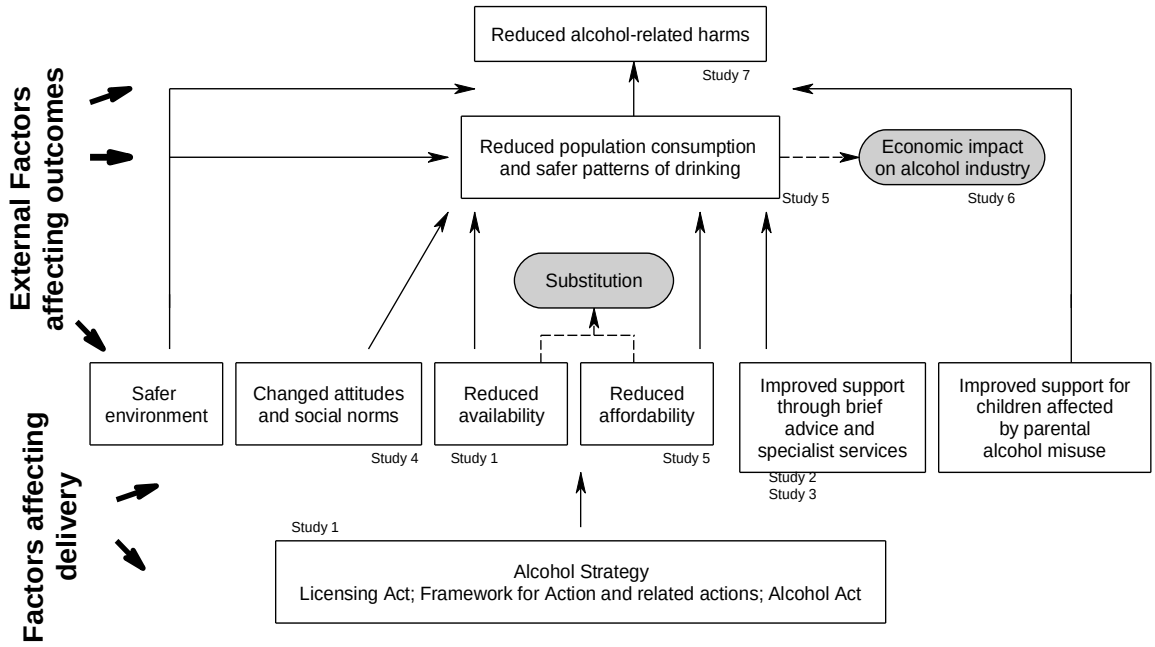
2. The Evaluation Plan

The key evaluation questions for Monitoring and Evaluating Scotland's Alcohol Strategy (MESAS) are:

1. How and to what extent has implementing the package of measures (taken together and/or individually) contained in the Scottish alcohol strategy contributed to reducing alcohol-related harms?
2. Are some (people and businesses) affected (positively and negatively) more than others?
3. How might the strategy be implemented differently to improve effectiveness?

The evaluation methodology is set out in the first annual report. It adopts a theory based approach to evaluation which entails setting out an expected 'theory of change' and then comparing it with the observed changes. The theory of change for the alcohol strategy was detailed in the first annual report and is summarised in Figure 2.1 below.

Figure 2.1: Evaluation theory of change for Scotland's alcohol strategy



The current portfolio of studies

The original portfolio of studies for gathering the evidence required to support or refute this theory of change was also detailed in the first annual report.[1] Progress and developments on the original portfolio are detailed below.

Study 1: Implementation of the Licensing Act. This study was commissioned to assess whether the Licensing Act has been implemented as intended (compliance levels) in a way likely to achieve the licensing objectives and provide learning to inform improvement. It was extended to cover elements in the new Alcohol Act 2010. The final report was published in June 2012 and key themes and implications emerging from this study are developed in Chapter 3.

Study 2: Implementation of ABIs. The commissioned study to assess the implementation of Alcohol Brief Interventions (ABIs) delivered in key NHS setting in Scotland is complete[6] and the last annual report provided an overview of the findings and modelled the potential impact of the ABI programme, with a discussion on the implications for policy and practice. In 2012, Scottish Government developed the ABI performance target to allow inclusion of ABIs delivered in other settings, including outwith the NHS. NHS Health Scotland are now working with the Scottish Collaboration for Public Health Research and Policy to support the evaluation of ABIs delivered to young people through development of a core data set and a commissioned study to assess the plausibility of the intervention and feasibility of an impact evaluation. The University of Stirling have been commissioned to undertake this work that consists of qualitative interviews with project staff and young people. The findings from this study will be reported in 2014.

Study 3: Impact of additional investment. This study will assess the extent to which the additional investment in specialist alcohol treatment services has impacted on access to these services. It was commissioned in March 2013. Using a mixed methods approach, the study will assess the impact of these additional resources on the availability, usage and capacity of specialist alcohol treatment services in Scotland. The study includes quantitative assessment of both alcohol and drugs services in recognition of the dual remit of the majority of service providers. The qualitative fieldwork will be focussed on alcohol services only and the impact of the specific additional investment over the last few years. This study is scheduled to report in summer 2014.

Study 4: Knowledge and attitudes. This study will assess whether there have been any changes in self-reported knowledge about and attitudes to alcohol and how these might influence other outcomes. It will consist of secondary analysis of trends in existing survey data using, where possible, equivalent surveys in England & Wales for comparison. It was previously proposed that the current report would present initial analysis. However, a repeat of the alcohol module of the Scottish Social Attitudes survey is being undertaken in 2013, to report in May 2014. Thus, the complete analysis of knowledge and attitudes will be reported in the 2014 annual report.

Study 5: Price and consumption. This study will assess whether there have been any changes in alcohol consumption, as well as the relationship between alcohol consumption and affordability. It will describe trends in price, affordability and alcohol consumption measured through sales (including low-cost sales) and self-report survey and assess the impact that changes in the price of alcohol arising from policies such as MUP have on alcohol consumption. Data on the volume, type, strength and price of alcohol being sold through the on- and off-trade, and existing national survey data on consumption, will be used, alongside data from England & Wales for comparison where possible. Chapters 4 and 5 update previous MESAS publications and build on the update on sales and price published in August 2013[7] and the report on the impact of the Alcohol Act published in May 2013.[8]

Study 6: Economic impact. This study comprised an assessment of possible methods for assessing the impact on the alcohol industry of price and non-price measures to reduce the affordability and availability of alcohol. The report from this study, published in February 2011, is being used to inform the development of the evaluation plans for MUP.

Study 7: Alcohol-related harms. This study assesses how changes in the level of alcohol consumption and drinking patterns are influencing alcohol-related harms. It will analyse trends in key indicators from routine data to examine the relationship between observed changes in alcohol consumption and changes in alcohol-related health, crime, community safety and educational outcomes. Differential impacts by population subgroups will be examined to assess the effect on health inequalities. Data from England & Wales will be used for comparison where appropriate. An update on trends since the last annual report is contained in Chapter 6.

Evaluation of minimum unit pricing for alcohol in Scotland

The Alcohol (Minimum Price) (Scotland) Act includes a requirement for review of the impact of MUP on the five licensing objectives (preventing crime and disorder; securing public safety; preventing public nuisance; protecting and improving public health; and protecting children from harm) and on licence holders and producers of alcohol. This review may include the assessment of any differential effect by key characteristics such as age, sex, alcohol consumption and socioeconomic deprivation where possible. The Scottish Government has tasked NHS Health Scotland to lead the evaluation of MUP under the MESAS work programme.

As already described, the implementation of MUP is uncertain until any judicial proceedings are concluded. Plans for the evaluation of MUP therefore need to be flexible enough to deliver a robust evaluation that can be put in place quickly while minimising the financial outlay before the implementation date is certain. The evaluation of MUP will be composed of existing MESAS studies, other existing studies (following critical appraisal) and new studies developed as part of the MESAS programme or in collaboration with others. There are likely to be other studies with no MESAS involvement. All will be critically reviewed and included as appropriate.

Governance

It is important that stakeholders consider the evaluation of MUP to be credible and useful. To achieve this, the evaluation must fulfil four interdependent requirements: scientific rigor, independence, engagement and utility. A revised governance structure (Figure 2.2) has been established. This structure includes a Governance Board consisting of scientific and field experts with a remit to agree the areas for the evaluation, provide advice on the allocation of resources, provide quality assurance and monitor delivery progress.

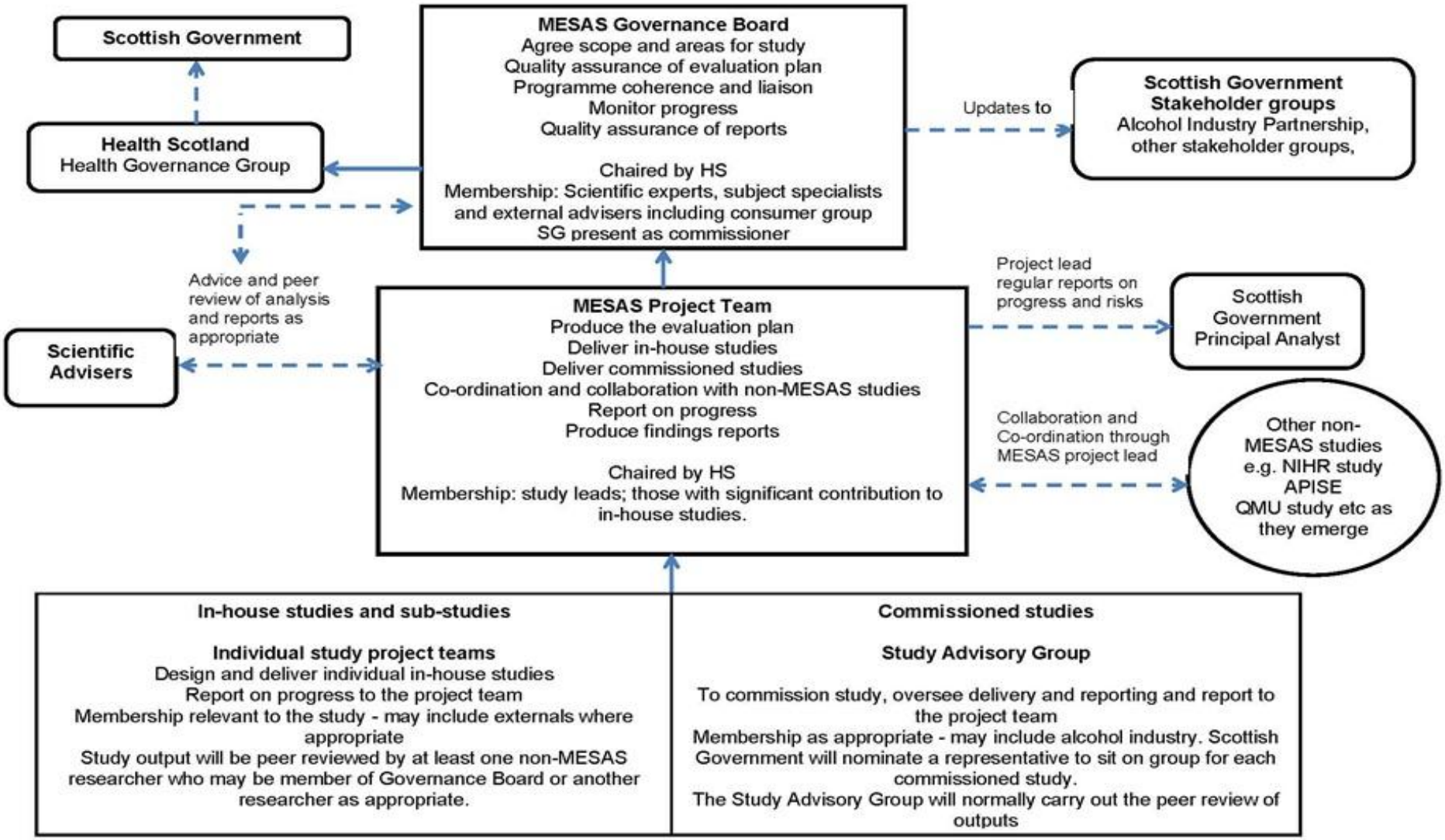
Evaluation studies

As described above, the MESAS programme already uses routinely collected data to monitor price, consumption and alcohol-related harms at a population level. These data will be used to provide the foundation for an evaluation to assess the impact of MUP. For example:

- Trends in the average price of alcohol sold in the on- and off-trade and the price distribution of alcohol (total and by drink type) sold in the off-trade, including comparisons with England & Wales, will be analysed. This will enable an assessment of whether there are changes in average prices and the availability of the cheapest alcohol following the introduction of MUP.
- Trends in the volume of alcohol (total and by drink type) sold in the on- and off-trade, including comparisons with England & Wales, will be analysed to assess the change in alcohol retail sales following the introduction of MUP. Sales data will be analysed alongside self-report survey data to determine if there are changes in total alcohol consumption or drinking patterns and whether such changes differ by age, sex and socioeconomic deprivation.
- Trends in alcohol-related harms (for all and by sub-groups e.g. age, sex and deprivation) will be assessed using routine data, including comparisons with England & Wales where appropriate. The current focus in MESAS is on morbidity and mortality.

However, a comprehensive evaluation of MUP will require additional studies. There is a need for more detailed studies that assess where possible any differential impact of MUP on sub-groups of interest (age, sex, deprivation and level of alcohol consumption); on crime disorder, and public safety and nuisance; and on protecting children from harm. Information on the impact on alcohol licence holders and producers is also required. The MESAS Project Lead will also form collaborations with academics leading other studies that will contribute to the assessment of the impact of MUP. There is currently one known study, described below, that will provide important evidence. Details of new studies and an evaluation plan and the governance arrangements will be published before the implementation of MUP.

Figure 2.2: MESAS Governance structure



Evaluating possible intended and unintended consequences of the implementation of minimum unit pricing of alcohol in Scotland

This study led by the Medical Research Council Social and Public Health Sciences Unit, in collaboration with researchers from other academic organisations, started in October 2012. The study aims to build on the existing MESAS programme to look at potential disproportionate attitudinal, behavioural and health effects by comparing the impact across different socioeconomic groups through three linked components:

1. A repeat cross-sectional audit of alcohol-related attendances and prevalence of hazardous drinking in emergency departments in Scotland and the North of England.
2. A repeat cross-sectional survey of drinking behaviour in sexual health clinics in Scotland and the North of England (including possible displacement/substitution effects related to source of alcohol (legal and illegal) and/or use of other drugs).
3. Repeat cross-sectional public focus groups and key informant interviews on experiences of, and attitudes to, MUP.

Publication plan for 2014

The following publications are currently planned for 2014:

- Report on the findings from the ABIs in wider settings study
- Report on the findings from the 2013 Scottish Social Attitudes Survey
- Report on the findings of the MESAS Treatment and Care Study (study 3)
- Update on alcohol sales and price
- 4th MESAS annual report

Other outputs may be published during the year as appropriate. There is also a commitment to publish a plan for the evaluation of MUP before the new legislation is implemented.

3. The Licensing Act

Introduction

Alcohol licensing regulates the sale of alcohol and licensed premises. A new licensing framework was set out for Scotland through the Licensing (Scotland) Act 2005[9], hereafter the Licensing Act or the Act, which was implemented in September 2009. These provisions were supplemented by the Criminal Justice and Licensing (Scotland) Act 2010 and the Alcohol etc. (Scotland) Act 2010[10], hereafter the Alcohol Act.

The Licensing Act was brought in to regulate the sale and supply of alcohol in Scotland. A theory of change (Figure 3.1) was developed by NHS Health Scotland for research purposes, to illustrate how the Licensing Act could potentially contribute to controlling the availability of alcohol and creating safer drinking and wider environments. It describes the connections between activities and outcomes. For example, it shows how test purchasing could deter retailers from selling alcohol to under 18s, which could lead to an increase in refusals to serve alcohol to underage children, which would reduce the availability of alcohol to young people. The theory of change is divided into two broad areas, activities which are hypothesised to contribute to improving licencing decisions, adherence to the law and controlling the availability of alcohol and those which could contribute to creating safer drinking and wider environments. In reality there is overlap between these two broad areas and a number of activities will contrite to both; however for the purposes of the model they have been kept distinct.

The activities set out in Figure 3.1 were intended to be implemented across Scotland as part of the Licensing Act. It sets out the duty of Licensing Boards to assess the overprovision of alcohol outlets and details offenses relating to the sale of alcohol to someone who is drunk and to children and young people. Further detail on the Licensing Act is provided in the Background section.

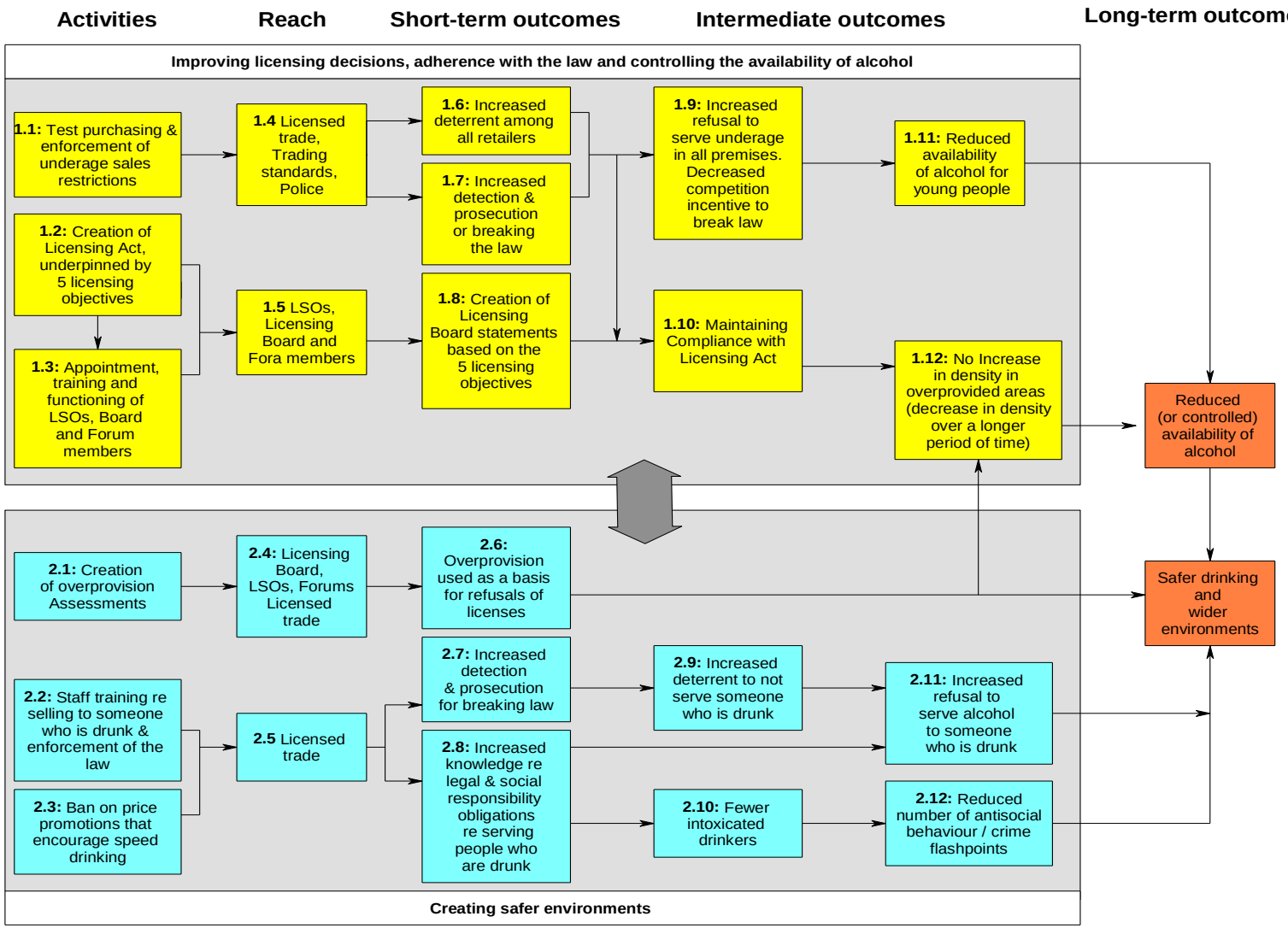
MESAS commissioned an evaluation to assess the implementation of the Licensing Act.[11] If the Act was implemented as intended, the theory of change developed by NHS Health Scotland hypothesised that by regulating the sale and supply of alcohol, the Licensing Act could contribute to controlling the availability of alcohol and creating safer environments. This chapter considers the findings of the evaluation against the theory of change where possible, supplemented by other data where available.

Background

The Licensing Act makes provision for regulating the sale of alcohol and for regulating licensed premises and other premises on which alcohol is sold.[9] It came into full effect on the 1st September 2009 and overhauled previous licensing arrangements,[12] establishing five licensing objectives that Licensing Boards are expected to achieve through development and implementation of their local policies. These are:

1. Preventing crime and disorder
2. Securing public safety
3. Preventing public nuisance
4. Protecting and improving public health
5. Protecting children from harm

Figure 3.1: Theory of change for the Licensing Act



A number of provisions contained in the Act are predominantly administrative, designed to simplify the licensing process and are of limited interest to MESAS. Of more interest are the provisions that concern the control of the availability of alcohol and the serving environment and those intended to improve licensing decisions and adherence to the five licensing objectives.

Licensing Boards, Forums and Licensing Standards Officers (LSOs) are responsible for implementing the Licensing Act. The role of the Forums is to review the operation of the local licensing system and to give advice and recommendations to Boards. Licensing Boards have a duty to "have regard" to the Forum's views and must offer reasons when these views are not taken into account.[13] An effective Forum should be independent, expert and able to identify local licensing issues and develop advice on how to address them. The main features of the Licensing Act and key actions within it are presented in Boxes 3.1 and 3.2.

The Alcohol Act also makes provision for the sale and supply of alcohol in Scotland. In contrast to the Licensing Act, many of the provisions within it focus on the off-trade, including a minimum price of packages containing more than one alcoholic product, restricting the supply of alcoholic drinks free of charge or at reduced price and restricting the location of drinks promotions. In addition, it makes provision for age verification policies and modifies the conditions for premises and occasional licenses. It also provides Licensing Boards with the power to vary the licence conditions for premises. The main features of the Alcohol Act are presented in Box 3.3.

Box 3.1: Functions of the Licensing Act relating to improving licensing decisions, adherence to the law and controlling the availability of alcohol

1. Test purchasing and enforcement of existing legislation on selling to or purchasing for those aged under 18 years[a]
2. Licensing Boards to produce a policy statement every three years, outlining how the Board will meet the five licensing objectives[b]
3. Recruitment (by the Local Authority) of at least one Licensing Standards Officer (LSO) in each Licensing Board area[c] (can be shared with other areas) to provide information and guidance with regard to the Licensing Act, supervise compliance and provide mediation for disputes. They can also issue notices regarding remedial action to rectify breaches or apply for a review of a licence. There are national training standards for LSOs.
4. Establishment (by the Local Authority) of a Licensing Forum[d] in each Licensing Board area[e]. The forums can have between 5 - 20 members, including the LSO and other representatives of interests, including holders of premises or personal licences, the Police Scotland, health, education or social work, young people and residents. The role of the Forums is to keep under review the operation of the Act by the Licensing Board in their area, but they are not able to review or make recommendations in relation to individual cases
5. Introducing a 'public right' to object or to make representations. Under the Act *anyone* can object to or make a representation to a Licensing Board about any application for a premises licence or an application for a major variation of a premises licence.
6. Mandatory training for Licensing Board members[f]

Notes: (a) Test purchasing has already started. While it is potentially about selling to those under age as well as purchasing for those under 18 years (i.e. individuals aged over18 years acting as agents), in practice it focuses on the former because of the practical difficulties associated with the latter. (b) Some local authorities may have more than one Licensing Board. There are in the region of 43 Local Licensing Boards across 32 local authorities (c) Most areas had already recruited LSOs, in advance of full implementation of the new Act. (d) The term Forum is used in this report to maintain consistency with the terminology in the Licensing Act. (e) Most areas had already established a Licensing Forum in advance of full implementation of the new Act. (f) Training is a minimum of one day, delivered by an accredited organisation, and covers a minimum standard content.

Box 3.2: Functions of the Licensing Act relating to creating safer environments

1. Overprovision assessments and refusal of new applications in areas deemed to be over-provided, taking into account not just the number and capacity of licensed premises in localities, but also type of licensed premises
2. Mandatory training for:
    - Personal licence holders[a]
    - All staff who serve alcohol[b]
3. Ban on 'happy hours' and irresponsible promotions in on-trade premises[c]
4. Non-alcoholic drinks sold at a reasonable price in on-trade premises and tap water to be provided free
5. Restrictions on where alcohol can be displayed in a store.
6. Removal of set licensed hours but with a presumption against 24-hour licences. Off-sales are restricted to between 10am and 10pm

Notes: (a) To be by provided by an accredited organisation, and assessed by examination. (b) Training to last at least two hours and cover minimum standard content, but there is no set provider. Training can be provided by the manager/organisation training department (in larger organisations), or by an approved external organisation (e.g. ServeWise). (c) Irresponsible drinks promotions are defined as: a drink likely to appeal largely to those aged under 18 years; offer free or reduced price on purchase of one or more drink; offer free or reduced price extra measure; offer unlimited amount for fixed charge; encourage person to buy or consume larger measure than they had intended; is based on the strength of the alcohol; rewards or encourages drinking alcohol quickly; offers alcohol as a reward, unless in a sealed container for drinking off the premises.

Box 3.3: Key features of the Alcohol Act

1. Restricting the display and promotion of alcohol in the off-trade to within a single area of the store
2. Ban on off-trade quantity based discounts (often referred to as the 'ban on quantity discounts' or 'multi-buy discount ban'). It prohibits supermarkets and other off-trade retailers from providing discounts on multi-buy purchases. Straight discounting of products from the list price remains permissible.
3. Limiting the variation of pricing of alcoholic drinks
4. Restriction of supply of alcoholic drinks free of charge or at reduced price
5. Requirement for age verification policy
6. Modification of premises and occasional licenses
7. Powers for Boards to vary premises licence conditions

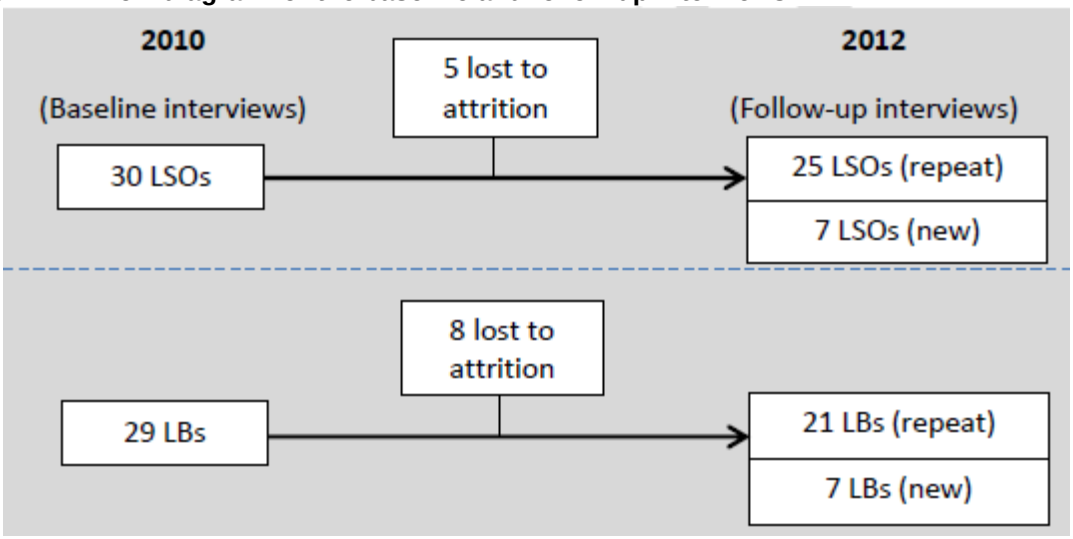
Methods

The analyses in this chapter are based on data from the MESAS commissioned Licensing Act evaluation and the Scottish School Adolescent Lifestyle and Substance Use Survey (SALSUS) 2010. The Licensing Act evaluation used mixed methods, including documentary review, qualitative interviews, focus groups, quantitative data collection from structured interviews with licensees and the collation and analysis of monitoring data. This chapter focuses on the findings from the qualitative interviews and focus groups with LSOs, Licensing Board and Forum members. The qualitative research was divided into two parts; part one was interviews of LSOs and Licensing Board members (clerks/depute clerks and convenors) in virtually all council areas in Scotland, at baseline in 2010 and at follow-up in 2012. The second part was a series of focus groups with Licensing Board and Licensing Forum members in five case study areas in 2011.

Part one:

Semi-structured telephone interviews were carried out at baseline between July to October 2010. Interviews were conducted with one LSO and one Licensing Board member per council area. Most of the Board members who took part were licensing clerks. At baseline, 30 of the 31 LSOs[a] were interviewed and 29 Board members of the 32 Licensing Boards were interviewed. Follow-up interviews were carried out between April to June 2012 and 25 of the LSOs and 21 of the Board members who had taken part at baseline were interviewed. In addition, seven new LSOs and seven new Licensing Board members were interviewed. A flow diagram for the interviews is presented in Figure 3.2.

Figure 3.2: Flow diagram for the baseline and follow up interviews



Note: LBs refers to Licensing Board members

The semi-structured schedules for the telephone interviews were developed by the evaluation team and agreed with the commissioners. The interview schedules comprised open and closed questions. The key themes which were addressed included the implementation of and compliance with the Act, the role and function of LSOs, Licensing Boards and Licensing Forums, the creation of Licensing Board policy statements based on the five licensing objectives, the creation of and use of overprovision assessments, staff training and enforcement of the law, irresponsible promotions and the impact of the Act. The content of the follow-up interviews was similar to that included in the baseline interviews, although questions related to the Alcohol Act (which came into force in October 2011) were added at follow-up.

All interviews were digitally recorded, with the interviewees' consent. During the baseline and follow-up interviews, members of the evaluation team also took detailed notes during the interview and wrote up a full near-verbatim account of the interview immediately after its completion. Transcripts were coded and thematic analysis was carried out on open-ended data.

Part two:

Part two comprised a series of focus groups in five case study areas to explore the issues addressed by the evaluation aims and objectives in more depth. Interviews were carried out between June and September 2011. Five different local authority areas were selected for in-depth study on the basis of:

- Areas in which the impact of the Act at baseline was reported as being 'very positive' on the one hand, to 'quite negative' or 'no impact' on the other
- Type of area: the five local authorities covered cities, towns and rural areas.

[a] One of the 32 council areas did not have an LSO in post, so the denominator is 31

Focus groups were carried out with Licensing Board members in each of the five case study areas. Focus groups were undertaken with Licensing Forum representatives in four of the five areas and interviews were carried out in the remaining area. The focus group and interview topic guides were developed by the evaluation team and agreed with the commissioners. The topic guides comprised open questions relating to the role and function of Licensing Boards and Forums and what impact they had. They also explored participants' views of the implementation of the Act locally and what the barriers and facilitators to implementation were.

The in-depth interviews and focus groups with key stakeholders, informants and case study respondents were digitally recorded, fully transcribed and entered into NVivo 9.2[14] for Framework, a programme which aids qualitative analysis. Thematic analysis was carried out, and the main resultant themes drawn out and reported upon. Framework is a matrix-based approach which provides a consistent method for synthesising and condensing verbatim transcripts, while retaining systematic within- and between-case investigation. Framework involves a number of stages. First, the key topics and issues which emerge from the research objectives and the data are identified through familiarisation with transcripts and other documents, such as the research brief and topic guides. The analytical framework is then drawn up. A series of thematic charts, or matrices, are set up each relating to a different thematic issue. The analysis involved working through the charted data in detail (Framework matrices), drawing out the range of experiences and views, identifying similarities and differences, developing and testing hypotheses, and interrogating the data to seek to explain emergent patterns and findings.

Data on self-reported source of alcohol by young people was extracted from SALSUS 2010 and converted from a tabular format into a stacked bar chart (Figure 3.3) to make changes over time more apparent.[15] SALSUS is a large cross-sectional survey conducted biannually in Scotland. The survey was designed to be representative of S2 and S4 school children in Scotland who are mainly 13 and 15 years old. The primary sampling unit for the survey was the class and, in each selected class, all pupils were invited to take part. All secondary schools (both state and independent) in every local authority were eligible to have classes sampled. Further details on the methods are available in the SALSUS national report and the Technical Report.[15,16]

Results

The results are structured around the Licensing Act theory of change (Figure 3.1) and are divided into two broad sections. The first focuses on improving licensing decisions, adherence to the law and controlling the availability of alcohol. It articulates how test purchasing and the enforcement of underage sales restrictions and the creation of Licensing Board policy statements and the appointment, training and function of LSOs, Licensing Boards and Forums is thought to contribute to controlling the availability of alcohol. The second addresses the environment in which alcohol is sold. It describes how the creation of overprovision assessments, staff training regarding the sale alcohol to someone who is drunk and the ban on irresponsible promotions are thought to contribute to creating safer drinking and wider environments.

Improving licensing decisions, adherence to the law and controlling availability

The development of Licensing Board policy statements based on the five licensing objectives was used as an indicator of improving licensing decisions. The appointment, role and training of LSOs, Board and Forum members and compliance with the Act were used as indicators of adherence to the law.

a) Creation of Licensing Board policy statements based on the five licensing objectives

Each Licensing Board has a duty to publish a licensing policy statement every three years which seeks to promote the five licensing objectives and include a statement as to the extent to which the Board considers there to be overprovision of licensed premises or licensed premises of a particular description, in any locality within the Board's area. When study participants were asked

about the creation of Licensing Board policy statements they reported that Boards were successful in creating, publishing and reviewing licensing policy statements. Although Board members described their policy statements as a *'work in progress'* they were encouraged by the fact that few legal challenges had been mounted. Respondents perceived that this indicated that that their policies were accepted and working well.

Respondents were subsequently asked which of the five licensing objectives they thought were being most and least successfully addressed in their areas at baseline (July to October 2010) and follow up (April to June 2012). Not everyone, though, found these easy questions to answer as, for example, there was a perceived overlap between some of the objectives and what they were setting out to achieve, such as the crime and disorder, public safety and public nuisance objectives. In addition, views expressed in both the interview and the case study phases demonstrated that not all Boards were thinking primarily in terms of the objectives, or indeed thought of Boards as being policy-driven in the way that development planning is.

The consensus of LSO, Board and Forum respondents was that the crime and disorder and the public safety objectives had been most successfully addressed. In addition, a majority of Board respondents also reported that the licensing objectives protecting children from harm and preventing public nuisance were quite successfully addressed.

> *'Preventing crime and disorder, securing public safety and protecting children from harm are all equal. Problem premises have been shut down or had their hours reduced and have been harshly, but fairly, dealt with. We are very rigorous in dealing with underage sales - we will shut premises and hold reviews and the Licensing Board are very supportive.'* (LSO 20, Follow up)

The general consensus of the LSOs, Board respondents and Forum representatives was that least progress had been made in relation to the objective concerned with *'protecting and improving public health'*. This view was expressed consistently throughout the study. Only one Licensing Board respondent stated that the public health objective was being most successfully addressed locally. Factors contributing to this perceived success included the Board gathering local alcohol-related impact data, as well as the development of an original overprovision policy.

> *'It's difficult to relate the concept of public health to a specific application. If the government are serious about this objective there needs to be more clarification and specific measures laid out in new legislation.'* (LB 6, Baseline)

b) Appointment, role & training of LSOs, Board & Forum members

Participants in the Licensing Act evaluation were asked about the role of LSOs. In general, LSOs perceived that their role had been successful. This view was echoed by Board members who felt that the LSO role enabled issues to be resolved before they reached a "critical stage".[17] Respondents felt that the effectiveness of LSOs was built upon them developing good relationships with professional groups (including the licensed trade and the police), providing guidance and information, and acting as mediators. LSOs themselves valued the support they received from their line managers and other LSOs. Their own professional background and the mandatory training they received were also important, particularly if they had held a similar role prior to the new Licensing Act.

> '*The role of the LSO has helped as they are seen to be policing that area and ensuring standards are maintained. Licensees are being a lot more wary and taking action before things get out of hand to prevent any crime and disorder [and this] has helped the potential success of the objective.'* (LSO 13, Follow up)

LSOs felt that their work had resulted in greater awareness of licensing issues among licensed trade professionals and other groups, including the public. It was felt that licensees were much more aware of their responsibilities, especially in relation to the training and monitoring of staff.[17] Board respondents reported that the compliance agenda had been strengthened: Boards were now able to suspend licences with immediate effect and LSOs were providing a valuable service on the ground - ensuring that licensees were complying with the legislation. It was also suggested that the new legislation had increased general awareness of those working in the trade of the responsibilities of licensing policy and its objectives.[17]

The findings in relation to Forums were less positive. From the point of view of Boards, the issues which were felt to be causing difficulties included a lack of leadership at the local Forum level, a lack of interest by Forums in responding to Board queries (e.g. in relation to overprovision), a perceived bias by Forums towards the licensed trade, a lack of understanding of what an ideal joint working partnership between Forums and Boards would look like and the difficulty for Forums in engaging and involving specific groups (e.g. young people).

The Licensing Act also brought in mandatory training for personal licence holders[b] and staff serving alcohol in premises[c]. Respondents were asked for their views on the Licensing Act's training requirements for licence holders and their staff. On the whole, Boards and LSOs viewed that training was operating well locally, and had helped increase awareness of pertinent issues among licensed trade staff. Some Board members provided positive examples of impact from the training and not leaving an outlet in the hands of junior staff members[d]. A common view among LSOs was that the licensed trade had improved its overall awareness and standards and was now more responsible on the whole as a result of compulsory training of staff.

> *'Standards within the licensed trade have improved directly because of the Act being taken seriously. The increased training of staff, the licensees take the running of their establishments more seriously and realise how important it is not to step out of line.'* (LSO 13, Follow up)

c) Maintaining compliance with the Licensing Act

Compliance with the Act was perceived to be high by participants in the Licensing Act evaluation. There was a consensus that irresponsible promotions in the on-sales sector had reduced after the Licensing Act was implemented. At baseline (July to October 2010), it had been suggested that some premises had been *'working their way'* around the legislation regarding the mandatory requirement for alcohol prices to be fixed for at least 72-hours in order to curb *'happy hour'* type promotions. Although this was still an issue at follow-up (April to June 2012), there appeared to be more acceptance of on-trade premises *'taking a hit'* by reducing prices for three days earlier in the week before raising their prices again at the busier weekend period.

> *'From the compliance visits, where we have found issues, the licence holders have fixed them, are complying. We have had fewer complaints from the public because the licensees are doing what they should be doing. Before the Alcohol Act came in last year we went round the local Pub Watches, identified the changes and that was passed on. We also went round the off-sales to make sure they were aware, which was well received.'* (LSO 29, Follow up)

[b] Must be an accredited Personal Licence Holder qualification

[c] Training to last a minimum of two hours covering a set syllabus (as set out in the Licensing Training of Staff (Scotland) regulations 2007). Training to be provided by either a personal licence holder or an approved trainer

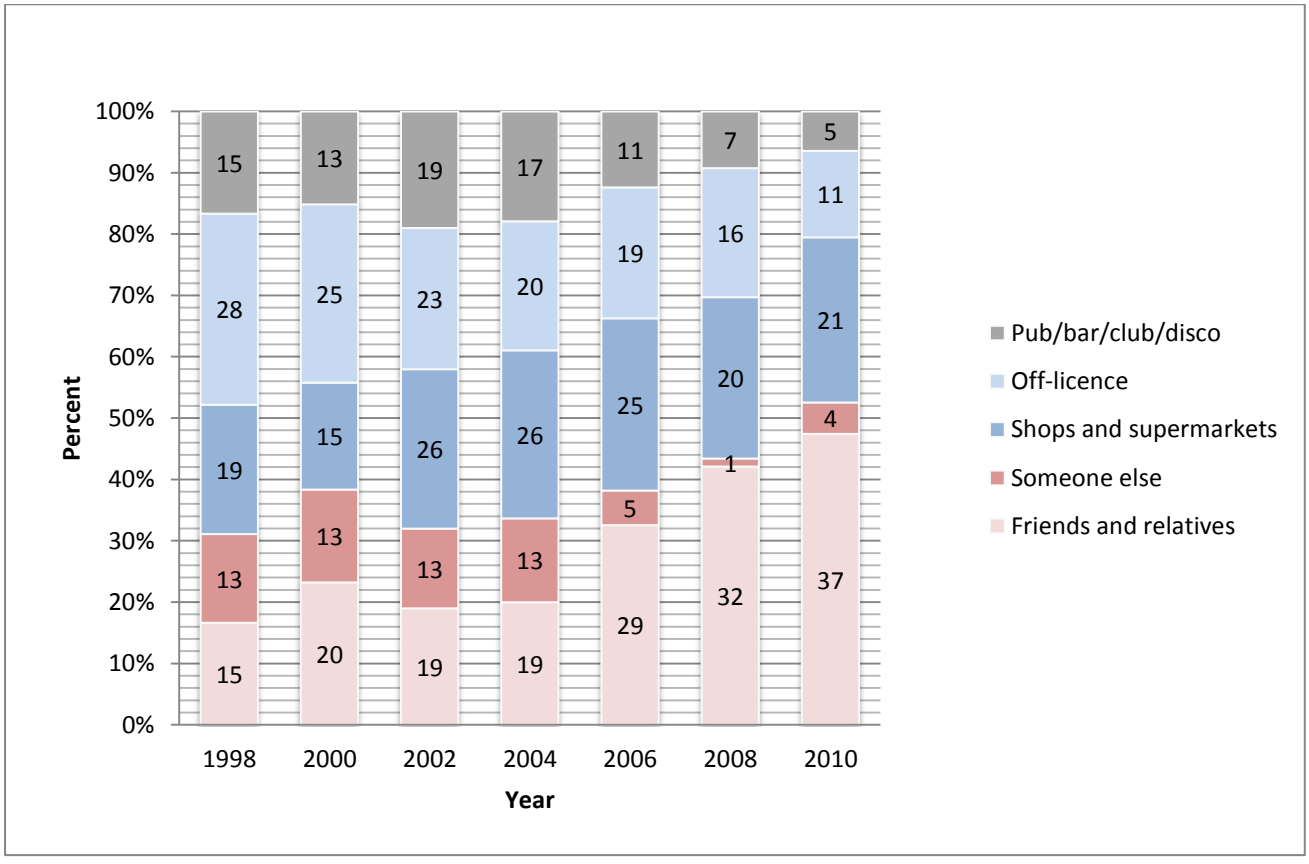
[d] Please note that only late opening premises (as defined in the Licensing Act) have a legal requirement to have a PLH on the premises.

d) Availability of alcohol to young people in Scotland

One of the elements of the Licensing Act is test purchasing which was hypothesised by NHS Health Scotland to contribute to reduce the availability of alcohol to under 18s (Figure 3.1). The commissioned evaluation attempted to collect and analyse monitoring data relevant to test purchasing and breaches of regulations on underage alcohol sales for the time period 2000-2011. However, the fluctuations in the data, possibly reflecting changes in police strategies or recording patterns over time or within different areas, made it impossible to identify any robust trend in alcohol offences over time. Consequently, data from existing surveys were sought to identify trends in the availability of alcohol to young people over time to attempt to assess the impact of the Licensing Act now and in the future.

Data from SALSUS[15] were identified as being a relevant source of data. SALSUS describes trends in the sources of alcohol between 1998 and 2010 for 15 year olds who reported ever having drunk alcohol (Figure 3.3). Purchases from the on-trade (pubs/bars/clubs and discos) increased between 2000 and 2002 but then decreased from 19% to 5% in 2010. Patterns of purchases in the off-trade vary between types of premises. Purchases from off-licences steadily decreased since 1998 from 28% to 11%, whereas purchases from supermarkets decreased from 1998 to 2000 before increasing again to 26% in 2002. However, since 2002 purchases from shops and supermarkets decreased to 21%. The proportion of young people alcohol obtaining from friends and relatives (with or without their agreement) has increased from 19% to 37% between 2004 and 2010 whilst the proportion obtained from "someone else" decreased from 13% in 2004 to 4% in 2010, representing 9% increase in the overall proportion obtaining alcohol through an agent.

Figure 3.3: Sources of purchased alcohol between 1998 and 2010 for 15 year olds living in Scotland who have ever drunk alcohol[15]



Source: SALSUS 2010, Table 3.19

Note: Respondents could give more than one answer.

Creating safer drinking and wider environments

This section describes the contribution of overprovision assessments, staff training and the prohibition of irresponsible promotions to the creation of safer environments.

a) The creation of overprovision assessments

Although Licensing Boards managed to create licensing policy statements successfully, they found it difficult to address overprovision within these statements. It was hypothesised that overprovision assessments would be used as the basis for the refusal of licences in areas deemed to be overprovided. However, Boards found it difficult to assess overprovision largely due to the difficulty of defining and measuring capacity and overprovision:

> *'Under the old Act, it was very simple. It was shops. You had seven shops, somebody wanted another one, we would have a moratorium in an area for instance, we had that power. The nearest we've got to that is overprovision…So, 'overprovision', is it shelf space? Is it shops?..* [meaning supermarkets] *is..How many* [small] *shops would you say that is?'* (Focus Group, Licensing Board A, Case studies)

The issue was perceived to not be solely about the sources of data or methodology for calculating density or provision, but of interpreting the data, specifically how to balance the perceived conflicting aims of achieving the licensing objectives through reducing crime and disorder and health harms, with the economic benefits of granting licences and thereby securing local business. One Board representative, for example, suggested that overprovision was not a concern locally because the Board and *'other key agencies'* regarded licence applications as business opportunities, particularly in the context of a perceived loss of licences resulting from the economic downturn. Another respondent cited the difficulty of refusing certain types of licence where there was an *'economic case'* for development. In one area, respondents described the interventions of those they described as *'health professionals'* as unhelpful, particularly if they were seen as favouring a blanket ban on all new licences in specific areas. In other areas, however, health concerns seemed to have been given a higher priority.

The difficulty of weighing up the different considerations is perhaps also implicit in the comment made by one Board, which, when describing the problem of determining what criteria to use to assess overprovision, cited the example of areas which might have a *'surplus'* of *'well run'* outlets compared with an area with a lower number of outlets but creating more difficulties within the community. In summary, although in general Boards developed their overprovision assessments robustly, consulting widely and gathering appropriate data, participants did not know whether these data influenced decisions on applications for licences in overprovided areas.

Only five Board respondents at follow-up felt that overprovision was an issue of relevance for their area. Respondents stated that local sources of data, including crime figures, confirmed that their Board areas did have an overprovision issue, or that there had been local *'hot spots'* that had to be addressed in the future. However, it is clear that many areas don't consider overprovision to currently be a problem, with a view expressed that the number of licences had reduced due to a number of non-licensing factors. It is not surprising then that the majority of Board respondents were unable to express a view as to how successful their Board had been in dealing with overprovision. Board respondents who stated that they had been successful in dealing with overprovision said that they had identified areas of overprovision, and had refused licence applications as a result of this (although a challenge from a large supermarket had been received in one case).

> *'We have only one area of over-provision. It's in our policy and it's a very small defined area in the town centre. It's not a big problem, there have been refusals on those grounds but I can't say there has been much impact. I think only the 2005 Act dealt with overprovision. I think the 2010 Act might have tweaked things but it was the 2005 Act that set out the overprovision legislation.'* (LSO 15, Follow up)

b) Staff training and enforcement of the law regarding selling someone who is drunk
It was not possible to collect data on the number of refusals to serve alcohol to individuals who are drunk and how this changed over time. Instead, it was hypothesised that staff training could be used as a proxy measure. Generally, Boards felt that the Licensing Act had helped to raise licensed trade standards. The mandatory training requirement for personal licence holders and all staff who serve alcohol was felt to have increased awareness of the requirements of the legislation.

> *'the big thing has been training - both for licence holders and staff. Refusal to sell alcohol to people already drunk and to under-age has been a direct result of training.'* (LSO 11, Follow up)

Implementation of, and compliance with, training requirements was supported by the role of LSOs in monitoring staff training, through checking training records, for example, and through Boards being able to issue warning notices or endorse or revoke licences in cases of non-compliance. Continuing poor practice, such as serving alcohol to someone who was underage, or who was drunk, was, though, also identified. Some respondents questioned the quality of training provided to staff by some personal licence holders, and the support available to staff once trained if, for example, they were unable to speak English.

c) Irresponsible promotions
The Licensing Act prohibits irresponsible promotions, defined at Schedule 3 and 4 of the Act.[9] Study participants were asked whether they felt the Licensing Act had had an impact on irresponsible promotions. The views of respondents during the case study phase and follow-up interviews were that the Licensing Act had had a positive impact on pubs and clubs, with happy hours and other promotions now no longer a major issue. This is further evidenced by fewer Board respondents reporting that they had taken action against premises that were deemed to be utilising irresponsible promotions. At baseline (in 2010), it had been suggested that some premises had been working their way around the legislation regarding the mandatory requirement for alcohol prices to be fixed for at least 72-hours in order to curb *'happy hour'* type promotions. Although this was still an issue at follow-up (in 2012), respondents perceived that the on-trade were in the most part now complying with the law.

> *'The Alcohol Act 2010 has certainly tightened up provisions of the 2005 Act. I think the licensees have been made more aware of these provisions by government circulars… so there is a better awareness of what is considered to be an irresponsible promotion. Prior to the 2010 Act there was more room for misinterpretation.'* (Licensing Board member 10, Follow-up)

Although irresponsible promotions in the on-trade were now reported as being largely dealt with, those who had expressed negative views did so because of the lack of perceived impact of the Licensing Act on off-trade outlets. Participants were critical of the cost and volume of alcohol sold in the off-trade.

> *'I think there has been a large impact on the* [on] *trade due to the 2005 Act. Now there are very few promotions run at all. The 2010 Act initially had a big effect on off sales but that has waned recently to the point we are back where we started. They have just played with the wording… instead of 3 bottles for £10 now it's one bottle for £3.33, they are very clever with manipulating wording to fit within the restrictions so there is no longer any real impact.'* (LSO 16, Follow up)

This contrasts with analysis undertaken by NHS Health Scotland which identified that:

'The Alcohol Act was associated with a 2.6% decrease in per adult off-trade alcohol sales in Scotland (95% CI -5.3 to 0.2%; P=0.07). This decline was driven by changes in off-trade wine sales, which decreased by 4.0% after the Act was introduced (95% CI -5.4 to -2.6; P<0.001).' (NHS Health Scotland, The impact of the Alcohol Act on off-trade alcohol sales in Scotland, 2013[18])

Discussion

Main results

The evaluation of the Licensing Act reported that, in general, many of the activities outlined in the theory of change (Figure 3.1) were implemented as intended; however, a minority of the activities were perceived to be problematic. The appointment, training and functioning of LSOs and Licensing Board members was perceived positively by study participants. Staff training for the alcohol trade regarding serving someone who is drunk was also well received and staff were perceived to be knowledgeable about their legal and social obligations. Yet, it is more difficult to determine whether this resulted in a change of their serving behaviour.

Study participants reported that Licensing Boards had successfully created licensing policy statements based on the five licensing objectives, and that compliance with the Licensing Act was high. Participants also felt that the Licensing Act had reduced irresponsible promotions of alcohol in the on-trade sector but felt it had had little impact in the off-trade, particularly regarding price. Data from self-reported surveys indicate that alcohol may be less available to young people in Scotland through purchases from on and off-sales now than since 1998. However, there has been a gradual switch to young people obtaining alcohol from friends and families (with or without agreement) and the proportion of young people obtaining alcohol from this source has steadily increased since 2004. The changes which have been observed predate the implementation of the Licensing Act and more data are required to identify whether the Act has had an impact on purchases by young people from on and off-sales.

The evaluation identified a number of issues regarding the Licensing Act which were less positive. The role and functioning of Forums was viewed as being problematic, participants also felt that Licensing Boards were not managing to address the public health objective and although overprovision assessments had been undertaken by Licensing Boards they found it difficult to both define and measure overprovision. It was also not possible to identify whether overprovision had been used as a basis for refusals of licences. As a result, it seems unlikely that the availability of alcohol is being restricted or reduced consistently across Scotland.

Strengths and limitations of analysis

The qualitative approach used made it possible to explore how the implementation of the Licensing Act has progressed. However, it was not possible to verify the views of study participants and the evaluation was limited in its ability to identify changes in outcomes which the Licensing Act was hypothesised to achieve (for example controlling overprovision). The research did not measure changes in more distal outcomes, such as crime and assault. These issues will be examined in the future as part of the MESAS portfolio.

A high proportion of LSOs from each council area in Scotland participated in the interviews so the views of LSOs who participated should represent those of LSOs as a whole. With regards to the interviews of Licensing Board members, only a single individual of each board was interviewed so it is possible that their views do not represent those of all Board members. In addition the majority of participants were licensing clerks and so might not represent views of other groups of Board members (e.g. councillors).

The qualitative data collection carried out as part of the case studies are likely to be illustrative of the views of members of the Licensing Board members and Licensing Forum representatives for

the areas which were selected. Case study areas were purposefully selected to include a range of views on the implementation of the Licensing Act. Consequently, it is reasonable to assume that they are illustrative of the views of Boards and Forums as a whole.

How it fits with other literature

There is considerable academic literature that regulating the availability of alcohol can reduce excessive alcohol consumption and alcohol related harms since *"greater outlet density is associated with increased alcohol consumption and related harms, including medical harms, injury, crime, and violence."*[19,20] The Licensing Act is an attempt to regulate the availability of alcohol in Scotland and participants in the Licensing Act evaluation reported that many of the key activities within the Act, such as the appointment, training and functioning of LSOs and Licensing Board members, had been implemented as intended.

There is also a great deal of literature that the availability of alcohol is associated with alcohol related harm and there is emerging evidence that changing the availability of alcohol can result in changes in alcohol related harm.[21,22] Yet, there was no consensus between participants in the Licensing Act evaluation that areas with high levels of alcohol outlets, or areas with "*an over provision of licensed premises*"[9] were being targeted by Licensing Boards to attempt to limit the availability of alcohol. There was a perception among participants that it was difficult to both define and measure overprovision and some respondents felt that overprovision was not straightforward and needed to be balanced against other issues such as the perceived economic benefits of granting licences.

This perception contrasts with the evidence on overprovision. The impact of alcohol outlet density is wider than just alcohol related harm, there is evidence that *"A greater density of alcohol outlets is associated with higher alcohol consumption among young people, with increased levels of assault and with other harms such as homicide, child abuse and neglect, self-inflicted injury and, with less consistent evidence, road traffic accidents*.[20] Freisthler and colleagues[23] report that the number of bars per 1,000 population is positively related to the rate of physical abuse of children, and that the number of bars per 1,000 population is positively related with the occurrence of substantial neglect, or higher rates of child maltreatment cases.[24,25]

Training of staff was used as a proxy for refusals to serve alcohol to someone who is drunk. The findings from the Licensing Act evaluation indicate that the uptake of training is improving. There is consistent published evidence that training bar staff improves their knowledge and attitudes and has some effect on serving practices when accompanied by police enforcement, licence inspectors and management support, although not always.[20,26] The good working relationship between LSOs and the trade reported in the Licensing Act evaluation, provide the opportunity for the education of staff to continue and for the serving environment to keep improving. What is less clear is whether these attitudes have, or will have an impact on serving behaviour of staff.

Gaps in our knowledge of the impact of the Licensing Act

Although there is systematic review level evidence demonstrating that the enforcement of laws on underage sales can reduce levels of alcohol possession by those aged under 18 years and underage alcohol sales,[27] it is not clear whether the Licensing Act has reduced the availability of alcohol to young people. Data from SALSUS seem to show 15 year olds are now less likely to buy alcohol both in the on trade and off-trade (off-licences, shops and supermarkets) but there has been a steady increase in the proportion of young people obtaining alcohol from friends and relatives (with or without their agreement) over the past nine years. Overall, more data points are required to identify whether the Licensing Act has had an impact on the availability of alcohol for under 18s.

Despite the fact that there is evidence that an increasing density of alcohol outlets is associated with increased alcohol consumption and harms,[19] how the density of alcohol outlets varies across different areas in Scotland has yet to be established. Data on the number of alcohol outlets in

council areas are recorded and regularly reported but not at a level of detail to identify changes to density in local areas over time or to be able to robustly analyse the relationship between density and harm in Scotland. They also lack differentiation by size and type of outlet which could be important when exploring the relationship between density and harm.[22] Such research is underway[28,29] and it is anticipated that the availability of alcohol will be examined as part of the MESAS portfolio in the future if possible.

Implications

The findings from the Licensing Act evaluation indicate that many of the activities in the Licensing Act were perceived to have been successfully implemented, but a number of problems were also identified. The fact that Licensing Boards found it difficult to define and measure overprovision, and the sanguine view of overprovision which some individuals with influence hold, makes it unlikely that overprovision assessments are being used fully to reduce alcohol outlet density and hence alcohol availability. As stated previously, there is insufficient access to robust and detailed publicly available local level data on the number, size, type and capacity of alcohol outlets in postcodes or datazones to identify how the density of alcohol outlets varies between areas, if it is changing over time and whether it is changing as a result of legislation. Obtaining more detailed data are essential if questions on outlet density are to be answered.[29] Data are also needed on whether new licences have been refused on the basis of overprovision.

In addition, Licensing Boards need support to address the public health objective. Collecting data on alcohol related harm at a local level could be beneficial as would accurate data on the density of alcohol outlets. Another issue which emerged from the Licensing Act evaluation was the difficulties facing Forums both in terms of their role and function. If their role could be clarified and strengthened they could be a key part in alcohol licensing in Scotland.

Lastly, it is important to recognise that licensing concerns regulating the sale and supply of alcohol, not explicitly reducing the availability of alcohol. Provisions that could plausibly reduce availability were limited – mainly overprovision assessment and these were not widely used. Changes in the availability of alcohol are more likely to be due to market forces rather than legislation. The Act provided Licensing Boards with the powers to assess and potentially refuse new licences; it does not have the power to withdraw existing licences, unless there has been a breach of the legislation. If the aim were to reduce the availability of alcohol, other provisions would be required.

Future research

The evaluation of the Licensing Act has identified a number of areas for further research which could be explored. Research to examine how alcohol availability changes over time needs to be conducted. In addition, it is important to identify what impact alcohol policy has had on availability. The issue of overprovision also merits further research; including identifying whether and to what extent overprovision has been used to reject applications for new licenses.

Conclusion

The analysis in this chapter has identified that a number of activities within the Licensing Act (including the appointment, training and functioning of LSOs and Boards, the removal of irresponsible promotions in the on-trade and the creation of licensing policy statements) were perceived by study participants to have been implemented as intended and respondents felt that compliance with the Act was high. Identifying what long-term impacts these activities have had, or will have is more challenging. It is not clear whether the Licensing Act has reduced the availability of alcohol to young people, or whether it has caused an increase in refusals to serve someone who is drunk. The problems Licensing Boards experienced defining and measuring overprovision makes it unlikely that the density of alcohol outlets will have been addressed. However, there is inadequate data to identify whether that has been the case.

4. Alcohol consumption

Introduction

Reducing population levels of alcohol consumption as a component of reducing alcohol-related harm is a key outcome of Scotland's alcohol strategy. In the Monitoring and Evaluating Scotland's Alcohol Strategy (MESAS) baseline report, alcohol retail sales data were used to show trends in per adult consumption in Scotland and England & Wales.[1] The validity and reliability of these data for this specific purpose have since been confirmed, although the estimates are still likely to underestimate true levels of alcohol consumption.[2,30]

Understanding and monitoring patterns of alcohol consumption, such as adherence to drinking guidelines, as well as differences between population subgroups, is also important. This relies on data obtained from self-report surveys. The limitations of these methods are well known and include biases pertaining to sampling, response rate, social desirability and recall ability.[31] Nonetheless, surveys provide valuable information not available from aggregated sales data.

The aim of this chapter is to describe levels and patterns of alcohol consumption in Scotland using the most appropriate and up-to-date data available comparing, where possible, with other countries in Great Britain. The World Health Organization (WHO) recommends the triangulation of multiple data sources to ensure the most comprehensive understanding of alcohol consumption levels and patterns within a country.[32] Thus, although analyses of the most recent retail sales data were published in August 2013[8] they are reproduced in this report alongside analyses based on survey data.

Methods

A brief description of the data sources used and indicators presented is provided below. More detailed information is available from previous MESAS reports and the original data sources, which are cited throughout this section.

Alcohol duty clearances

Her Majesty's Revenue and Customs (HMRC) collect data on UK alcohol duty clearances. These figures reflect the volume of product released for sale by manufacturers and wholesalers based upon excise duty declarations and are converted to pure alcohol volumes (litres) using estimated average strengths (percentage Alcohol by Volume; ABV) of spirits, beer, cider and wine. In previous MESAS annual reports, UK alcohol clearances have been presented from 1994 onwards because this is the first year for which alcohol retail sales data for individual countries are available. To provide a more historical perspective of recent clearance levels, this report presents data for 1900-2012. Per capita clearances by drink type for 1900-1969 were obtained from the Cancer Research UK website.[33] Per capita clearances by drink type for 1970-2012 were calculated from the British Beer and Pub Association (BBPA) Statistics Handbook[34] which provides a) total per capita consumption and b) percentage share of market by drink type. Alcohol clearances for 1994-2012 were provided by the BBPA. Per adult (aged ≥16 years) clearances for this time period were calculated using mid-year population estimates for the UK available from the Office for National Statistics (ONS).[35]

Retail sales

Annual data on alcohol retail sales in Scotland and England & Wales were obtained from a partnership between market research specialists, Nielsen and CGA Strategy (CGA) (hereafter 'Nielsen/CGA'), for 1994, 1995 and 2000-2012. The volume of alcohol sold (litres) was provided for the on-trade by CGA and for the off-trade by Nielsen across eight alcoholic drink categories: spirits, wine, beer, cider, ready to drink beverages (RTDs), perry, fortified wine and 'other'. The volume of each drink category sold was converted into pure alcohol volume using a category-

specific ABV. The ABV used was based on the typical strength of drinks sold in that category and was provided by the data suppliers. Per adult alcohol sales were calculated by dividing pure alcohol volumes (litres of pure alcohol) by the total population aged ≥16 years. Mid-year population estimates for Scotland were obtained from National Records of Scotland and for England & Wales from the Office for National Statistics. A detailed description of the methods used by Nielsen/CGA to produce alcohol retail sales estimates is provided in an earlier MESAS report.[2]

From September 2011, Nielsen was no longer able to estimate off-trade sales by discount retailers Aldi and Lidl. As such, all off-trade sales data provided since September 2011 (including estimates for the full 2011 calendar year) have been defined as "Off-trade excluding discount retailers". The phrase 'discount retailers' or 'discounters' is used to refer to Aldi and Lidl throughout this report. To enable continuation of the time series presented in the baseline report, adjustment factors have been applied to the 2011 and 2012 off-trade sales estimates. Adjustment factors were provided by Nielsen and were based on the market share of discounters drawn from Nielsen's 'HomeScan' consumer panel data. Discounter market share estimates were provided separately for Scotland and England & Wales and, where possible, for individual drink categories. More detail is provided in the MESAS August update report.[7]

Retail sales estimates may differ slightly to those previously published as they continue to be improved retrospectively after being supplied. Consequently, the most recent data provided by Nielsen/CGA are considered the best available because they provide the most robust review of the alcohol trade.

Self-report surveys

Table 4.1 provides a summary of the surveys used to estimate indicators of self-reported alcohol consumption. For adults in Scotland, England and England & Wales, data were drawn from the Scottish Health Survey (SHeS)[36], Health Survey for England (HSE)[37] and General Lifestyle Survey (GLF)[38], respectively. A justification of the surveys used for different indicators of alcohol consumption was provided in the MESAS baseline report.[1] The results presented are based on the most recent data available at the time of analysis unless otherwise stated.

SALSUS reports biennially and has not been updated since the last MESAS annual report was published. Indicators of children's alcohol consumption have therefore not been updated or republished in this report.

The survey data presented in this chapter provide a snapshot of key indicators of self-reported alcohol consumption in Scotland and England & Wales. Further information, including additional patterns of consumption and sociodemographic breakdowns, can be found in the original survey reports, as well as in the Alcohol Statistics Scotland[39] and Statistics on Alcohol: England compendia.[40]

Table 4.1: Sources of survey data used to estimate self-reported alcohol consumption

Indicator	Country	Year	Source
Adults			
Usual weekly alcohol consumption	Scotland	2003; 2008-2011	SHeS
	England & Wales	2006-2011	GLF
Abstinence	Scotland	1998; 2003; 2008-2011	SHeS
	England & Wales	2000-2011	GLF
Consumption on heaviest drinking day in the past week	Scotland	2003; 2008-2011	SHeS
	England	2006-2011	HSE
Problem drinking	Scotland	1998; 2003; 2008-2011	SHeS
Alcohol Use Disorders Identification Test (AUDIT)	Scotland	2012	SHeS

Notes: SHeS=Scottish Health Survey; GLF=General Lifestyle Survey; HSE=Health Survey for England.

Presentation of results

All data were analysed descriptively. Self-report survey estimates were either drawn from published reports or produced by analysing original survey datasets using the Statistical Package for the Social Sciences version 19.0. All survey estimates have been weighted (for age, sex, non-response and selection) unless otherwise stated. The complex samples module was not used to produce survey estimates and the precision of estimates (confidence intervals) is not presented. Due to rounding, differences expressed as percentages may not exactly equal those calculated using the figures presented in this report. Data used to create the figures presented in this chapter are provided in the supporting excel spreadsheets on the MESAS web pages.[41]

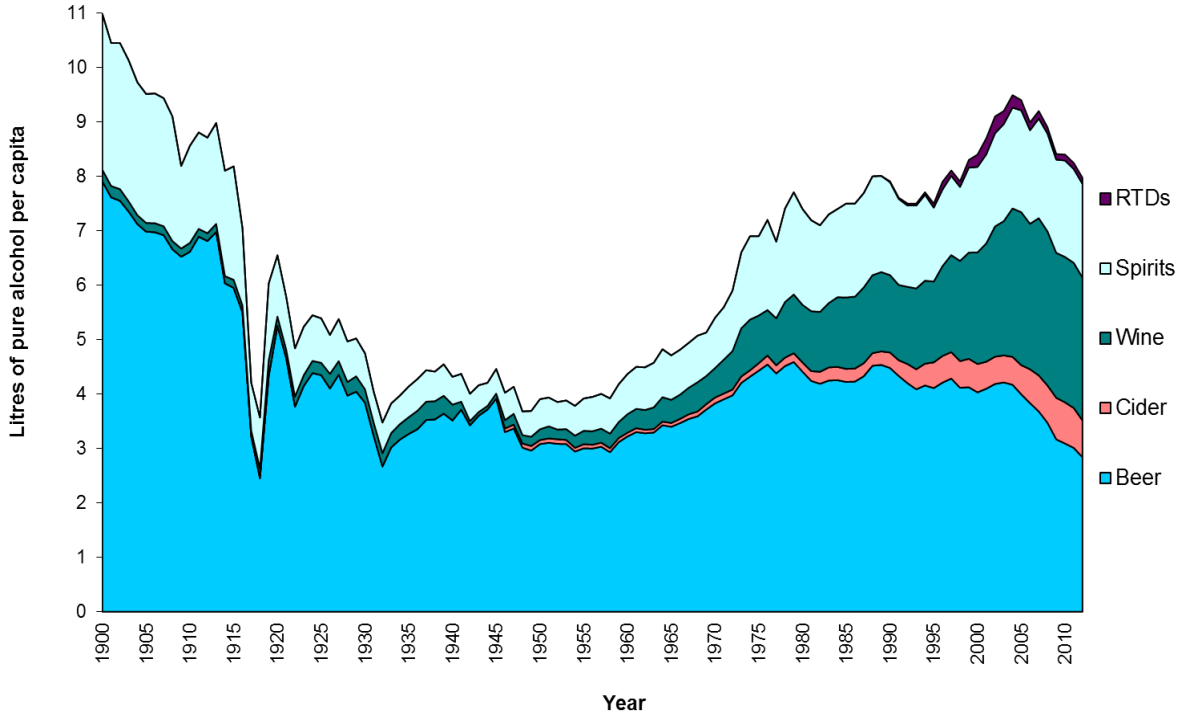
All estimates of consumption which are expressed per adult in this chapter (sales- and survey-based), and are not broken down by drinking category, include non-drinking adults in the denominator.

Results

Alcohol duty clearances

The volume of pure alcohol cleared for sale per capita in the UK has varied considerably over the last century (Figure 4.1). Per capita clearances were highest at the start of the 1900s before a fluctuating downward trend to 1950 (with notable sharp declines during the inter-war years and the economic recessions of the 1920s and 1930s). From 1950, alcohol clearances more than doubled from 3.9L per capita to a peak of 9.5L in 2004. There has since been a downward trend, falling by 16% to 8.0L in 2012. The sharp increase in the 1990s was largely driven by an increased volume of wine cleared for sale.

Figure 4.1: Litres of pure alcohol cleared for sale per capita in the UK, 1900-2012



Sources: Cancer Research UK[33]; British Beer and Pub Association[34]. Note: Denominator includes non-drinkers.

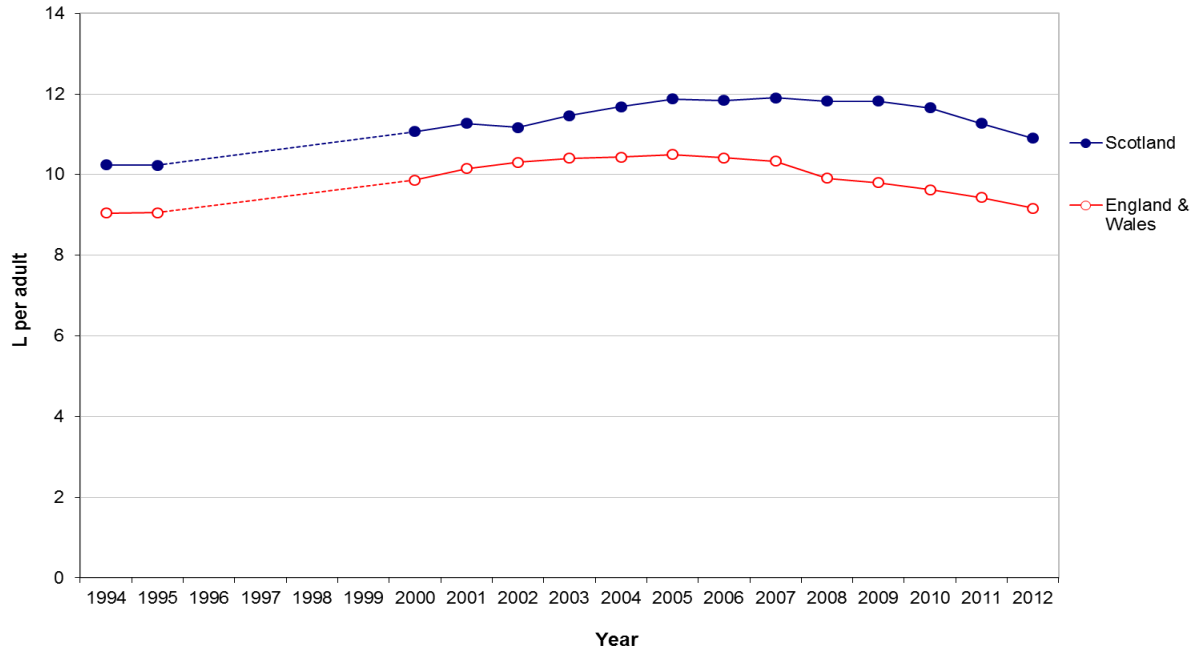
Retail sales data

Per adult alcohol sales, 1994-2012

In last year's update report, it was shown that the volume of pure alcohol sold per adult in Scotland fell by 5% between 2009 and 2011. This followed a 5-year stable trend and represented the first year-on-year decline in Scotland since 1994, the earliest year for which alcohol retail sales data are available. Analysis of the most recent data suggests a further 3% decline in per adult sales, from 11.3L in 2011 to 10.9L in 2012 (Figure 4.2). Alcohol sales in Scotland were 6% higher in 2012 than in 1994.

In England & Wales, the downward trend in per adult alcohol sales observed since 2005 continued, decreasing from 9.4L in 2011 to 9.2L in 2012. Thus, in 2012, 19% more alcohol was sold per adult in Scotland than in England & Wales (Figure 4.2).

Figure 4.2: Litres of pure alcohol sold per adult (aged ≥16 years) in Scotland and England & Wales, 1994-2012



Source: Nielsen/CGA sales dataset (off-trade sales in 2011 and 2012 were adjusted to account for the loss of discount retailers). Note: Denominator includes non-drinkers.

Per adult alcohol sales by market sector, 1994-2012

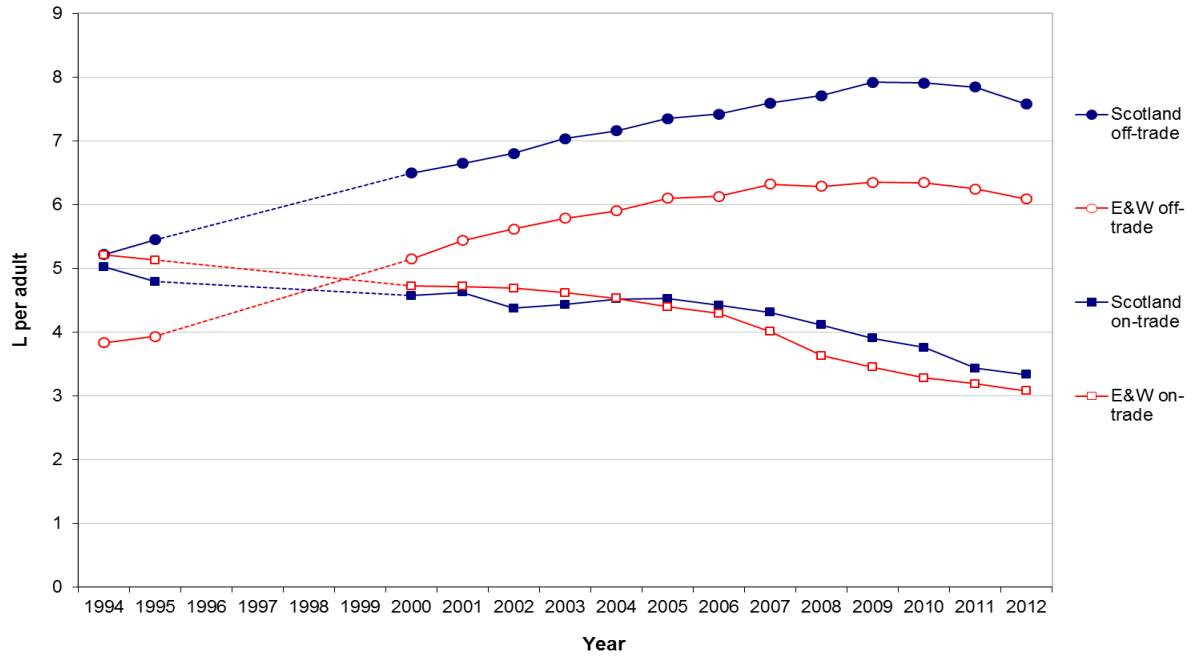
The volume of pure alcohol sold per adult through the off-trade in Scotland increased from 5.2L in 1994 to 7.6L in 2012, an overall increase of 45%. In contrast, on-trade sales per adult decreased by 34% over the same time period, from 5.0L in 1994 to 3.3L in 2012. Thus, of the total volume of pure alcohol sold in Scotland in 2012, 69% was sold through the off-trade, compared with 51% in 1994 (Figure 4.3).

Between 2011 and 2012, off-trade sales in Scotland decreased by 3% from 7.8L to 7.6L per adult. This was the first notable decrease in off-trade sales since the start of the time series and followed a 3-year broadly stable trend.

In England & Wales, 3.8L of pure alcohol were sold through the off-trade in 1994 compared with on-trade sales of 5.2L. By 2012, off-trade sales increased by 59% to 6.1L per adult, while on-trade sales decreased by 41% to 3.1L per adult. The off-trade market now accounts for 66% of the total volume of alcohol sold in England & Wales, compared with 42% in 1994 (Figure 4.3).

Between 1994 and 2012, there has been a consistent pattern of higher off-trade sales in Scotland. In 2012, 24% more pure alcohol was sold per adult through the off-trade in Scotland compared with the rest of Great Britain, accounting for 86% of the total difference in on- and off-trade sales combined. On-trade sales per adult were broadly similar in Scotland and England & Wales between 1994 and 2006. Between 2006 and 2010 the decline in on-trade sales in Scotland was slower than in England & Wales. Since 2010 there has been a slight convergence in trends, but in 2012 on-trade sales remained 8% higher in Scotland (Figure 4.3).

Figure 4.3: Litres of pure alcohol sold per adult (aged ≥16 years) in Scotland and England & Wales, by market sector, 1994-2012



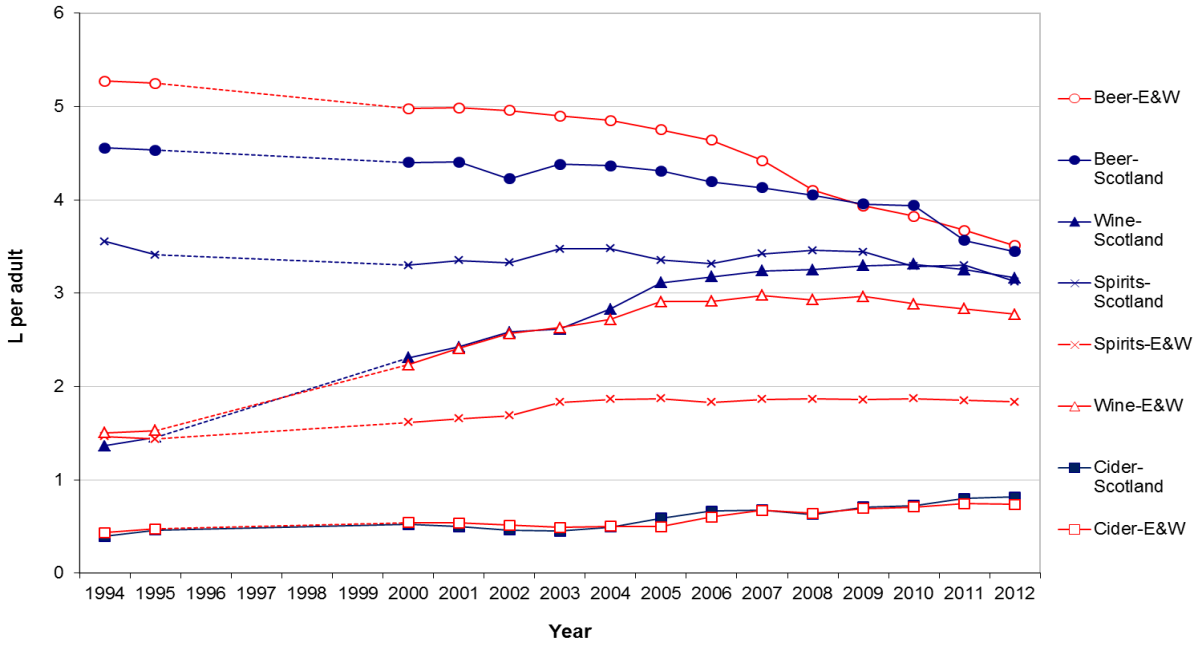
Source: Nielsen/CGA sales dataset (off-trade sales in 2011 and 2012 were adjusted to account for the loss of discount retailers). Note: Denominator includes non-drinkers.

Per adult alcohol sales by drink type, 1994-2012

Figure 4.4 shows trends in per adult sales of pure alcohol sold as different drink categories in Scotland and England & Wales. In Scotland, the volume of pure alcohol sold as beer per adult decreased steadily from 4.6L in 1994 to 3.4L in 2012, a decline of 24%. The volume of wine sold per adult more than doubled over the time series, from 1.4L in 1994 to 3.2L in 2012; however, wine sales decreased slightly between 2010 and 2012. Per adult sales of spirits remained broadly stable in Scotland between 1994 and 2011, mostly fluctuating between 3.3L and 3.5L per adult. This was followed by a decline to 3.1L per adult in 2012, the lowest volume of spirits sold per adult in Scotland in this period. Although the volume of cider sold per adult is relatively low compared with other drink categories, the volume sold in 2012 (0.8L per adult) was double that sold in 1994 (0.4L per adult) and was the only drink category to increase in 2012. There has been little change in the volume of pure alcohol sold as 'other' drink categories (not shown in graph). In terms of market share, in 1994 beer accounted for 44% of the total volume of pure alcohol sold in Scotland, spirits for 35%, wine for 13% and cider for 4%. In 2012, beer accounted for 32%, spirits for 29%, wine for 29% and cider for 7% (Figure 4.4).

In England & Wales, sales of beer fell at a faster rate than in Scotland, decreasing by 33% between 1994 and 2012, from 5.3L to 3.5L per adult. Wine sales doubled between 1994 (1.5L per adult) and 2009 (3.0L per adult), before declining slightly to 2.8L per adult in 2012. There was an increase in the volume of pure alcohol sold as spirits between 1994 (1.5L per adult) and 2003 (1.8L per adult), with only minor fluctuations thereafter. Cider sales almost doubled in England & Wales between 1994 (0.4L per adult) and 2012 (0.7L per adult), but have been relatively static since 2009. Sales of 'other' drink types in England & Wales peaked in 2002 (0.6L per adult) and have since steadily declined (0.3L per adult in 2012). These changes over time are reflected by shifts in the market share of the major drink categories. In 1994 beer accounted for 58% of the total alcohol market share in England & Wales, wine for 17%, spirits for 16% and cider for 5%. By 2012, beer accounted for 38%, wine for 30%, spirits for 20% and cider for 8% (Figure 4.4).

Figure 4.4: Litres of pure alcohol sold per adult (aged ≥16 years) in Scotland and England & Wales, by drink category, 1994-2012



Source: Nielsen/CGA sales dataset (off-trade sales in 2011 and 2012 were adjusted to account for the loss of discount retailers). Note: Denominator includes non-drinkers.

In 2012, of the additional volume of alcohol sold off-trade in Scotland, the majority (67%) was attributable to higher spirits sales. This represents 57% of the total difference in on- and off-trade sales combined. The most notable difference was in off-trade sales of vodka, which were 2.2 times higher in Scotland than in England & Wales (1.0L versus 0.5L per adult), while whisky sales were 1.6 times higher than those in England & Wales (0.8L versus 0.5L per adult).[e] Per adult sales of all other drink types sold through the off-trade were also higher in Scotland, although the differences were less marked (Table 4.2).

Table 4.2: Differences between Scotland and England & Wales in the volume of pure alcohol sold off-trade per adult (aged ≥16 years), by drink type, 2012

			Differences between areas in off-trade sales of drink types, expressed as:		
	Scotland off-trade sales (L per adult)	England & Wales off-trade sales (L per adult)	Difference in volume (L per adult)	%of the total difference in off-trade sales (1.5L per adult)	%of the total difference in on- and off-trade sales combined (1.7L per adult)
Spirits	**2.5**	**1.5**	**1.0**	**67**	**57**
Vodka	1.0	0.5	0.6	37	32
Whisky	0.8	0.5	0.3	19	16
Gin	0.2	0.1	0.1	5	4
Rum	0.2	0.1	0.1	7	6
Other spirits	0.3	0.3	0.0	0	0
Wine	**2.5**	**2.3**	**0.2**	**15**	**13**
Beer	**1.7**	**1.6**	**0.1**	**8**	**7**
Cider	**0.6**	**0.5**	**0.1**	**7**	**6**
Other	**0.3**	**0.3**	**0.0**	**3**	**2**
Total	**7.6**	**6.1**	**1.5**	**100**	**86**

Source: Nielsen/CGA sales dataset (off-trade sales in 2011 and 2012 were adjusted to account for the loss of discount retailers). Note: A standard adjustment factor was used for all spirits subtypes based on the discounter market share provided for the overall spirits category. Due to rounding, differences may not exactly equal those calculated using the figures presented. Denominator includes non-drinkers.

[e] Due to rounding, relative differences may not exactly equal those calculated using the figures presented.

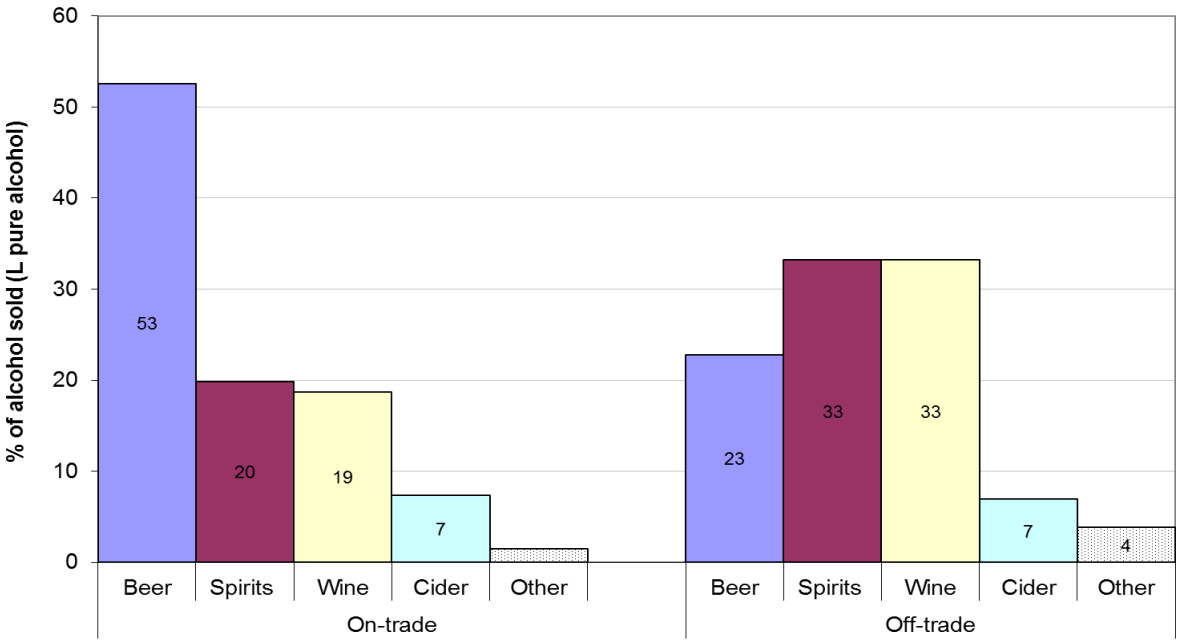
Alcohol retail sales in Scotland, by market sector and drink type 2012

A total of 47.6 million litres of pure alcohol were sold in Scotland in 2012: 69% (33.1 million litres) was sold through the off-trade and 31% (14.5 million litres) through the on-trade. Most spirits (79%), wine (80%), and cider (70%) were sold through the off-trade. Beer was the only category of drink for which a slight majority of alcohol was sold through the on-trade (51%) (Figure 4.4).

Of the total volume of pure alcohol sold through the on-trade in Scotland in 2012, 53% was sold as beer, 20% as spirits, 19% as wine, 7% as cider and 1% as 'other'. By comparison, 23% of the total volume of pure alcohol sold through the off-trade was sold as beer, 33% as spirits, 33% as wine, 7% as cider and 4% as 'other' (Figure 4.5).[f]

The price band dataset provided by Nielsen (see Chapter 5, Methods) is broken down into smaller drink categories than the 'sales' dataset and was used to calculate the proportion of drink subtypes (e.g. cider is broken down into regular and strong cider) presented in Figure 4.6.

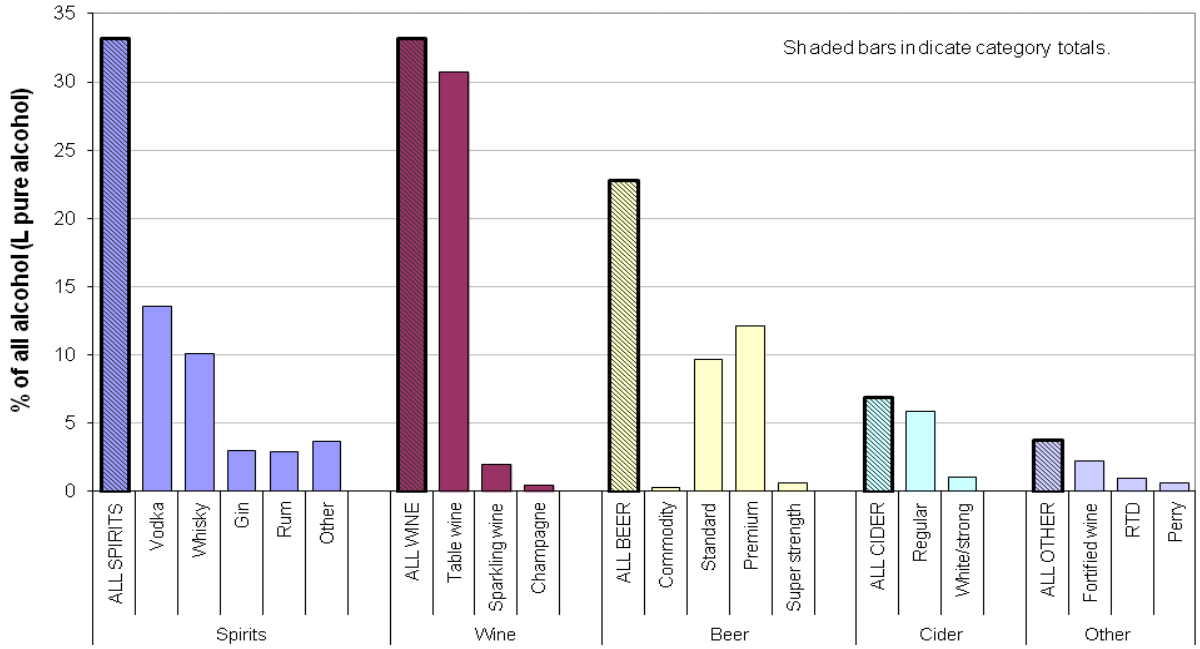
Figure 4.5: Proportion of alcohol sales (litres of pure alcohol) through the on- and off-trade, by drink category (Scotland, 2012)



Sources: On-trade = Nielsen/CGA sales dataset (off-trade sales adjusted to account for the loss of discount retailers); Off-trade = Nielsen price band dataset (excluding discount retailers)

[f] Off-trade market share estimates are drawn from the unadjusted price band dataset to enable comparison with Figure 4.6. The estimates are very similar to those based on the adjusted sales dataset (beer=22%; spirits=33%; wine=34%; cider=8%; 'other'=4%).

Figure 4.6: Proportion of off-trade alcohol sales (litres of pure alcohol), by drink category and type (Scotland, 2012)



Source: Nielsen price band dataset (excluding discount retailers). Note: RTD=Ready to Drink beverages. Beer subtypes differ by strength (%ABV): Commodity (0-1.2%); Standard (1.3-3.3%); Premium (3.4-7.5%); Super strength (>7.5%).

Self-reported alcohol consumption from national surveys

Adults

Usual weekly alcohol consumption

Usual weekly alcohol consumption, Scotland and England & Wales: time trend

Estimates from the SHeS suggest that mean self-reported weekly alcohol consumption among adults in Scotland declined from 14.1 units in 2003 to 11.1 units in 2011. Among men, average weekly alcohol consumption fell from 19.8 to 15.0 units per week and for women from 9.0 to 7.4 units per week (Figure 4.7). The proportion of adults who report exceeding the recommended weekly drinking guideline[g] has also decreased, from 28% in 2003 to 21% in 2011. Among men, the proportion exceeding the weekly drinking guideline fell from 33% in 2003 to 25% in 2011, while among women there was a decline from 23% in 2003 to 18% in 2011, although there has been no change since 2009 (Figure 4.8). Overall, the declining trends in self-reported alcohol consumption are steeper among men than women.

In England & Wales, figures from the GLF indicate that between 2006 and 2011 average weekly alcohol consumption decreased from 13.7 to 11.0 units per adult per week. A downward trend was reported for both sexes over the same time period (from 18.9 to 15.2 units per week among men and from 9.1 units to 7.3 units per week among women) (Figure 4.7). The proportion of adults exceeding the recommended weekly drinking guideline in England & Wales also fell

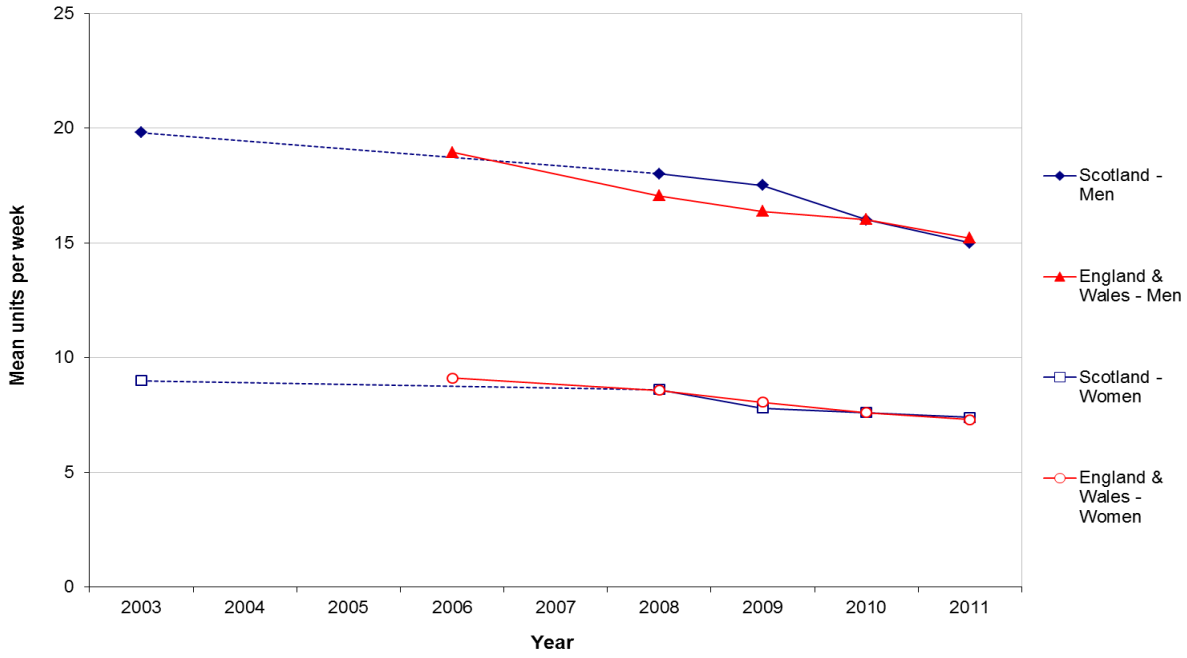
[g] The recommended weekly drinking guideline is no more than 21 units for men and no more than 14 units for women. Drinking levels are categorised as follows: non-drinker (never drinks alcohol nowadays); moderate (>0 units and up to 21 units per week for men; >0 units and up to 14 units for women); hazardous (>21 units and up to 50 units per week for men; >14 units and up to 35 units per week for women); harmful (men over 50 units per week; women over 35 unit per week).

between 2005 and 2011, from 31% to 24% among men and from 20% to 16% among women (Figure 4.8).

Hazardous and harmful consumption, Scotland: time trend

Figure 4.7 showed a decline in mean weekly alcohol consumption among adults in Scotland between 2003 and 2011. This is attributable to a combination of other trends. For example, there has been an increase in the proportion of non-drinkers and moderate drinkers in Scotland, with concomitant decreases in the proportion of adults categorised as drinking at hazardous and harmful levels (Figure 4.9).[h] In addition, the mean number of units consumed per week by harmful drinkers has decreased over time, while the trend for moderate and hazardous drinkers has been stable (Figure 4.10).

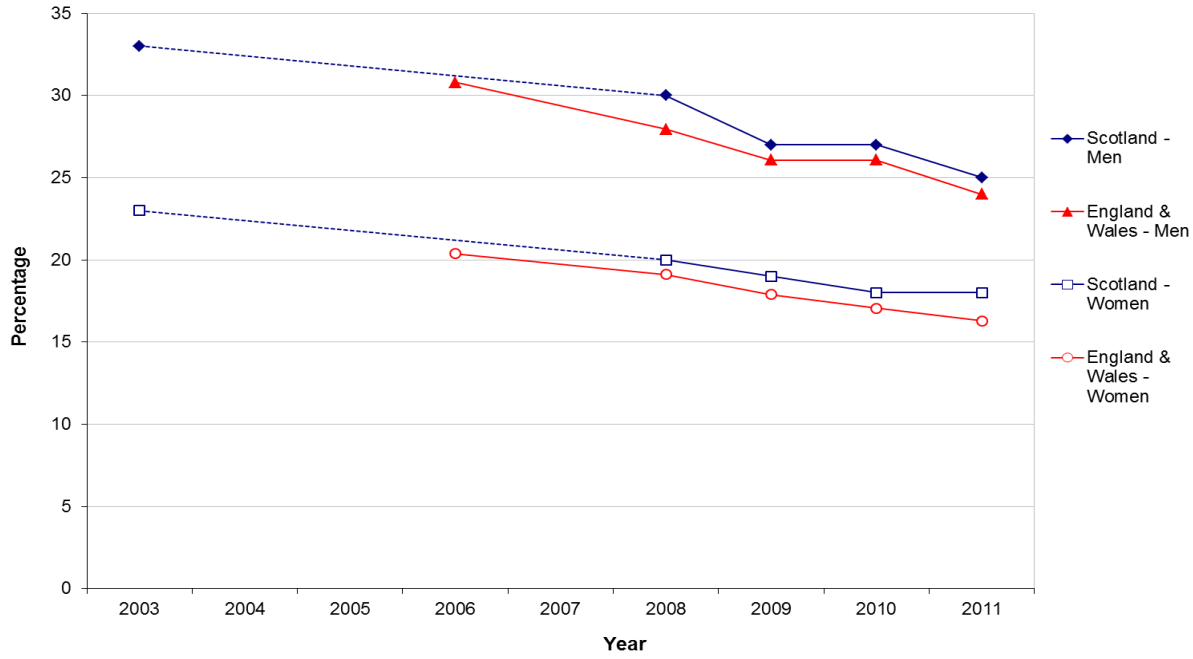
Figure 4.7: Estimated mean weekly alcohol consumption (units per week) of all adults (aged ≥ 16 years) in Scotland (2003-2011) and England & Wales (2006-2010)



Sources: Scottish Health Survey; General Lifestyle Survey. Note: Denominators includes non-drinkers. GLF estimates for 2010 are based on quarter 4 of 2010 and quarters 1-3 of 2011.

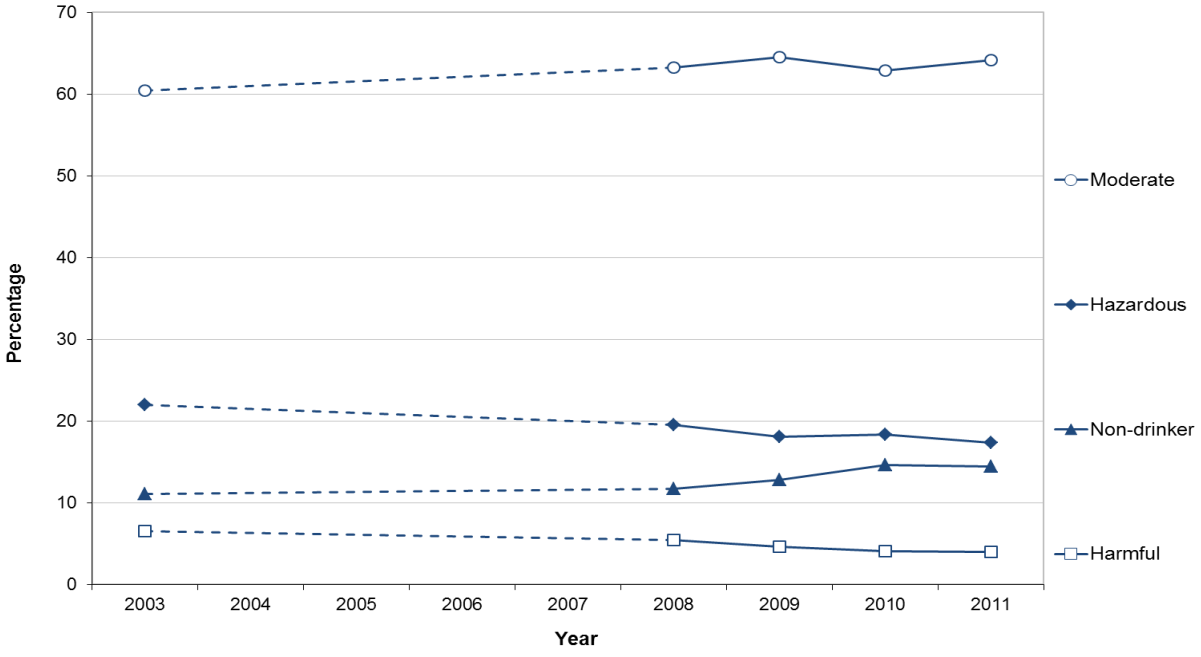
[h] Drinking levels are categorised as follows: non-drinker (never drinks alcohol nowadays); moderate (>0 units and up to 21 units per week for men; >0 units and up to 14 units for women); hazardous (>21 units and up to 50 units per week for men; >14 units and up to 35 units per week for women); harmful (men over 50 units per week; women over 35 unit per week).

Figure 4.8: Proportion of all adults (aged ≥16 years) exceeding the recommended weekly drinking guidelines* in Scotland (2003-2011) and England & Wales (2006-2010)



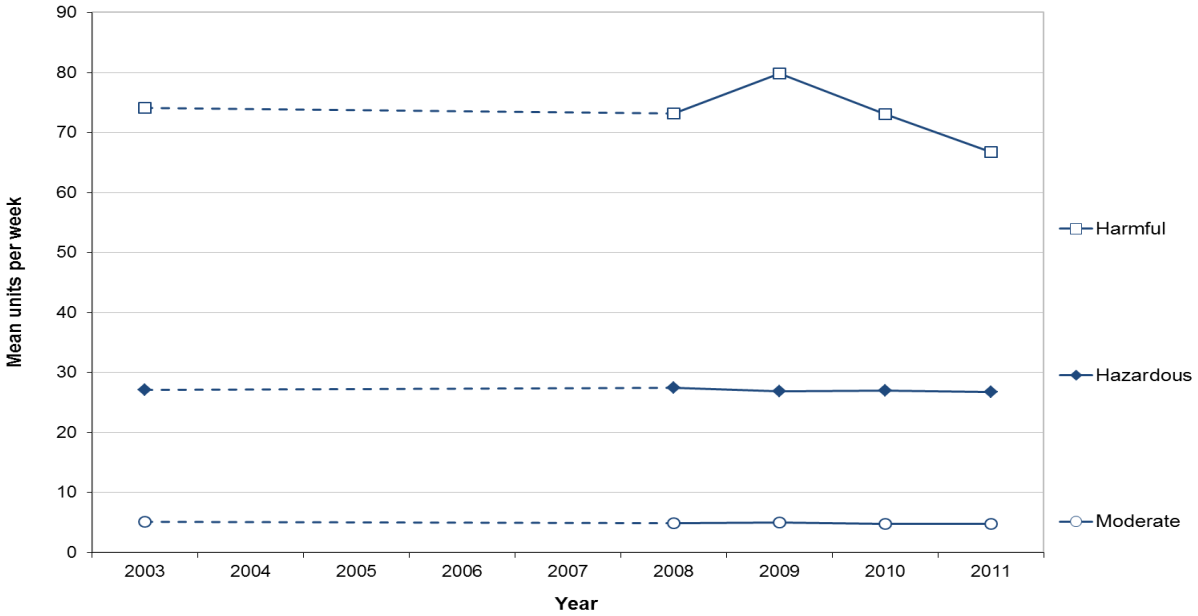
Sources: Scottish Health Survey; General Lifestyle Survey. *Men >21 units per week, Women >14 units per week.
Note: Denominators includes non-drinkers. GLF estimates for 2010 are based on quarter 4 of 2010 and quarters 1-3 of 2011.

Figure 4.9: Proportion of adults (aged ≥16 years) in different drinking categories* in Scotland, 2003-2011



Source: Scottish Health Survey. *Moderate (>0 units and up to 21 units per week for men; >0 units and up to 14 units for women); Hazardous (>21 units and up to 50 units per week for men; >14 units and up to 35 units per week for women); Harmful (men over 50 units per week; women over 35 unit per week).

Figure 4.10: Mean weekly alcohol consumption of adults (aged ≥ 16 years) categorised as moderate, hazardous or harmful drinkers* in Scotland, 2003-2011

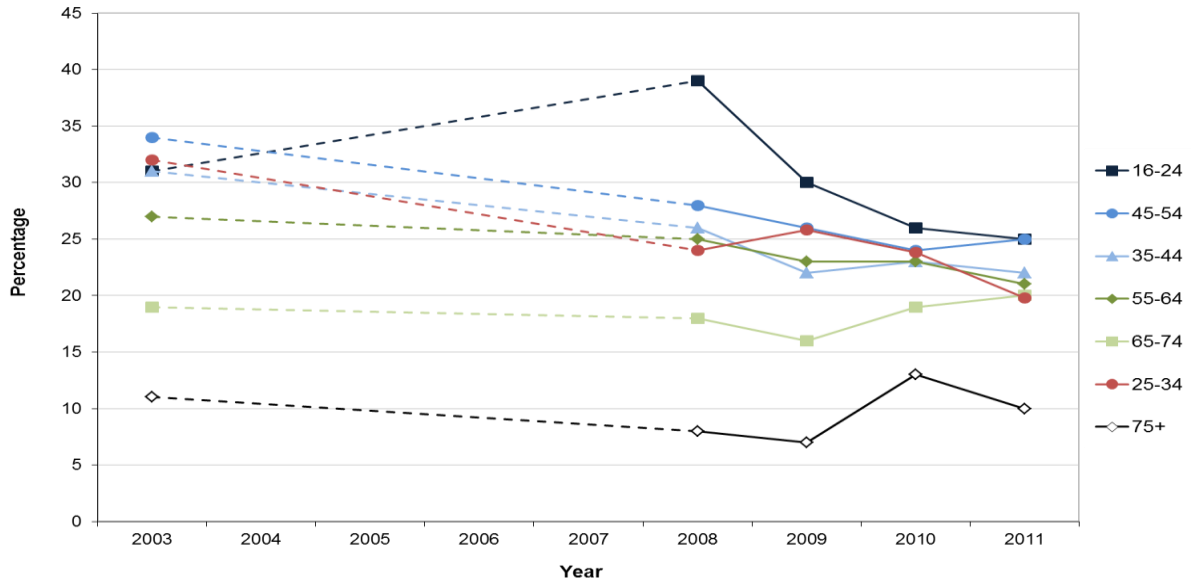


Source: Scottish Health Survey. *Moderate (>0 units and up to 21 units per week for men; >0 units and up to 14 units for women); Hazardous (>21 units and up to 50 units per week for men; >14 units and up to 35 units per week for women); Harmful (men over 50 units per week; women over 35 unit per week).

Usual weekly alcohol consumption, by age group, Scotland: time trend

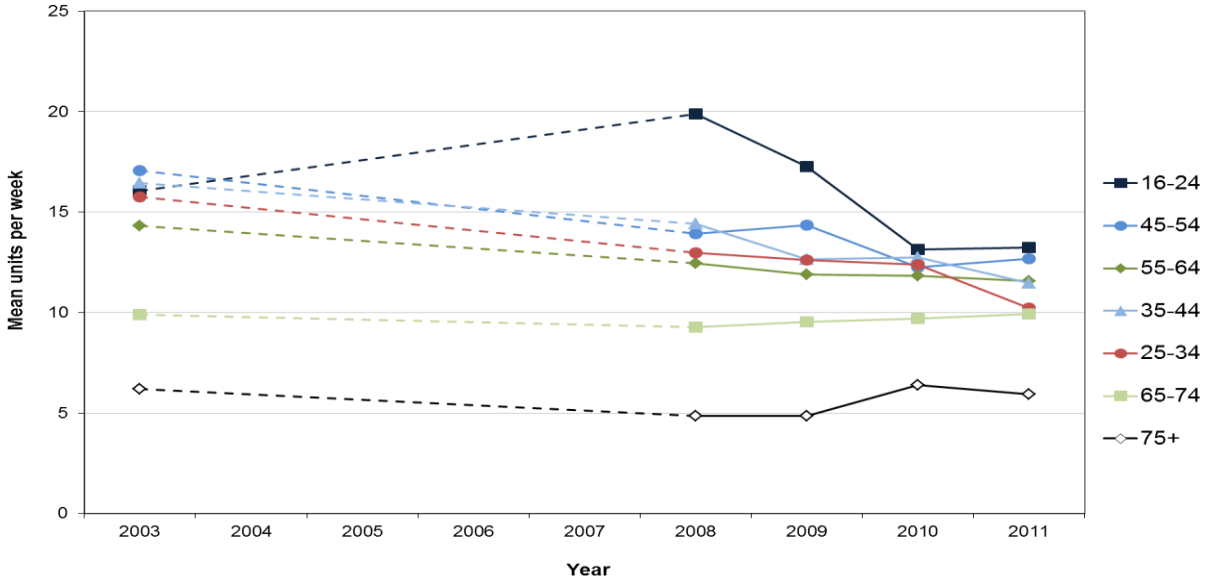
Between 2003 and 2011, the proportion of adults exceeding the recommended weekly drinking guidelines declined across all age groups, with the exception of those aged ≥65 years (Figure 4.11). The proportion of young adults (aged 16-24 years) who exceeded weekly drinking guidelines increased from 31% in 2003 to 39% in 2008 followed by a sharp 14 percentage point decline to 25% in 2011. There was a similarly marked decline in mean weekly units consumed per week between 2008 and 2011 among this (16-24 years) age group (Figure 4.12). The pattern remained when non-drinkers were excluded from the analysis to account for changes in the proportion of non-drinkers over this time period (data not shown).

Figure 4.11: Proportion of adults (aged ≥16 years) exceeding the recommended weekly drinking guidelines* in Scotland, by age group, 2003-2011



Source: Scottish Health Survey. *Men >21 units per week, Women >14 units per week. Note: Denominators includes non-drinkers.

Figure 4.12: Mean weekly unit consumption in Scotland, by age group, 2003-2011

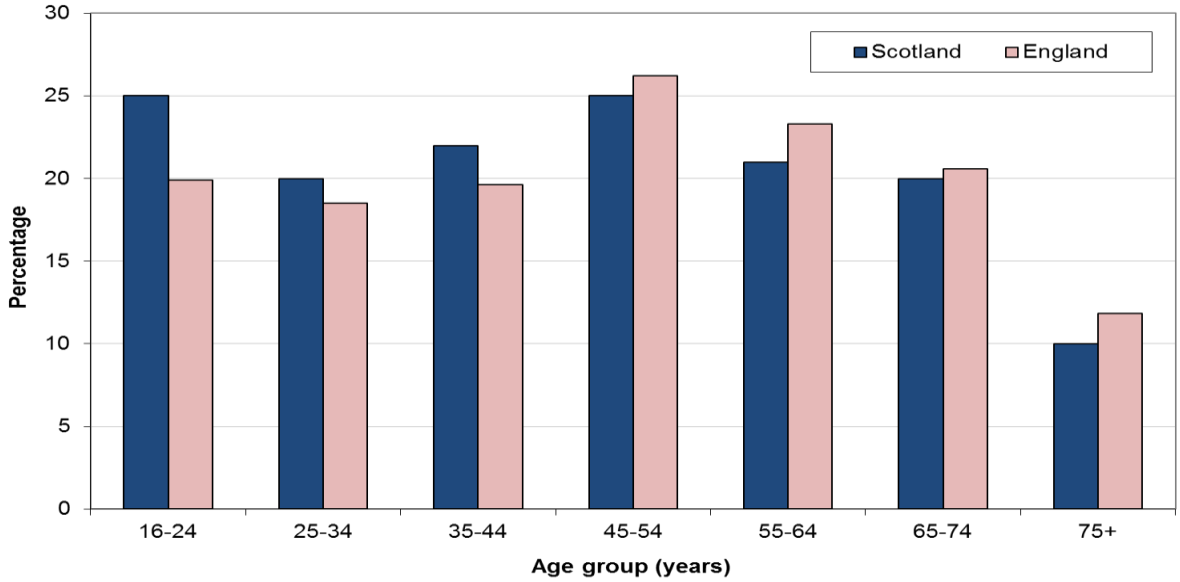


Source: Scottish Health Survey. Note: Denominators includes non-drinkers.

Usual weekly alcohol consumption, by age group (Scotland and England)

In 2011, differences in the proportion of adults aged ≥25 years in Scotland and England who exceeded recommended weekly drinking guidelines were small (Figure 4.13). Adults aged over 75 years were the least likely to exceed the weekly drinking guideline (Scotland=10%; England =12%). The largest difference observed between countries was in the youngest age group: 25% of adults aged 16-24 exceeded the weekly guidelines in Scotland compared with 20% in England (Figure 4.13). A similar pattern by age and between countries is evident when considering mean weekly unit consumption (data not shown).

Figure 4.13: Proportion of adults (aged ≥16 years) exceeding the recommended weekly drinking guidelines* in Scotland and England, by age group, 2011



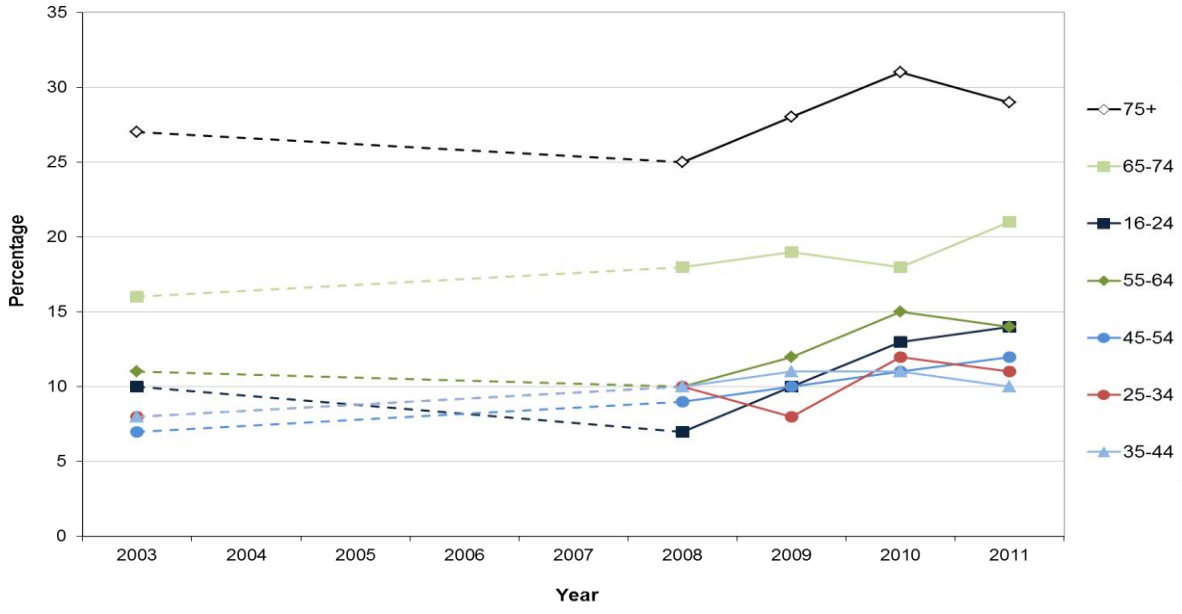
Sources: Scottish Health Survey; Health Survey for England. *Men >21 units per week, Women >14 units per week.
Note: Denominators includes non-drinkers.

Abstinence (Scotland and England & Wales)

The proportions and trends of adults reporting that they are non-drinkers (i.e. respondents who reported that they never drink alcohol nowadays) are similar across Great Britain. In Scotland, the SHeS shows that the proportion of adults reporting that they are alcohol abstainers increased from 10% in 1998 (16-74 years only) to 14% in 2011. Most of this increase occurred between 2008 and 2011, including a doubling in the prevalence of abstention among young adults (aged 16-24 years) (Figure 4.14).

In England & Wales, the GLF suggests an increase in non-drinkers from 10% in 2000 to 16% in 2011 (data not shown).

Figure 4.14: Proportion of non-drinking adults (aged ≥16 years) in Scotland, by age group, 2003-2011



Note: Non-drinking adults are those who reported never drinking alcohol nowadays and include ex-drinkers.

Alcohol consumption on the heaviest drinking day in the previous week, Scotland and England: time trend

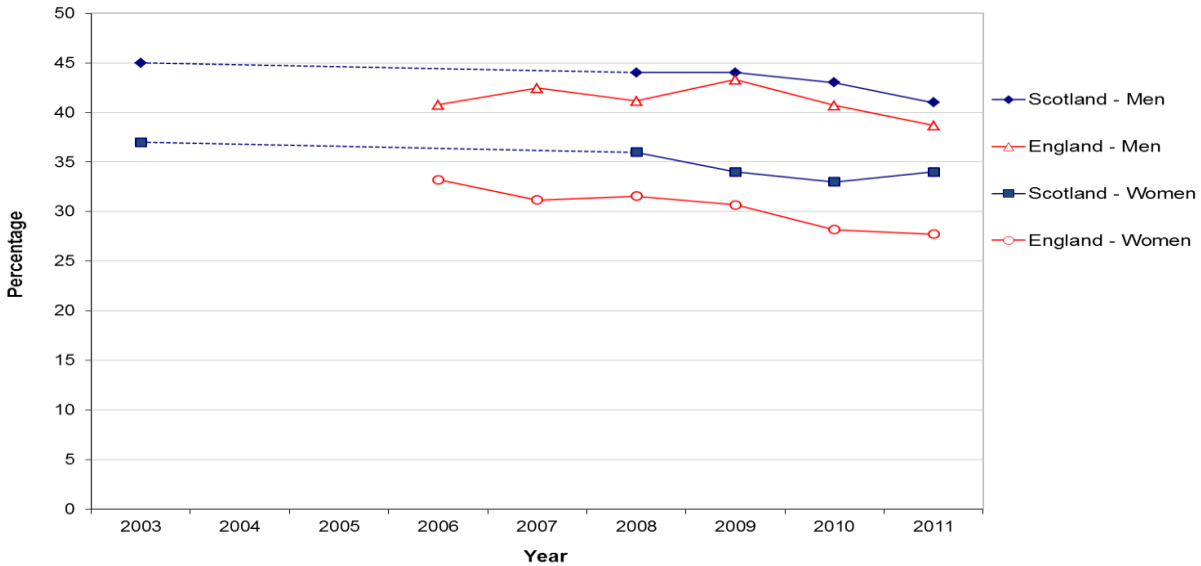
The SHeS suggests that there has been a small decline in the mean number of units consumed by adults in Scotland on their heaviest drinking day in the previous week, from 4.9 in 2003 to 4.3 in 2011. Mean heaviest drinking day consumption among men fell from 6.5 in 2003 to 5.5 in 2011, with half (0.5 units) of this decrease occurring between 2010 and 2011. Among women, there was a small decline from 3.6 units in 2003 to 3.2 units in 2010; most of this decrease occurred between 2003 and 2009.

The proportion of men in Scotland exceeding the recommended daily drinking guideline (>4 units) on their heaviest drinking day in the past week remained broadly stable between 2003 (45%) and 2010 (43%) but decreased to 41% in 2011, suggesting an overall downward trend. There has also been a small decline in the prevalence of men drinking more than twice the recommended daily units (>8 units), from 29% in 2003 to 25% in 2011. Figures for women indicate that the proportion exceeding both the daily drinking guideline (>3 units: 37% in 2003, 34% in 2011) and twice the daily drinking guideline (>6 units: 19% in 2003, 17% in 2011) have continued to decrease, but there has been no notable change since 2009 (Figure 4.15 & Figure 4.16). In 2011, the mean unit consumption of men and women in Scotland who exceeded twice the daily drinking guideline was 15.5 and 11.4 units, respectively.

In England, the HSE shows that the proportion of all adults who exceeded the recommended daily drinking guidelines on their heaviest drinking day during the previous week fell slightly from 37% in 2006 to 33% in 2011 (Figure 4.15). This trend can mostly be attributed to the observed decline among women (33% in 2006, 28% in 2011), as the fall among men has been less marked (41% in 2006, 39% in 2011). Despite some fluctuations, the proportion of men who consumed more than twice the recommended daily guideline (>8 units) declined slightly between 2006 (24%) and 2011 (22%). There was also a slight but steady decrease among women (16% in 2006, 13% in 2011) (Figure 4.16).

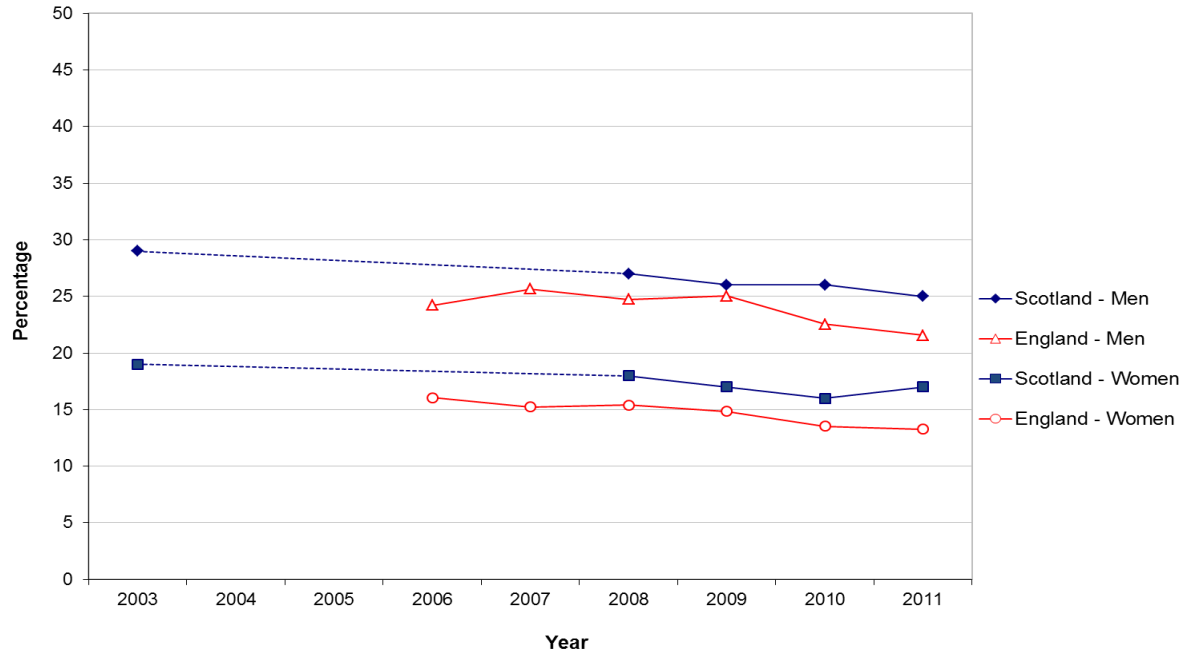
These data suggest that self-reported alcohol consumption on the heaviest drinking day in the past week is higher in Scotland than in England. Although any differences between countries are small for both sexes, they are larger among women. Statistical analyses would be required to test if any of the differences are statistically significant.

Figure 4.15: Proportion of adults (aged ≥16 years) exceeding the recommended daily drinking guidelines* in Scotland (2003-2011) and England (2006-2011), by sex



Sources: Scottish Health Survey; Health Survey for England. *Men >4 units on heaviest drinking day in the past week; Women >3 units on heaviest drinking day in the past week. Note: Denominators includes non-drinkers.

Figure 4.16: Proportion of adults (aged ≥16 years) exceeding twice the daily recommended drinking guidelines* in Scotland (2003-2011) and England (2006-2011), by sex



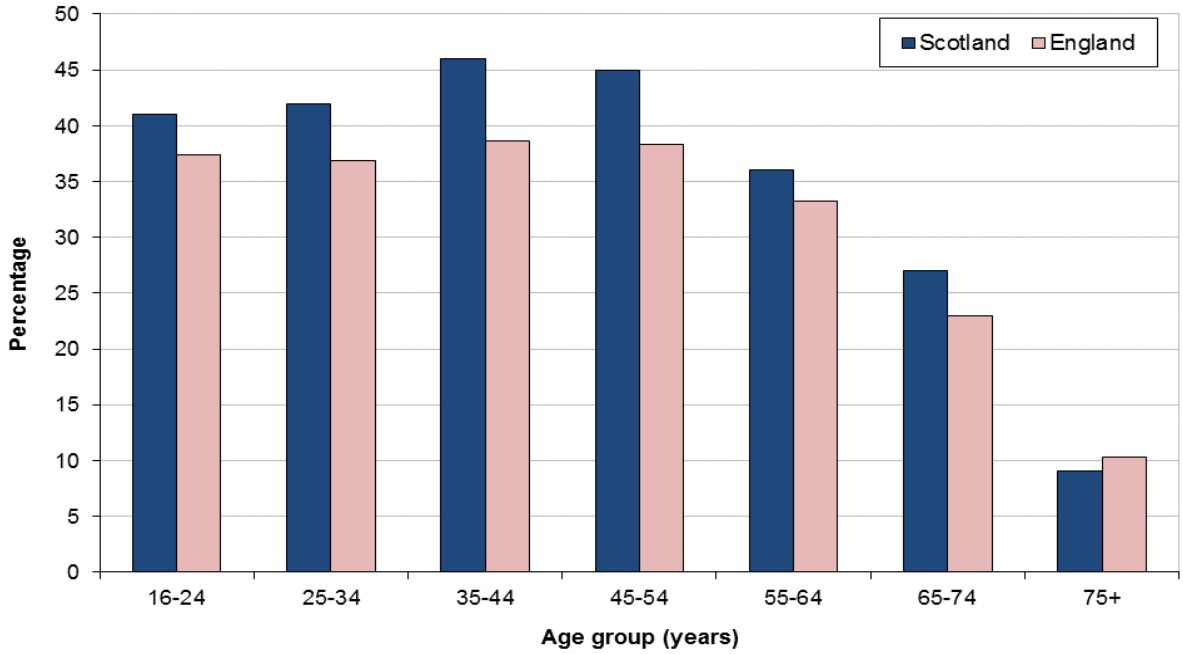
Sources: Scottish Health Survey; Health Survey for England. *Men >8 units on heaviest drinking day in the past week; Women >6 units on heaviest drinking day in the past week. Note: Denominators includes non-drinkers.

Alcohol consumption on the heaviest drinking day in the previous week, by age group, Scotland and England, 2011

In 2011, the proportion of adults in Scotland exceeding the recommended daily drinking guideline on their heaviest drinking day in the past week fluctuated between 41% and 45% for those aged between 16-54 years (Figure 4.17). There were then sharp declines in each successive age group: 55-64 years=36%, 65-74 years=27%, ≥75 years=9%. Although a broadly similar pattern by age was evident in England, the proportion of adults exceeding the daily guideline in all age groups except the oldest (≥75 years) was lower than in Scotland, particularly among those aged 16-54 years (Figure 4.17).

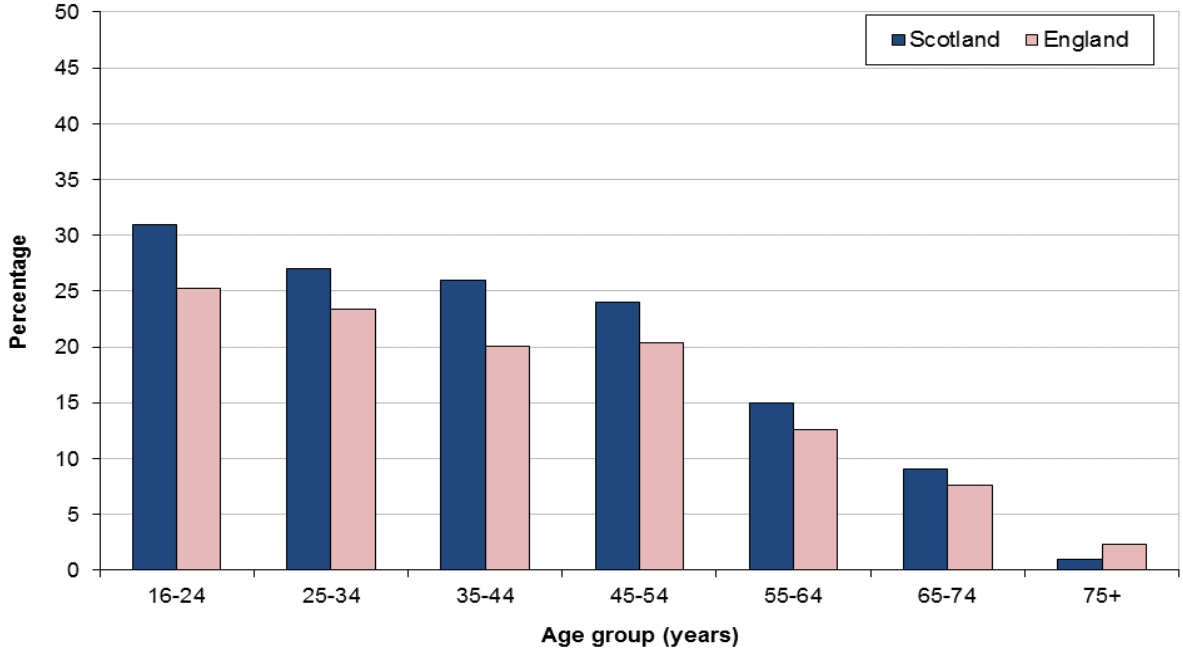
These between-country differences were also apparent when considering the proportion of adults who consumed more than twice the recommended daily guidelines on their heaviest drinking day in the past week (Figure 4.18). For example, 31% of adults aged 16-24 years consumed at least twice the daily guideline in Scotland in 2011, compared with 25% in England. However, for adults aged 55-64 years (Scotland=15%, England=13%), 65-74 years (Scotland=9%, England=8%) and ≥75 years (Scotland=1%, England=2%) the proportions were more similar between countries.

Figure 4.17: Proportion of adults (aged ≥16 years) exceeding the recommended daily drinking guidelines* in Scotland and England, by age group, 2011



Sources: Scottish Health Survey; Health Survey for England. *Men >4 units on heaviest drinking day in the past week; Women >3 units on heaviest drinking day in the past week. Note: Denominators includes non-drinkers.

Figure 4.18: Proportion of adults (aged ≥16 years) exceeding twice the daily recommended drinking guidelines in Scotland and England, by age group, 2011



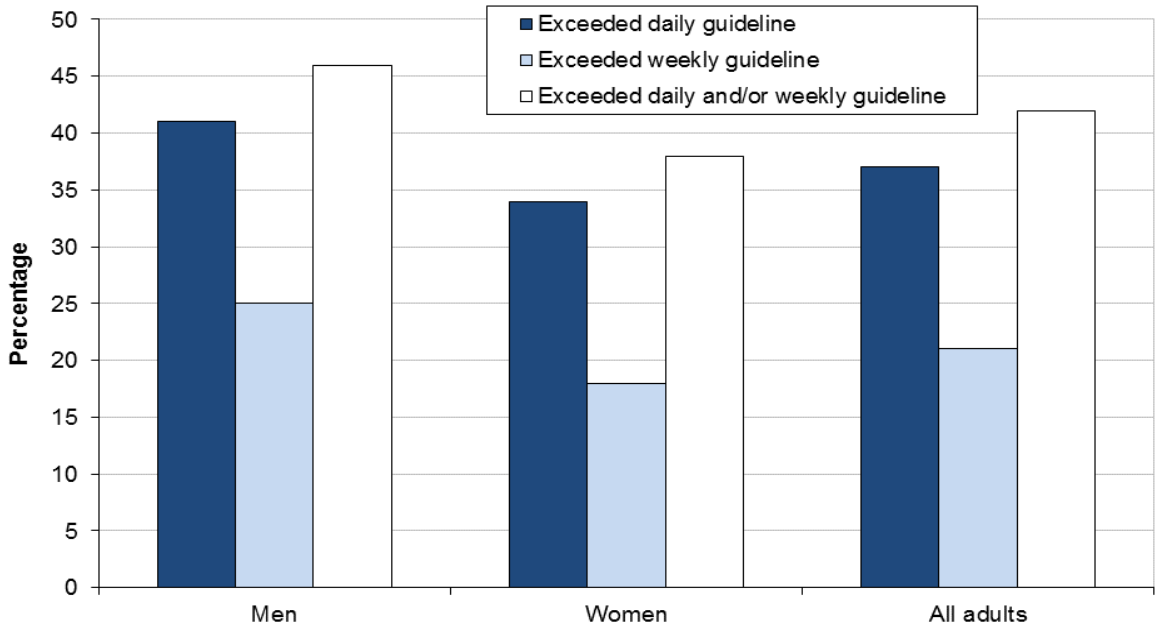
Sources: Scottish Health Survey; Health Survey for England. *Men >8 units on heaviest drinking day in the past week; Women >6 units on heaviest drinking day in the past week. Note: Denominators includes non-drinkers.

Adherence to daily and weekly drinking guidelines, Scotland, 2011

In 2011, 42% of all adults exceeded either the daily or weekly (or both) drinking guidelines: 46% of men and 38% of women (Figure 4.19). There has been a slight decline among men in the past

year (from 49%) but the prevalence of women exceeding drinking guidelines has remained stable since 2009.[1]

Figure 4.19: Proportion of adults (aged ≥16 years) in Scotland exceeding recommended guidelines on alcohol drinking, by sex, 2011

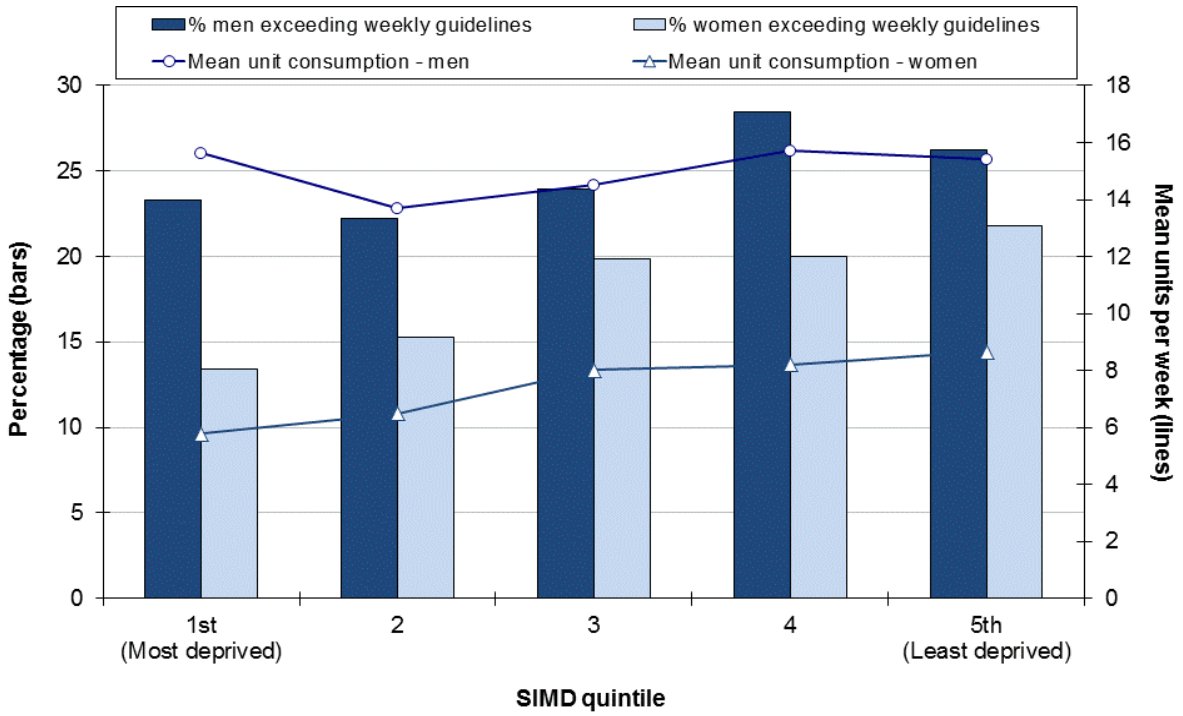


Source: Scottish Health Survey. Note: Denominators includes non-drinkers.

Alcohol consumption by area deprivation, Scotland, 2011

The 2011 SHeS shows no clear pattern in the mean weekly alcohol consumption of men across Scottish Index of Multiple Deprivation (SIMD) quintiles (a measure of area deprivation) (Figure 4.20). For women, a broadly linear pattern exists. Women living in the most deprived areas consumed an average of 5.8 units per week and 13% exceeded weekly drinking guidelines, increasing steadily to 8.7 units and 22%, respectively, for women in the least deprived areas (Figure 4.20).

Figure 4.20: Proportion of adults (aged ≥16 years) in Scotland exceeding recommended weekly guidelines*, and mean weekly alcohol consumption (age-standardised), by sex and SIMD quintile, 2011



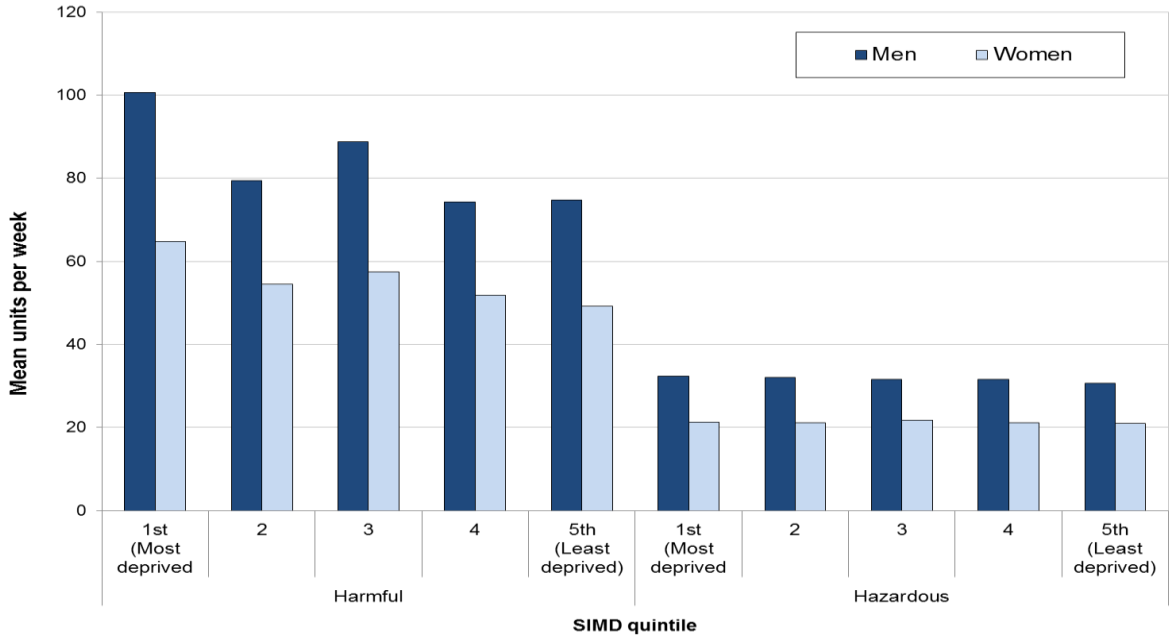
Source: Scottish Health Survey. *Men >21 units per week; Women >14 units per week. Note: Denominators includes non-drinkers.

Alcohol consumption by area deprivation, Scotland 2008-2011 combined

As reported in previous MESAS annual reports, the proportion of non-drinkers is higher in areas of higher deprivation and there is greater variation in consumption levels. This affects indicators of weekly alcohol consumption such as those shown in Figure 4.20. A different pattern emerges when considering mean weekly consumption of those drinking at very high or 'harmful' levels (men >50 units per week; women >35 units per week). For example, using the 2008-11 SHeS combined dataset, little variation can be observed in the mean weekly consumption level of men and women categorised as 'hazardous' drinkers across SIMD quintiles (>21 units and up to 50 units per week for men; >14 units and up to 35 units per week for women). However, the mean weekly consumption of harmful drinkers is considerably higher in the most deprived quintile compared to the rest of Scotland. In 2008-11 (combined), male harmful drinkers in the most deprived quintile in Scotland consumed 101 units per week, a mean of 21 units higher than harmful male drinkers in other quintiles. The difference is starker when using household income as the measure of socioeconomic status (Figure 4.23). A similar, but less pronounced, pattern was evident among women (Figure 4.21).

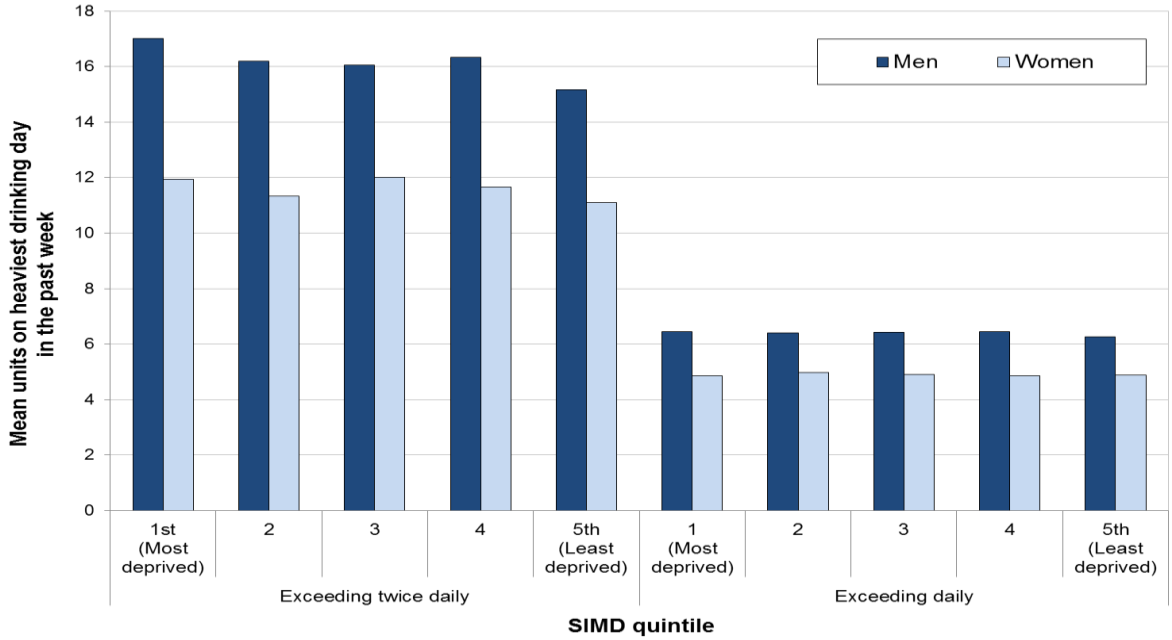
There is less evidence to suggest that the social patterning of alcohol consumption on the heaviest drinking day in the past week changes when mean consumption levels are expressed for those exceeding daily drinking guidelines. In 2008-11 (combined), there was no clear pattern in the proportion of men and women exceeding the daily, or more than double the daily, drinking guidelines (data not shown). Similarly, there was little variation in the mean number of units consumed by those exceeding twice the daily guidelines across SIMD quintiles (Figure 4.22).

Figure 4.21: Mean weekly alcohol consumption of men and women in Scotland categorised as hazardous and harmful drinkers*, by SIMD quintile (age-standardised), 2008-2011 combined



Source: Scottish Health Survey. *Hazardous (>21 units and up to 50 units per week for men; >14 units and up to 35 units per week for women); Harmful (men over 50 units per week; women over 35 unit per week).

Figure 4.22: Mean alcohol consumption of men and women in Scotland exceeding twice the recommended daily drinking guidelines on their heaviest drinking day in the past week, by SIMD quintile (age-standardised), 2008-2011 combined

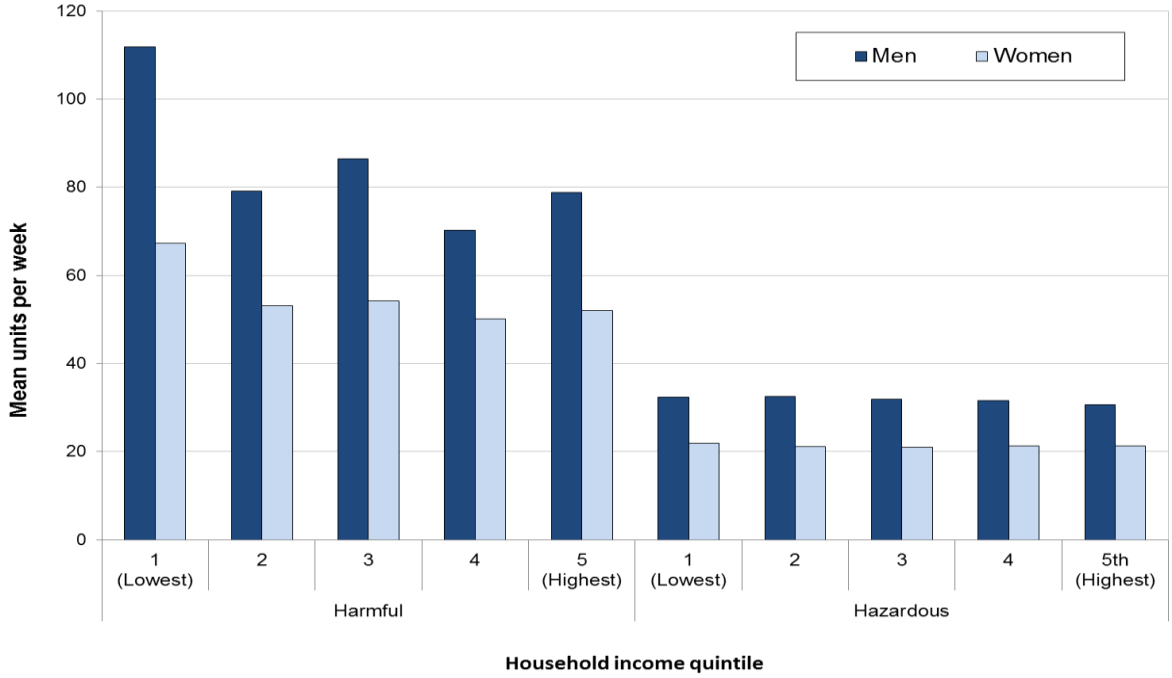


Source: Scottish Health Survey. *Men: daily >4 units and twice daily >8 units on heaviest drinking day in the past week. Women: daily >3 units and twice daily >6 units on heaviest drinking day in the past week.

Alcohol consumption by individual deprivation, Scotland 2008-2011 combined

The variations in self-reported alcohol consumption by area deprivation in Scotland in 2011, described above using SIMD quintiles, are broadly similar to variations by equivalised annual household income, a measure of individual deprivation. Adults in the highest income quintile, whether based on income or area deprivation, are likely to consume more alcohol in an average week and on their heaviest drinking day, and are more likely to exceed the recommended drinking guidelines. However, mean weekly consumption of those drinking at harmful levels is considerably higher in the lowest income quintile than the rest of Scotland (Figure 4.23).

Figure 4.23: Mean weekly alcohol consumption of men and women in Scotland categorised as hazardous or harmful drinkers*, by equivalised household income quintile (age-standardised), 2008-2011 combined

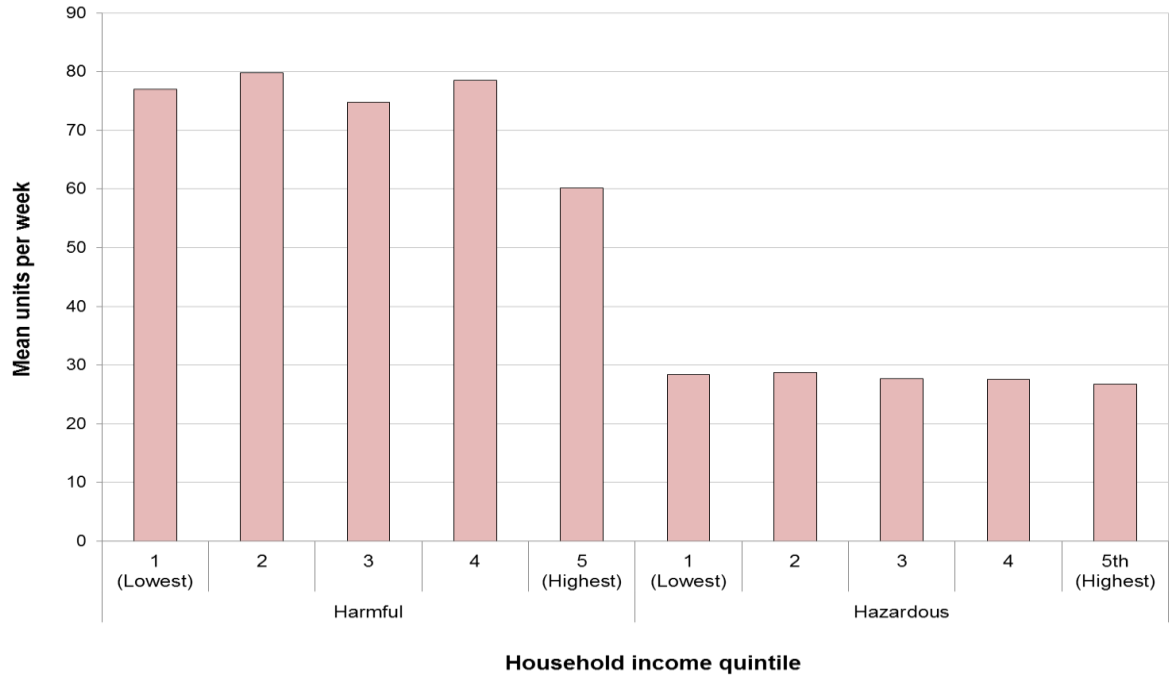


Source: Scottish Health Survey. *Hazardous (>21 units and up to 50 units per week for men; >14 units and up to 35 units per week for women); Harmful (men over 50 units per week; women over 35 unit per week).

Alcohol consumption by individual deprivation, Scotland and England, 2011

It is not possible to directly compare levels of alcohol consumption between Scotland and England across household income quintiles. This is because the income range in each quintile differs between countries: the upper income threshold in each quintile in Scotland is lower than in England, and the disparity increases as income increases. However, general patterns across quintiles can be compared. As shown in Figure 4.23, mean weekly consumption of harmful drinkers in Scotland in 2008-11 was higher in the lowest income quintile compared with all other quintiles, particularly for men. A similar pattern exists when data for 2011 only are analysed (data not shown). In England, however, analyses of data from the 2011 HSE suggest that mean weekly consumption of harmful drinkers is similar to most other quintiles, although the estimates are imprecise due to a small sample size (Figure 4.24).

Figure 4.24: Mean weekly alcohol consumption of adults in England categorised as hazardous or harmful drinkers*, by equivalised household income quintile (age-standardised), 2011



Source: Health Survey for England. *Hazardous (>21 units and up to 50 units per week for men; >14 units and up to 35 units per week for women); Harmful (men over 50 units per week; women over 35 unit per week).

Problem drinking in Scotland

The proportion of men aged 16-74 years who reported that they consumed alcohol and who agreed with two or more indicators of problem drinking as defined by the CAGE questionnaire increased from 12% in 1998 to 16% in 2008, before falling slightly to 13% in by 2011. The prevalence of problem drinking among women aged 16-74 years also increased between 1998 and 2008, from 5% to 10%, remaining stable at 10% thereafter. Problem drinking increases as area deprivation increases from 9% in the least deprived SIMD quintile to 16% in the most deprived quintile in 2011.

Alcohol Use Disorders Identification Test (AUDIT)

The Alcohol Use Disorders Identification Test (AUDIT) was introduced to the SHeS in 2012. The AUDIT is a 10-item questionnaire designed to screen for levels of alcohol use disorders by asking questions specifically related to alcohol intake, alcohol dependence and alcohol-related problems. Scores calculated from responses to the AUDIT can be used to categorise respondent's drinking behaviour:

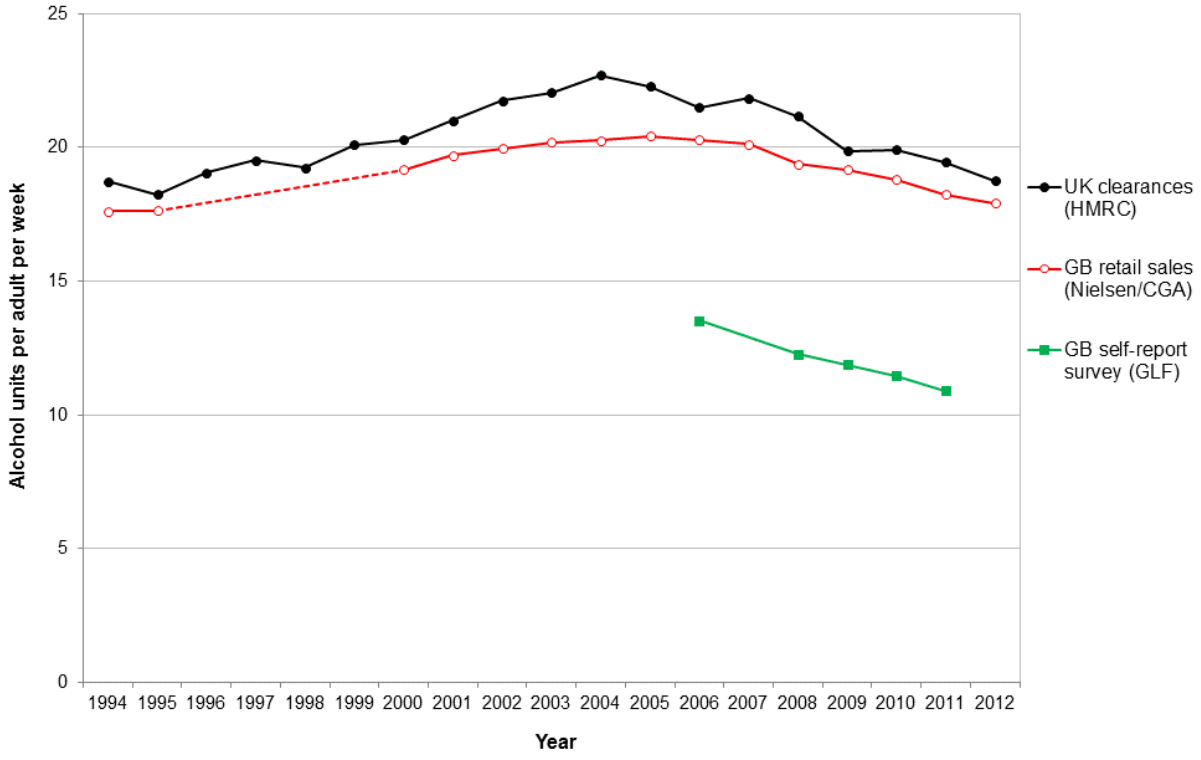
- 0 to 7: low-risk drinking behaviour, or abstinence
- 8 or above: indicator of an alcohol use disorder
- scores of 8 to 15: hazardous drinking behaviour, although this group tends not to be considered in isolation.
- scores of 16 to 19: harmful drinking behaviour, and again this group tends not to be discussed in isolation.
- 20 or above - warrants further investigation for possible alcohol dependence.

In 2012, 19% of adults in Scotland exhibited signs of an alcohol use disorder (25% of men and 13% of women), while 1% of men and women displayed behaviours associated with possible alcohol dependence. AUDIT scores were patterned by age: as age increased, the proportion of adults categorised as having an alcohol use disorder decreased. There was no clear association between AUDIT scores and deprivation (household income or SIMD). However, in general, adults (particularly men) in the most deprived quintile were more likely than those in other quintiles to report AUDIT scores of 16+.

Comparison between alcohol clearances, alcohol retail sales and self-reported alcohol consumption

Figure 4.25 shows mean weekly adult alcohol consumption estimates based on HMRC taxation data for the UK and based on retail sales and self-reported survey data for GB. As expected, HMRC estimates are consistently higher than Nielsen/CGA estimates due to the inclusion of data pertaining to alcohol sales in Northern Ireland and alcohol sold through certain sales outlets not captured by Nielsen/CGA (e.g. certain internet sites, music festivals, military establishments)[30]. Nonetheless, the trend over time between sources is similar, with Nielsen/CGA estimates accounting for, on average, 93% of HMRC estimates. Estimates derived from the GLF are much lower, accounting for 60% of those based on retail sales in 2011, a decrease from 67% in 2006. All three data sources indicate a recent decline in adult alcohol consumption.

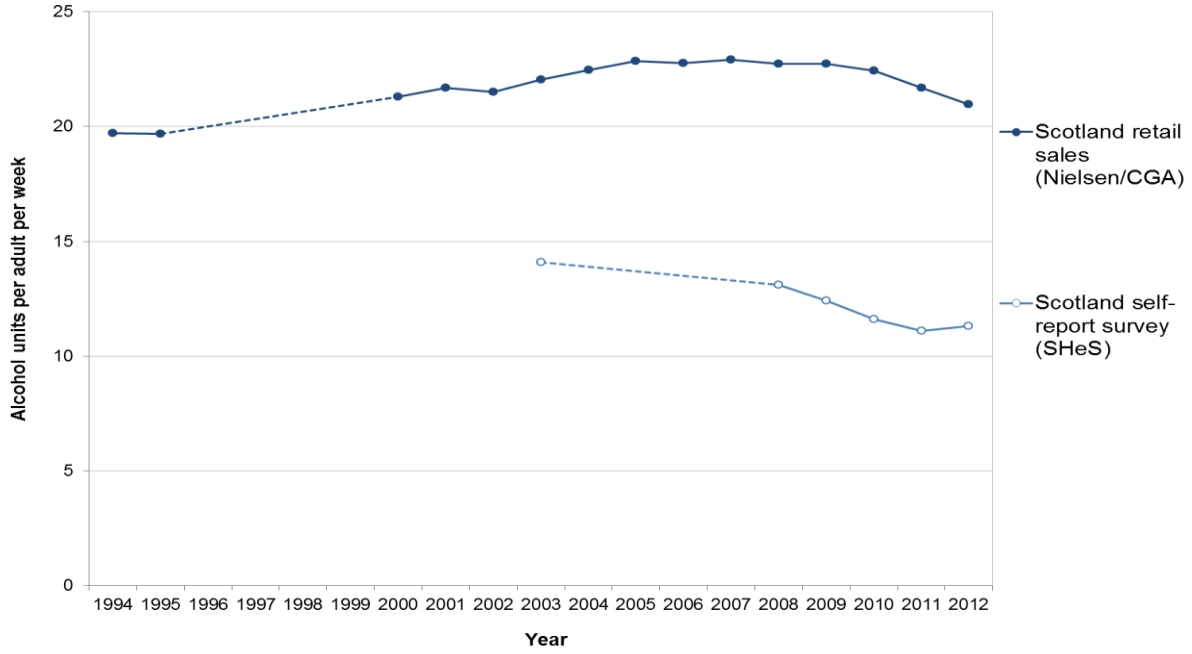
Figure 4.25: Mean weekly alcohol consumption estimates based on either alcohol clearance data (UK), alcohol retail sales data or self-reported survey data (both GB)



Sources: British Beer and Pub Association; Her Majesty's Revenue and Customs (HMRC); Nielsen/CGA sales dataset (off-trade sales in 2011 and 2012 adjusted to account for loss of discount retailers); General Lifestyle Survey (GLF).
Note: Denominators includes non-drinkers.

Figure 4.26 compares per adult weekly alcohol consumption estimates in Scotland derived from either retail sales or SHeS data. The retail sales estimates suggest that the volume of pure alcohol sold per adult in Scotland remained stable between 2005 and 2009 before declining. In contrast, the SHeS estimates suggest a decline in consumption from 2003. Consequently, the gap between retail sales and self-report survey estimates of alcohol consumption in Scotland has widened: the SHeS accounted for 54% in 2012 compared with 64% in 2003.

Figure 4.26: Mean weekly alcohol consumption estimates in Scotland based on either alcohol retail sales data or self-reported survey data



Sources: Nielsen/CGA sales dataset (off-trade sales in 2011 and 2012 adjusted to account for loss of discount retailers); Scottish Health Survey (SHeS). Note: Denominators includes non-drinkers.

Discussion

Key findings

There has been a downward trend in the volume of pure alcohol sold per adult in Scotland since 2009, decreasing by a total of 8% between 2009 and 2012. This follows an upward trend between 1994 and 2005 and a period of relative stability between 2005 and 2009. In England & Wales, the downward trend in per adult sales observed since 2005 has continued. Over the past five years, per adult sales in Scotland have been 19-21% higher than in England & Wales

In Scotland, the decline in per adult sales since 2009 has been largely due to falling on-trade sales. However, there was also a 3% decline in off-trade sales between 2011 and 2012, the first notable fall since the start of the time series. In England & Wales, there were also decreases in per adult sales in both market sectors in 2012. Off-trade alcohol sales remained considerably higher in Scotland than in England & Wales in 2012, accounting for 86% of the difference in total per adult sales.

Since 2003, the trend in usual weekly self-reported alcohol consumption (mean unit consumption and proportion exceeding the recommended weekly guideline) among all adults in Scotland has been downward. Over time, men consistently reported consuming more alcohol in an average week than women; however, the downward trend has been more marked among men, thereby resulting in a slight convergence between sexes. New analyses presented in this chapter also suggests that the decline in usual self-reported weekly alcohol consumption is largely attributable a decline in the mean number of units consumed by those described as drinking at 'harmful' levels (>50 units for men and >35 units for women per week) and an increase in non-drinkers. In addition, the sharp fall in mean weekly self-reported alcohol consumption between 2008 and 2011 has been driven by young adults (aged 16-24 years), coinciding with a doubling in the abstention rate among this age group.

In 2011, there was no evidence of a difference in weekly self-reported alcohol consumption overall among all adults in Scotland and England & Wales, despite younger adults (aged 16-24 years) in Scotland being more likely to exceed recommended weekly drinking guidelines. This pattern of higher self-reported weekly alcohol consumption levels among younger adults in Scotland was also apparent when comparing daily consumption levels with adults in England, but extended into adults of middle age. At all age groups below 55 years, adults in Scotland were more likely to report consuming enough alcohol on at least one day in the previous week to exceed daily drinking guidelines, as well as to exceed twice the daily guidelines. These differences were reflected in an overall higher proportion of adults reporting exceeding daily drinking guidelines in Scotland, particularly women. As with the trends observed in weekly alcohol consumption, the proportion of adults reporting exceeding daily drinking guidelines in both Scotland and England has declined. However, despite the downward trend in self-reported alcohol consumption among adults in Scotland, 46% of men and 38% of women still exceeded either the daily or weekly (or both) drinking guidelines in 2011.

Using the SHeS 2008-2011 combined dataset, which provides more statistical power for subgroup analyses, it has been shown that harmful drinkers in the most deprived areas (or lowest household income quintile) reported consuming a considerably higher number of units per week than harmful drinkers across the rest of Scotland. A similar pattern was not observed in England, although the estimates were uncertain as only one year of data was available.

Strengths and limitations

The use of alcohol sales data is advocated as the most robust means for monitoring population levels of alcohol consumption.[32] Understanding the strengths and weaknesses of using such data and their potential impact on consumption estimates is crucial to ensuring that any changes over time, or between countries, are not related to limitations in the method of measurement. A recent MESAS study concluded that the alcohol retail sales data used to describe trends in this report offer a robust source of data for monitoring per adult alcohol consumption in Scotland and for comparing with England & Wales.[42] Nonetheless, by quantifying various sources of bias, it was also shown that per adult consumption estimates derived from these data are likely to be an underestimate.

A key source of underestimation in the retail sales data is the exclusion of certain retailers in the Nielsen off-trade sampling frame. This includes discount retailers Aldi and Lidl who have a policy of non-cooperation with market research companies in terms of providing their sales data. In this report, alcohol retail sales data for 2011 and 2012 were adjusted to account for the Aldi/Lidl alcohol market share, which was estimated using Nielsen's 'HomeScan' consumer panel data. Although this was considered the best available method for the purpose of adjusting ScanTrack off-trade sales, consumer panel data are subject to biases inherent in other self-report surveys including underreporting and sampling bias.

As also highlighted in Chapter 7, comparisons made at country level can mask important regional variations. To strengthen the overall MESAS evaluation by providing more comparator areas, NHS Health Scotland obtained alcohol sales data for regions of Scotland and England with high alcohol-related mortality rates relative to the GB average: Central Scotland, North East England and North West England. Analyses of these data revealed that per adult consumption in Scotland/Central Scotland was higher than in North West and North East England, but that these English regions had substantially higher population consumption levels than England & Wales.[43] While England & Wales will remain the primary comparator area in the MESAS evaluation, in part because estimates are available for a longer retrospective time period, consumption estimates derived from sales data will be presented for these regions in future annual reports alongside estimates for Scotland and England & Wales.

While some survey methods have been shown to produce consumption estimates comparable to those based on sales,[44] underestimation of alcohol consumption levels is a particular problem when using the self-report survey data presented in this chapter.[31] In 2012, per adult alcohol consumption estimates from the Scottish Health Survey accounted for only 54% of those based on retail sales data. The reasons for such underestimation have been studied extensively and include sampling bias, recall bias, measurement bias and poor representativeness.[31,45] In a recent study, for example, Gray *et al* reported lower alcohol-related and all-cause mortality rates among respondents to the 2003 Scottish Health Survey compared with the general population.[46] This suggests that SHeS respondents are likely to report lower alcohol consumption levels than would be expected if a truly representative sample had been obtained, thereby contributing to an underestimation of population consumption levels. However, despite these caveats, surveys still represent an important data source because, unlike aggregated sales data, they enable the social patterning of alcohol consumption to be described.

Interpretation

The recent downward trend in the volume of pure alcohol sold per adult in Scotland means that population consumption is lower than in any other calendar year in the 2000s. Although the trend has been mainly driven by decreasing on-trade sales, the fall since 2009 is coincident with a change in trend of off-trade sales, which increased between 1994 and 2008, stabilised between 2009 and 2011, and decreased in 2012. As noted earlier, the 3% decline between 2011 and 2012 was the first notable decline in off-trade sales since the start of the time series. Further descriptive analyses of the sales dataset used in this report shows that the decline in off-trade sales between 2011 and 2012 was consistent across all major drink categories. For spirits and beer, this represented a continuation of declines that started in 2009. In contrast, off-trade wine sales increased by 3% between 2009 and 2011, before decreasing by 3% between 2011 and 2012. It is difficult to attribute these changes to any single factor. Nonetheless, the implementation of the Alcohol Act in Scotland on 1st October 2011, which included a ban on multi-buy promotions in Scotland's off-trade, is likely to have contributed. Indeed, a recent MESAS report showed that the Act was associated with a 2.6% fall in off-trade sales in the 12-month post-implementation period, largely attributable to a fall in wine sales. In England & Wales, where the ban does not apply, there were no changes over the same time period and the findings could not be explained by confounders.[18]

In spite of the recent downward trend in per adult alcohol sales in Scotland, levels remained 19% higher than in England & Wales in 2012. Most of this difference was accounted for by higher spirits sales in Scotland, which are also considerably higher than other countries in Western Europe and, in fact, are more comparable with the vodka drinking nations of Eastern Europe.[47,48] The reasons for this are unclear. Research that offers a historical perspective of spirits consumption in Scotland may therefore contribute to a better understanding of this unique Scottish phenomenon.

Objective estimates of alcohol consumption derived from sales data do not enable disaggregation by population subgroups. As such, this chapter has also provided a detailed description of self-reported alcohol use, including additional analyses not previously presented which aimed to further delineate trends over time and the social patterning of consumption in Scotland. As noted earlier, this highlighted that the decline in self-reported mean weekly alcohol consumption between 2008 and 2011 was largely due to young adults, who became increasingly more likely to abstain from alcohol and drink at lower levels. Chapter 7 discusses trends in consumption and harm in the context of the wider economic environment. It is plausible that the 2008 economic downturn, and the resulting increase in youth unemployment and decrease in alcohol affordability, has contributed to these trends. Less affordable alcohol may also help to explain why weekly consumption has fallen most among harmful drinkers over the past few years, who are more likely to consume cheaper alcohol.[49]

An alternative, but not mutually exclusive, explanation is that the trends in consumption are underpinned by period and/or cohort effects. A recent age-period-cohort analyses by Meng *et al*, using annual self-reported alcohol consumption data for Great Britain, found increasing abstention rates and falling mean weekly alcohol consumption for those born after 1985, especially men.[50] Unfortunately, it is not possible to explore such trends in a Scottish context due to a lack of frequent and comparable data. Nonetheless, the findings seem consistent with the descriptive analyses presented here. Furthermore, SHeS data suggest that, while abstention rates for both sexes have increased, the decline in mean weekly consumption among young adults has been greater for males.[36]

Estimates of population consumption levels derived from alcohol sales in this chapter have been expressed per adult (aged ≥16 years). Non-drinkers are therefore included in the denominator. Thus, the increasing prevalence of non-drinkers in the population means that trends in the volume of pure alcohol sold per adult differ from trends expressed per adult drinker. For example, alcohol sales per adult drinker in Scotland increased between 2008 and 2010 (in contrast to a decrease in alcohol sales per adult) before decreasing in 2011 and 2012. In England & Wales, the downward trend between 2008 and 2012 is apparent for both indicators, but the decline is less marked among adult drinkers.[51] This highlights the importance of considering trends in per adult sales alongside the prevalence of non-drinking. However, Scotland's alcohol strategy is aimed at reducing average population levels of consumption and so for the purposes of MESAS it remains more appropriate to use the population that includes non-drinkers in the denominator for monitoring purposes.

It is well known that the UK population is ageing. The self-report survey data show that those aged ≥75 years consume less in an average week than their younger counterparts. Thus, it is plausible that some of the decline in population consumption levels can be attributed to an increasingly older population. However, the increase in the proportion of those aged ≥75 years over the past five years in Scotland and England & Wales (5-6%) is unlikely to make a meaningful notable impact on population consumption levels.[52] Indeed, age-standardising survey estimates over time has a negligible impact on mean weekly alcohol consumption estimates in Scotland.[53]

In previous MESAS annual reports[1,2], a disconnect between alcohol consumption levels and alcohol-related harms across area-based deprivation groups has been highlighted. In general, the strong linear pattern between alcohol-related harm and area deprivation is not observed for alcohol consumption. This has been coined the 'alcohol harm paradox' and various factors have been posited as potential explanations.[54] These include: biases related to sampling, response rate and recall; reverse causation, where people with an alcohol consumption problem may suffer a loss of income resulting in downward social mobility and, in turn, residence in more deprived areas; and compounding effects such that the consequences of similar drinking patterns are more severe for those with lower socioeconomic status.[1,2,54] In this chapter, self-reported consumption data combined over four years has provided further insights into the paradox. Despite the biases common to self-report surveys, it was possible to show that the mean weekly number of units consumed by those drinking at harmful levels in Scotland is notably higher in the most deprived areas and in the lowest income households, which is consistent with the social patterning observed for indicators of problem and dependent drinking. This pattern did not seem to exist in England based on HSE data, although this contrasts with data from the General Lifestyle Survey which shows higher consumption among lower income harmful drinkers in England.[49] Nonetheless, as reinforced in Chapter 7, sub-group analyses can be important in revealing patterns that may be concealed by more routinely published aggregated estimates.

Conclusion

Analyses of both objective sales data and subjective self-report survey data suggest declining alcohol consumption in Scotland. Per adult alcohol sales declined by 8% between 2009 and 2012,

with the first notable decline in off-trade sales since 1994 being observed between 2011 and 2012. Declines in self-reported weekly consumption have been driven by young adults and harmful drinkers consuming less, as well as increasing rates of abstention. Despite these improvements, sales-based consumption remains 19% higher in Scotland than in England & Wales, which is mostly due to higher off-trade sales, particularly spirits. In addition, 42% of adults in Scotland are exceeding the recommended drinking guidelines and very heavy drinking remains a particular problem among Scotland's most deprived areas and households.

5. Price and affordability

Introduction

The aim of the Alcohol (Minimum Pricing) Scotland Act is to reduce consumption and harm by removing the low price-high strength alcohol from the market in Scotland, recognising the strong international evidence that shows a link between alcohol price and consumption, and between consumption and harm.[55,56]

The link between the prices at which alcohol is sold (hereafter referred to as 'prices charged') and consumption is affected by income. That is, the effect on consumption of any change in prices charged is influenced by how much income changes. The relationship between prices charged and income is termed affordability.

This chapter presents trends in a UK-level index of affordability.[40] This index uses retail price index (RPI) data that are not available separately for individual countries within the UK. Therefore, the chapter also presents 'average sales prices' derived from Nielsen/CGA alcohol retail sales data, alongside the latest available disposable income data for Scotland and England & Wales, to identify whether there are likely to be divergent trends in affordability in Scotland and England & Wales.

A limitation of average sales prices is that they disguise the extent of sales of cheap alcohol. However, it is possible to monitor cheap alcohol sales through the off trade using alcohol price distribution data, which reveal the volume of off-trade alcohol sold at individual price bands. These analyses are particularly important for the off trade, now that this accounts for the majority of alcohol sold in Scotland and is most likely to be affected by minimum unit pricing (MUP).Therefore, this chapter also presents updated analyses of the price distribution data for alcohol sold off-trade in Scotland and in England & Wales.

Methods

UK estimates of affordability

Trends in affordability at a UK level are measured using the Alcohol Affordability Index (AAI) series compiled by the Health and Social Care Information Centre. In the most recent series for 2012, the index was calculated using 2010 population data for 2011 and 2012 to calculate disposable income per capita because 2011 and 2012 population data were not available at the time the index was published. Therefore, we have updated the index using ONS population data on the adult population (aged 18 and over) and the most up to date disposable household income data (from the UK Economic Accounts Q2 2013). Further details of how the AAI is calculated and the data sources used were published in the Monitoring and Evaluating Scotland's Alcohol Strategy (MESAS) baseline report.[1]

Trends in current disposable household incomes

Disposable household income data are derived from the Office for National Statistics (ONS) Regional Gross Disposable Income Series which covers Scotland, Wales and Northern Ireland as well as a number of English regions.[57] Disposable household income is an index of spending power derived by subtracting payments such as income tax, other taxes and social insurance contributions from households' total income. Current disposable household income (i.e. unadjusted for inflation) is used because country-specific inflation data are not available with which to calculate real disposable income for specific countries. The most recent data available are for 2011. Disposable household income per adult aged 18 years and over is used to take account of changes in population size over the period.

Alcohol retail sales data: average sales prices

Average (mean) sales prices per litre in 'natural volumes' (actual volume of beverage sold) and prices per unit (ppu) of alcohol were calculated from data on retail sales of alcohol in Scotland and England & Wales supplied by Nielsen/CGA. Aggregate (GB) data for Scotland and England & Wales combined were also provided. Average sales price data are available for the period 2000 to 2012, expressed in terms of average price per litre in natural volumes and average price per unit of alcohol. Full details on the data sources, sampling procedures and methods for converting the natural volumes into litres and units of pure alcohol are provided in a previous MESAS report.[30]

Trends in current household disposable incomes per capita are compared with trends in average sales prices to assess whether there are likely to be divergent trends in affordability in Scotland and England & Wales. Average sales prices (i.e. without adjustment for trends in actual retail prices) are used because of the absence of country-specific RPI data with which to make price adjustments. It is important to note that trends in the average sales price of alcohol do not directly reflect trends in alcohol prices charged. This is because changes in average sales prices are the product of changes in both prices charged and changes in patterns of consumption.

Trends are presented as index numbers with base year 2000 to indicate the proportionate increase in average sales prices and incomes since the start of the period for which data are available.

Alcohol retail sales data: price distribution

Annualised estimates of the volume of pure alcohol sold off trade in different price bands were provided by Nielsen for 2009–2012. The natural volume of each drink sold was converted into units of alcohol using its percentage ABV, enabling the net ppu of alcohol to be calculated. The item was then coded into one of seventeen price bands. Estimates were provided for all alcohol and by drink type.

Most of the price distribution analyses presented in this chapter were included in a report published in August 2013.[7] They have been reproduced to ensure the annual report includes all relevant and up-to-date information on alcohol consumption, price, affordability and harms.

Alcohol retail sales data: loss of discount retailers

As explained in Chapter 4, from September 2011 Nielsen was no longer able to estimate off-trade sales by discount retailers Aldi and Lidl. As such, all off-trade sales data provided since September 2011 (including retrospective data predating this date) have been defined as "Off-trade excluding discount retailers". To enable comparability across the time series, an adjustment factor was applied to the 2011 and 2012 off-trade sales estimates presented in Chapter 4. The adjustment factor has also been applied to 2011 and 2012 data on average alcohol sales prices presented in this chapter.

In contrast, off-trade price distribution data have not been adjusted to account for the loss of the ability to estimate Aldi and Lidl sales because the exclusion of discount retailers has only a marginal impact on the price distribution of off-trade alcohol sold in Scotland and England & Wales. A full description of these analyses is provided in an earlier MESAS report.[8] The absolute volumes of off-trade alcohol sales reported for the price distribution in this chapter (based on the price band dataset) are therefore not directly comparable with those reported for per adult alcohol sales presented in Chapter 4 (based on the sales dataset). Where differences are expressed as a proportion of total alcohol sales, this calculation has been done using the unadjusted sales dataset.

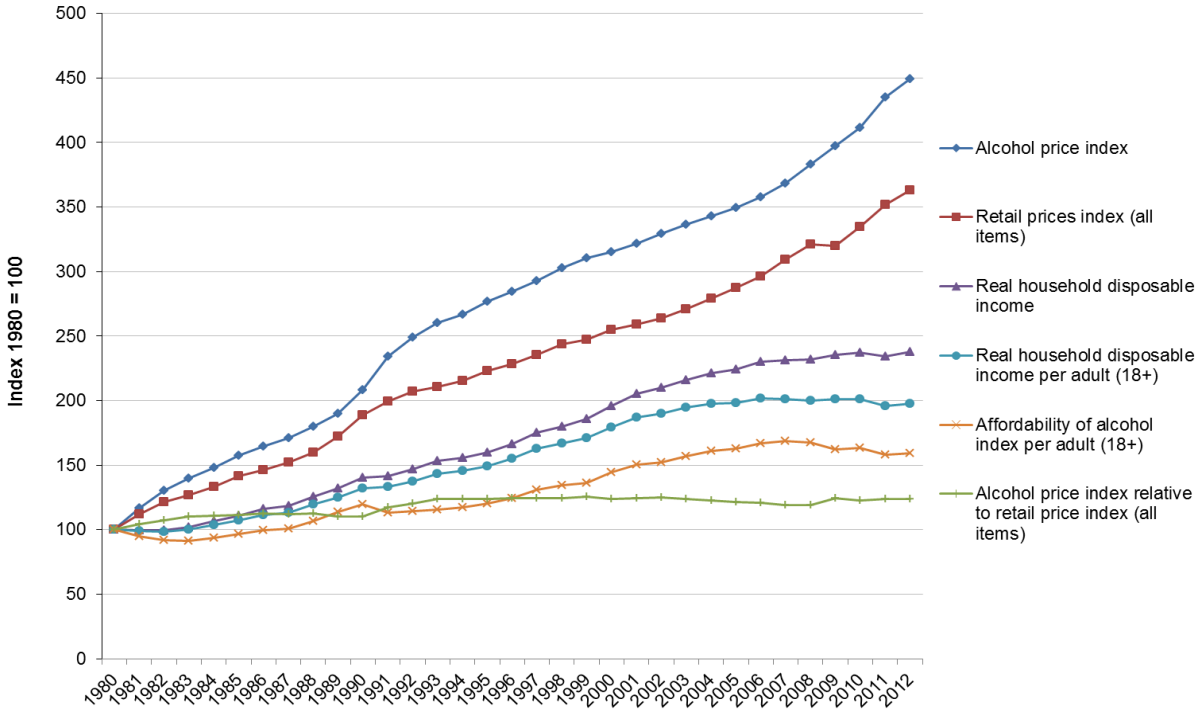
Data used to create the figures presented in this chapter are provided in the supporting excel spreadsheets on the MESAS web pages.[41]

Results

Trends in the UK Affordability of Alcohol Index (AAI)

Figure 5.1 charts trends in the AAI and the variables on which it is based from 1980 to 2012. By this measure, the affordability of alcohol has increased by nearly 60% since 1980. The main driver of increasing affordability has been rising disposable incomes. Alcohol prices as measured by the alcohol-specific RPI have actually risen more than prices in general, although the difference is small, such that real alcohol prices ('Alcohol price index relative to the retail price index (all items)' in Figure 5.1) have only increased by around 24% over the period as a whole. In contrast, real per capita household incomes have nearly doubled over the time period.

Figure 5.1: Indices of price and affordability (UK), 1980-2012

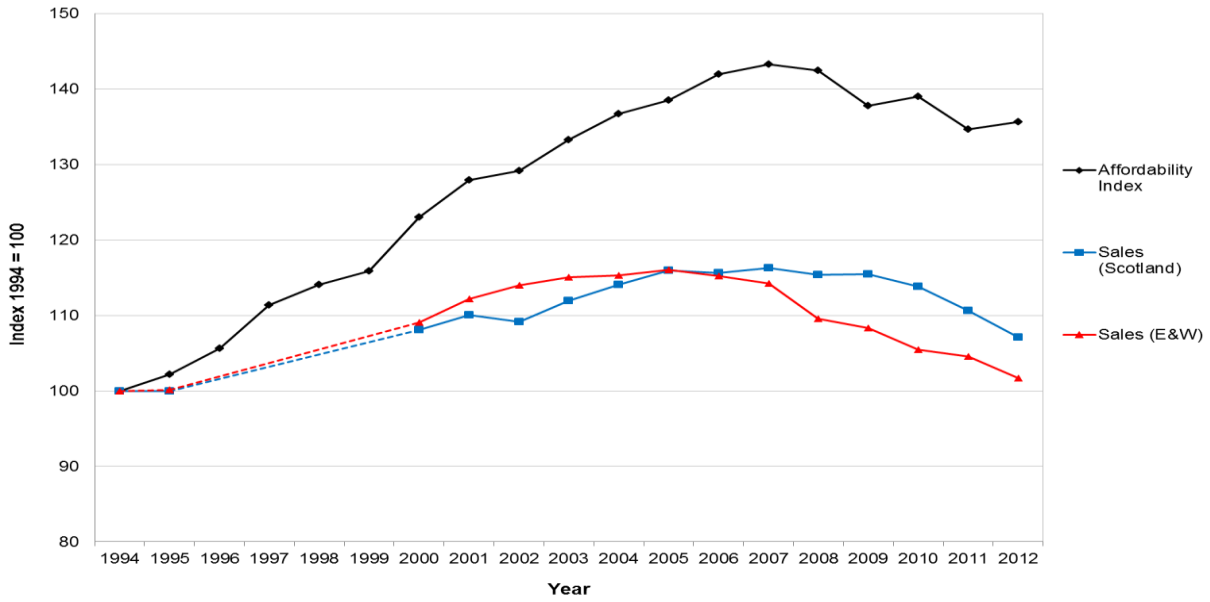


Source: Statistics on Alcohol, England 2012.

Between 2007 and 2011, falling incomes and an increase in the alcohol price index (alcohol prices relative to retail prices) caused the alcohol affordability index to fall from a peak of 168.5 in 2007 to 158.4 in 2011. In 2012 an increase in disposable incomes reversed some of this decline.

Figure 5.2 presents the affordability trend alongside trends in sales. The chart shows that trends in affordability and sales have been broadly similar, although sales peaked earlier in England & Wales and before affordability reached its highest point in 2007.

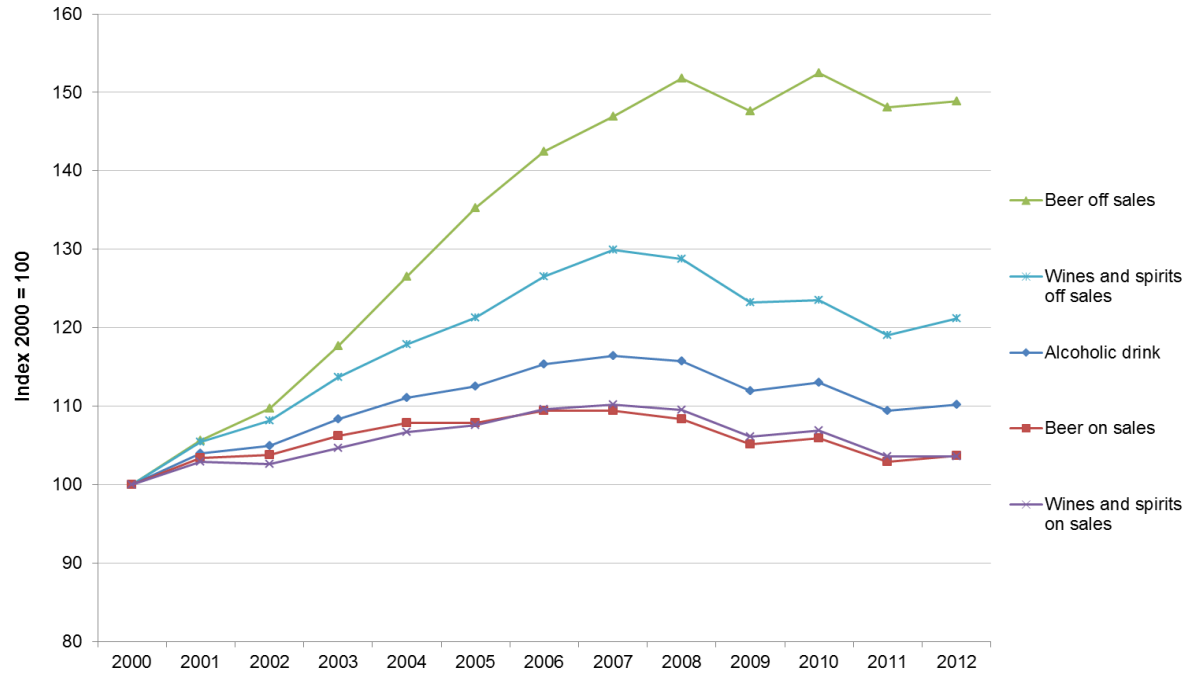
Figure 5.2: Trends in affordability (UK) and per adult alcohol retail sales (Scotland and England & Wales), 1994-2012



Sources: Statistics on Alcohol, England, 2013; Nielsen/CGA sales dataset (off-trade sales in 2011 and 2012 adjusted to account for loss of discount retailers).

Figure 5.3 shows affordability trends by drink type and trade sector between 2000 and 2012. The prices charged for off-trade alcohol have increased more slowly than prices charged in the on-trade, particularly for off-trade beer. This relative price shift in favour of the off-trade is consistent with increases in off-trade sales of wine and beer, and the overall change in sales patterns towards off-trade sales, described in Chapter 4.

Figure 5.3: Affordability by drink type and sales type (UK), 2000-2012



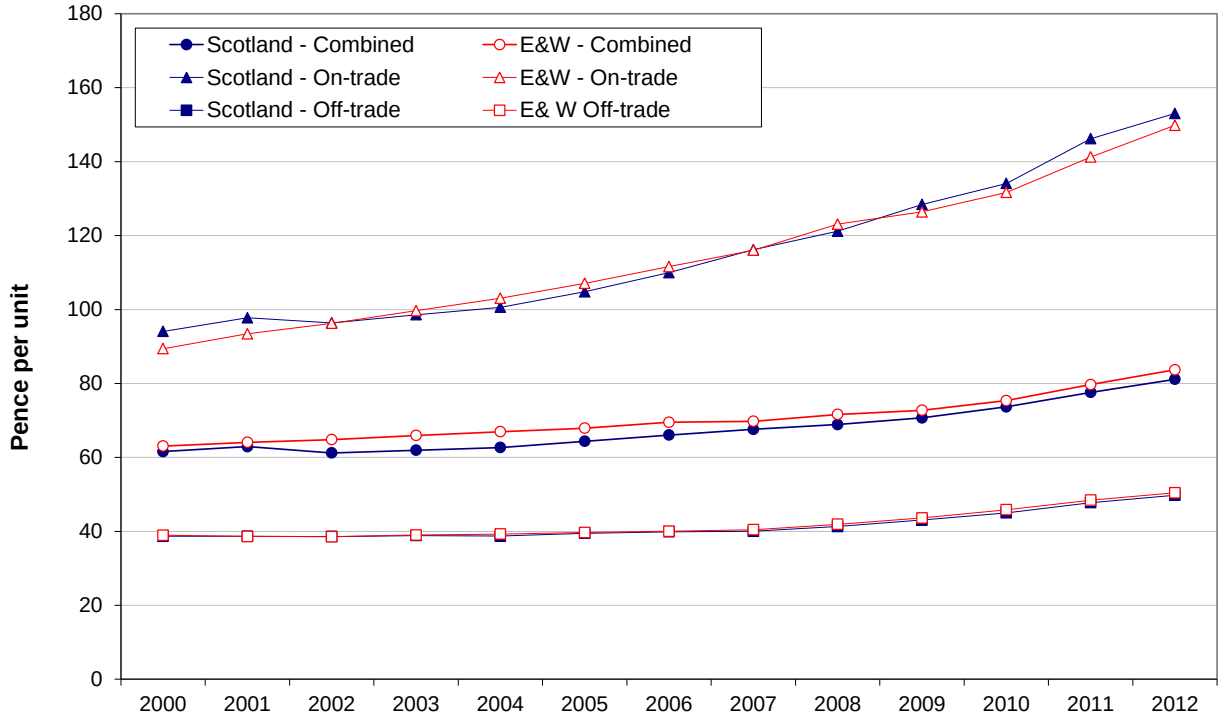
Source: Based on ONS Consumer Price Indices, May 2013, Table 42 and real disposable household income data from Statistics on Alcohol, England, 2013.

Trend in average alcohol sales prices

In 2012, average on-trade sales prices were slightly higher in Scotland (153ppu) than in England & Wales (150ppu). Across the time period analysed (2000-2012), however, the pattern and rate of changes in average alcohol sales prices were very similar in Scotland and England & Wales (Figure 5.4).

In Scotland, the average price per unit of alcohol sold in the on- and off-trade combined increased by 32% between 2000 and 2012, from 62ppu to 81ppu. Most of this increase is attributable to a 59ppu rise in average on-trade prices, from 94ppu in 2000 to 153ppu in 2012. In contrast, average off-trade prices have increased more slowly, from 39ppu to 49ppu over the same time period. The difference between average on- and off-trade prices has therefore widened, from 55ppu in 2000 to 104ppu in 2012.

Figure 5.4: Average price per unit of alcohol sold in Scotland and England & Wales, by market sector, 2000-2012

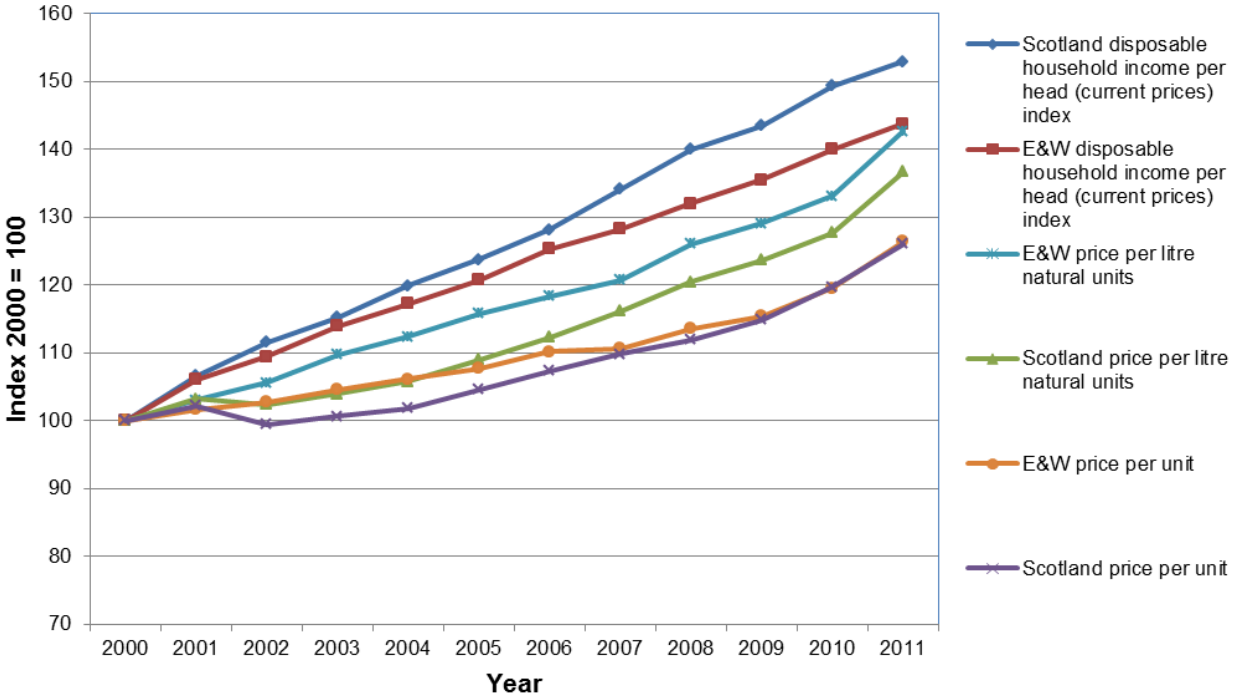


Source: Nielsen/CGA sales dataset (off-trade sales in 2011 and 2012 adjusted to account for the loss of discount retailers).

Trends in current household disposable income and average alcohol retail sales prices in Scotland and England & Wales

Between 2000 and 2011, the average sales price of alcohol in price per litre of natural volumes has increased slightly more quickly in England & Wales than in Scotland, although the difference is small. There is little difference between Scotland and England & Wales in the rate of increase in average sales prices per unit of alcohol (Figure 5.5). Disposable household incomes per capita have increased more quickly in Scotland since 2000 (by 53% in Scotland compared with 44% in England & Wales), although income levels per capita remained higher in England than in either Scotland or Wales in 2011.

Figure 5.5: Trends in average alcohol prices and household disposable income per capita, 2000-2011



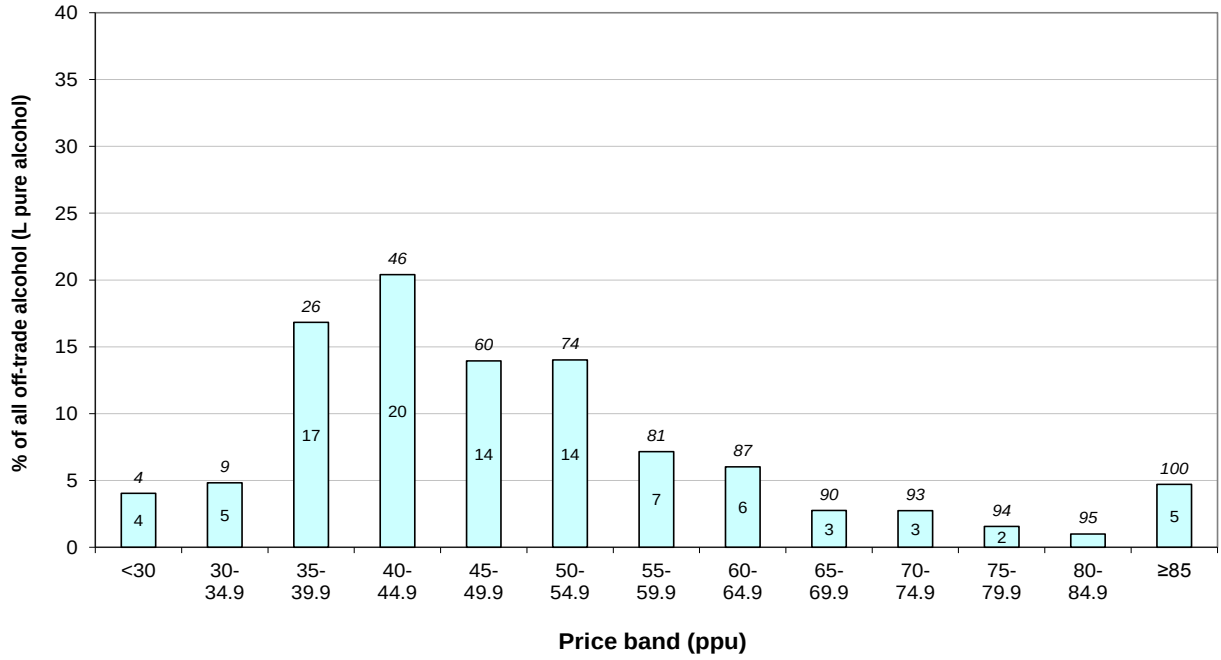
Sources: Disposable Household Income (GDHI) 2011; Nielsen/CGA sales dataset (off-trade sales in 2011 and 2012 adjusted to account for the loss of discount retailers).

Price distribution of alcohol sold through the off-trade in Scotland, 2012

Of the total volume of pure alcohol sold through the off-trade (excluding discount retailers) in Scotland in 2012, 26% was sold below 40ppu, 60% below 50ppu, 81% below 60ppu and 90% below 70ppu. Figure 5.6 shows that the largest single proportions were sold at 35-39.9ppu and 40-44.9ppu (17% and 20% respectively).

Figure 5.6: Price distribution (%) of pure alcohol sold off-trade in Scotland, 2012

Numbers above the bars indicate cumulative percentages.

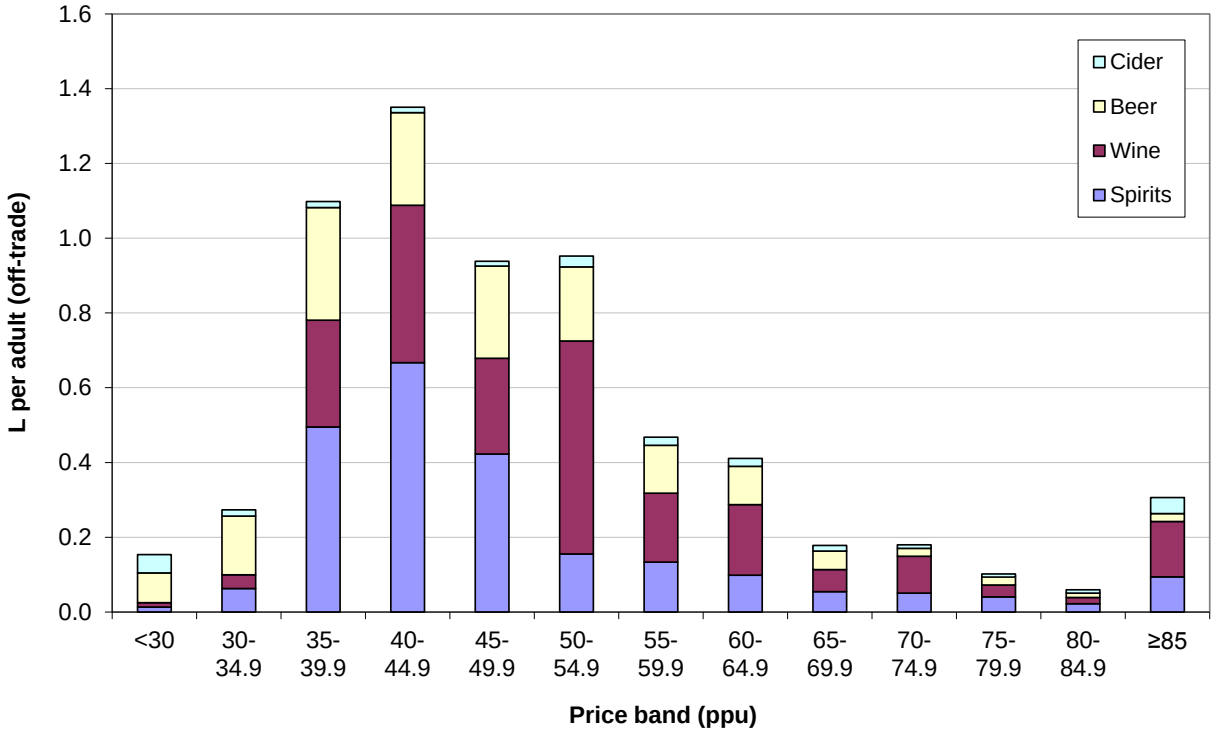


Source: Nielsen off-trade price band dataset (excluding discount retailers).

The percentage price distributions of each of the main drink categories (spirits, wine, beer and cider), as well as other drink types within categories (vodka, whisky, premium and standard beer) are presented in the MESAS update report published in August 2013.[7]

Figure 5.7 presents the volume of pure alcohol sold through the off-trade per adult in Scotland, within each drink category across the price distribution. Cider (45%) and beer (28%) accounted for the highest proportions of alcohol sold off-trade at below 30ppu, although the total volume of pure alcohol sold at below 30ppu was small (0.3L per adult). Most off-trade alcohol was sold at between 35-54.9ppu (4.5L per adult; 65% of total), of which spirits accounted for 38%, wine for 34%, beer for 22%, cider for 4% and other drink categories for the remaining 2%. Of the 1.8L of off-trade alcohol sold per adult at 55ppu and above, 40% was wine, 27% was spirits, 20% was beer, 6% was cider and 7% was other.

Figure 5.7: Litres of pure alcohol sold per adult (aged ≥16 years) in Scotland, by price band, 2012

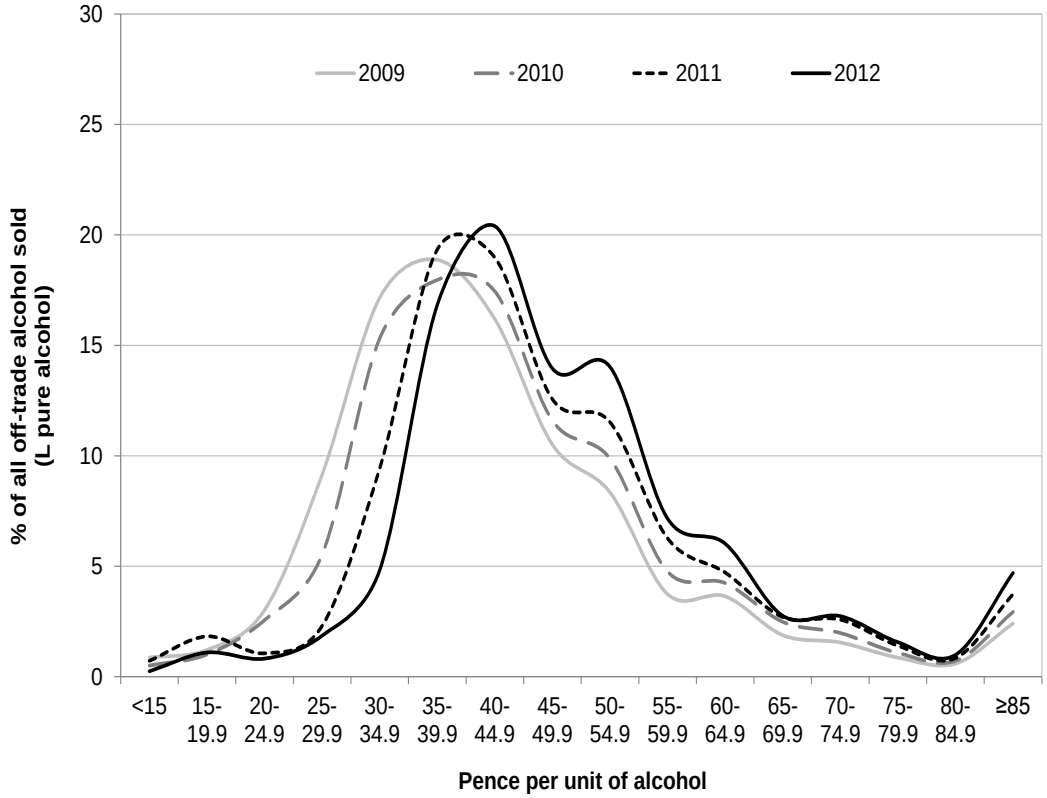


Source: Nielsen off-trade price band dataset (excluding discount retailers).

Trend in price distribution (%) of off-trade alcohol sales in Scotland, 2009-2012

An increase in the average price of alcohol was noted earlier (Figure 5.4). Although the upward trend was more marked in the on-trade, average off-trade sales prices increased by 29% between 2000 and 2012. This is reflected in recent price band data for 2009-2012. Figure 5.8 shows the changes in proportions of all off-trade alcohol sold within each price band over this 4-year period. Compared with the previous year, higher proportions of off-trade alcohol were sold at each price band above 40ppu in 2010, 2011 and 2012. In contrast, lower proportions were generally sold within each price band below 35ppu, with the proportion sold at 35-39.9ppu remaining broadly similar over time.

Figure 5.8: Price distribution (%) of pure alcohol sold off-trade in Scotland, 2009-2012



Source: Nielsen off-trade price band dataset (excluding discount retailers)

Table 5.1 illustrates the impact of increasing average sales prices on the proportion of alcohol sold below various price thresholds. In 2009, 77% of all off-trade alcohol was sold at less than 50ppu, falling to 60% in 2012. At the upper end of the price band distribution, 95% of all off-trade alcohol was sold at less than 70ppu in 2009, falling to 90% in 2012. Table 5.1 also emphasises the wide variation between drink categories in the proportion of alcohol sold below different price thresholds. Nonetheless, the proportion of alcohol sold below each price per unit diminished over time across all drink categories. Furthermore, the percentage point decline between 2009 and 2012 was smaller at higher prices. For instance, there was a 24% point decrease between 2009 and 2012 in the proportion of alcohol sold at less than 40ppu, compared to only a 5% point drop in the proportion sold at below 70ppu.

Although a full description is not provided in this report, similar changes were observed in England & Wales.

Table 5.1: Proportion each drinks category sold in the off-trade below different prices per unit, 2009-2012

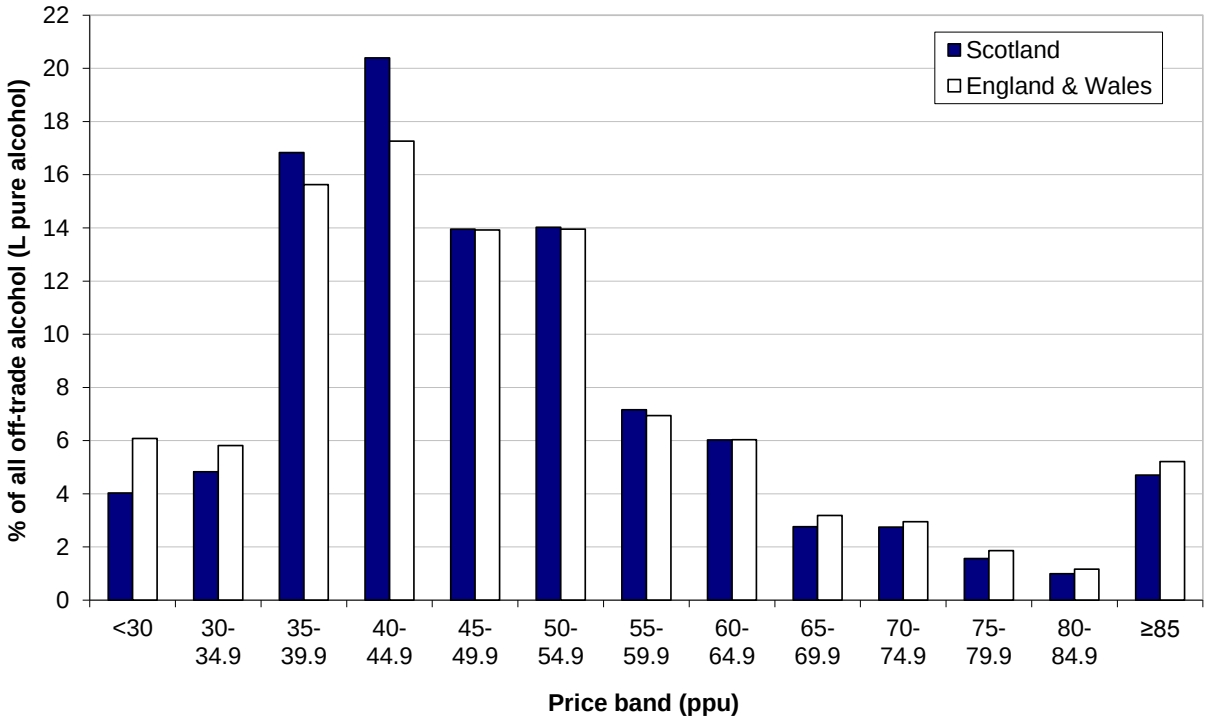
		All alcohol	Spirits	Wine	Beer	Cider
<30ppu	2009	14	13	4	18	46
	2010	10	3	2	18	43
	2011	6	1	1	10	34
	2012	4	1	1	5	26
<40ppu	2009	50	63	34	50	74
	2010	43	53	25	48	70
	2011	35	37	20	43	62
	2012	26	25	14	34	54
<50ppu	2009	77	84	68	79	86
	2010	72	79	62	76	82
	2011	66	76	52	72	79
	2012	60	72	44	65	75
<60ppu	2009	89	92	84	93	91
	2010	87	89	82	90	89
	2011	84	87	79	88	88
	2012	81	84	76	86	86
<70ppu	2009	95	95	93	98	95
	2010	93	94	91	97	94
	2011	91	92	89	96	92
	2012	90	91	87	95	90

Source: Nielsen off-trade price band dataset (excluding discount retailers).

Price distribution of alcohol sold through the off-trade in Scotland and England & Wales, 2012

The price distributions for Scotland and England & Wales in 2012, when expressed as a percentage of the total volume of pure alcohol sold off-trade, were broadly similar (Figure 5.9). Of the total volume of pure alcohol sold off-trade in Scotland in 2012, 26% was sold below 40ppu, 60% below 50ppu, 81% below 60ppu and 90% below 70ppu. In England & Wales, 28% was sold below 40ppu, 59% below 50ppu, 80% below 60ppu and 89% below 70ppu.

Figure 5.9: Price distribution (%) of pure alcohol sold off-trade in Scotland and England & Wales, 2012

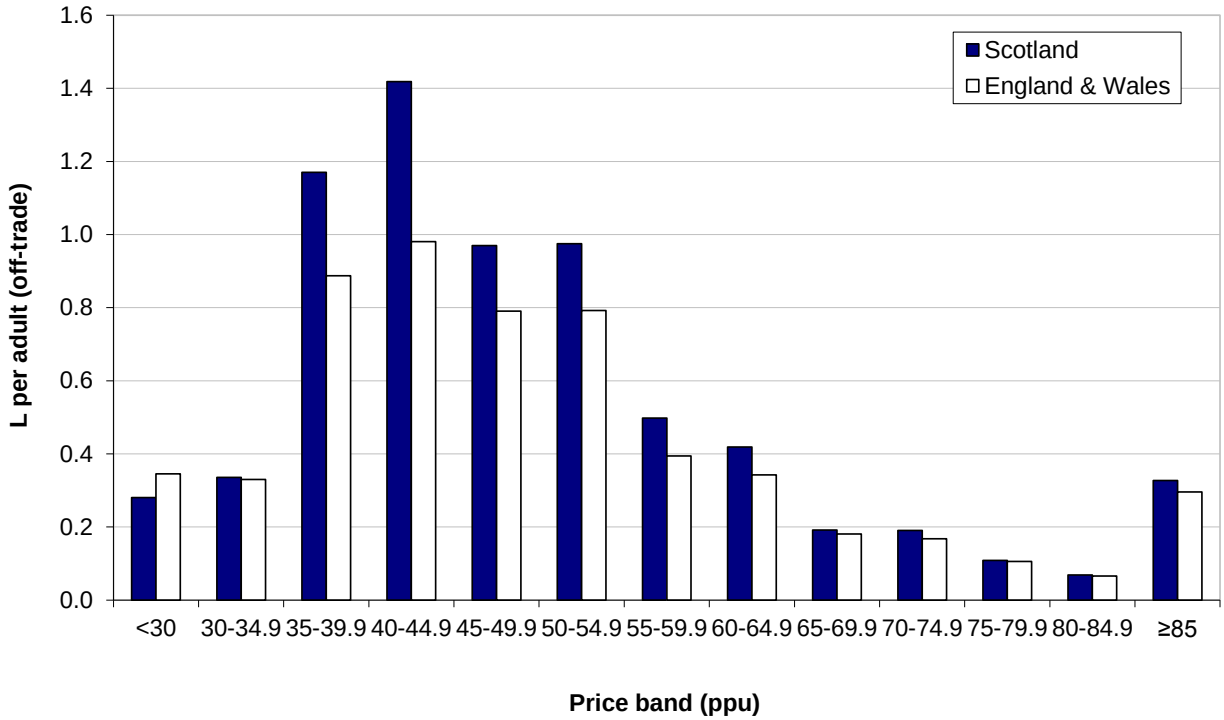


Source: Nielsen off-trade price band dataset (excluding discount retailers).

Although the price distributions are broadly similar, there are some notable differences at the lower price bands. A higher proportion of alcohol is now sold at <30ppu in England & Wales, a change since 2009 when a higher proportion of alcohol was sold at <30ppu in Scotland. This is due to comparatively higher sales of beer and cider at the lowest prices. In Scotland, a higher proportion of alcohol is sold at between 35-44.9ppu, which is due to a higher proportion of spirits being sold within these price bands (data not shown).

Although the price distribution is similar between Scotland and England & Wales in percentage terms, there are marked differences between countries in the volume of alcohol sold per adult at different price bands. Chapter 4 showed that the volume of pure alcohol sold off-trade per adult in Scotland is substantially higher than in England & Wales. Figure 5.10, which expresses the price distribution of off-trade sales as the volume of pure alcohol sold per adult (as opposed to a proportion of total off-trade sales), reveals that the additional volume of alcohol sold in Scotland was not spread evenly across the price bands. Over half (57%) of the total disparity was due to alcohol sold between 35–44.9ppu, while 85% of the difference was accounted for by alcohol sold between 35-54.9ppu.

Figure 5.10: Price distribution (L per adult) of pure alcohol sold off-trade in Scotland and England & Wales, 2012

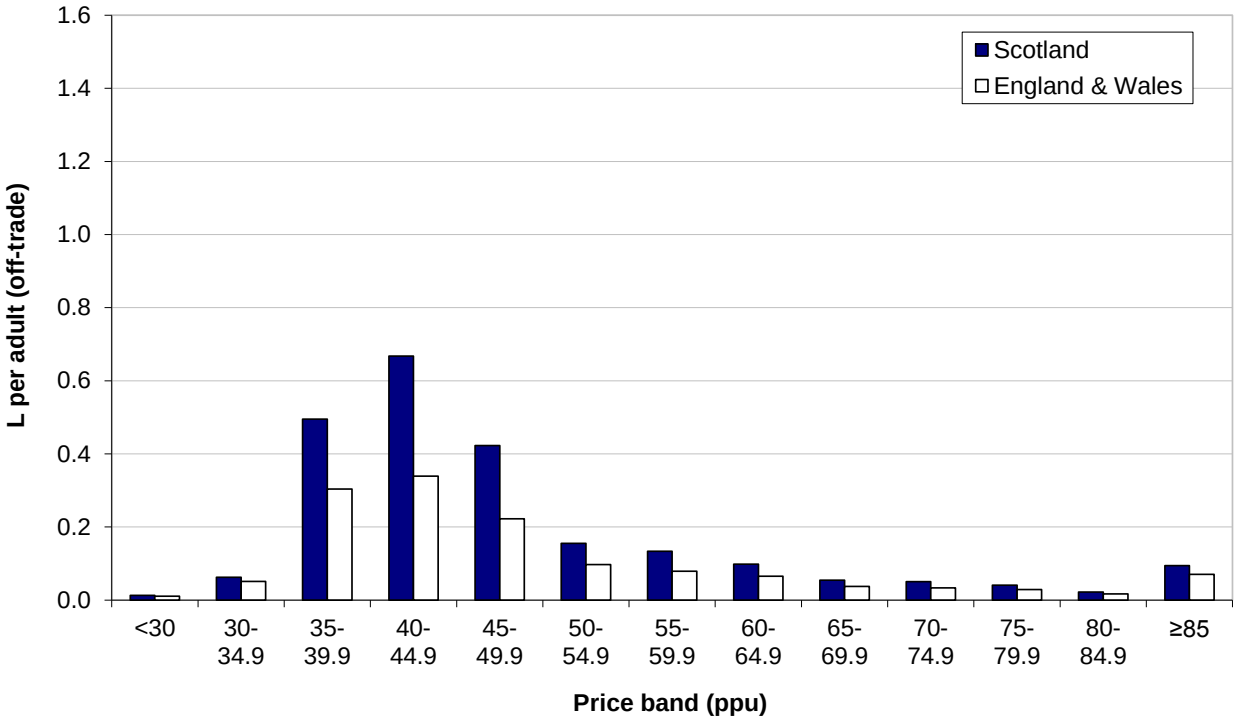


Source: Nielsen off-trade price band dataset (excluding discount retailers).

Analysis of the price distribution of spirits reveals that 75% of the additional volume sold per adult in Scotland was sold at between 35 and 49.9ppu (Figure 5.11). This accounts for 56% of the total difference in off-trade sales and almost half (47%) of the difference in on- and off-trade sales combined. This pattern was largely driven by vodka with 2.4 times more vodka being sold off-trade at between 35-49.9ppu in Scotland than in England & Wales (Figure 5.12). This equates to 34% of the total difference in off-trade sales and 29% of the total difference in on- and off-trade sales combined.

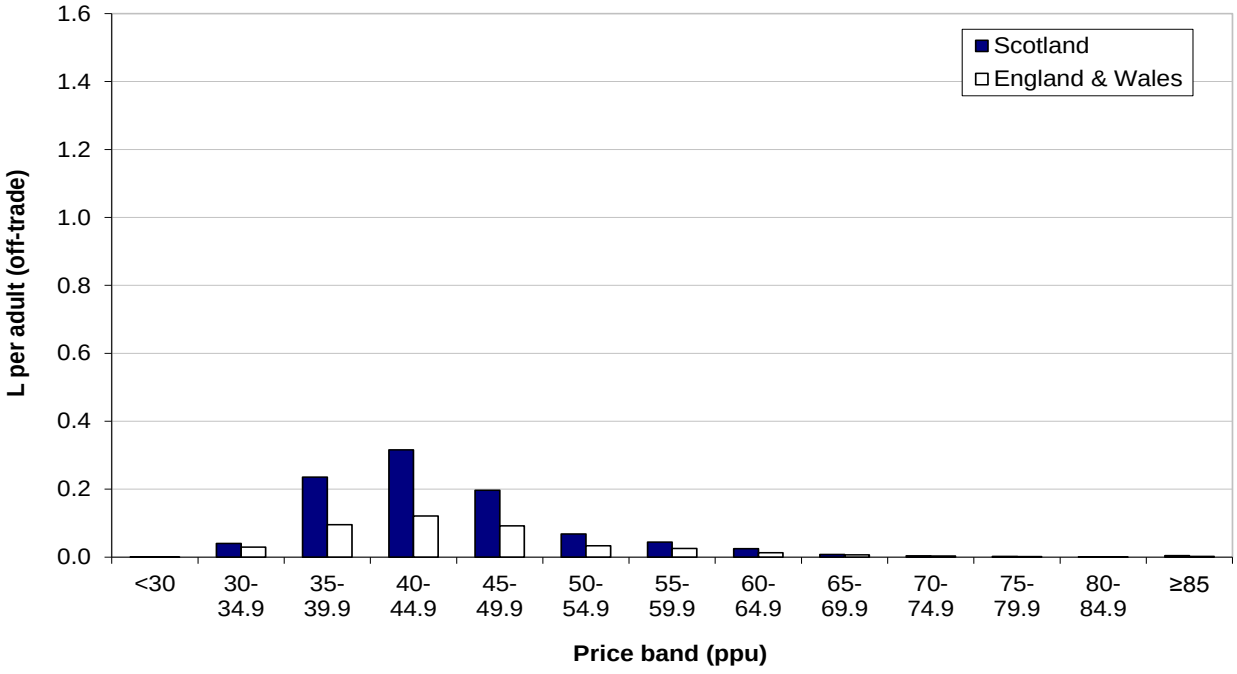
The additional whisky sold per adult in Scotland compared with England & Wales is also explained by higher sales at the cheaper end of the price distribution. For example, 57% more whisky was sold per adult in Scotland at below 50ppu, equivalent to less than £14 for a 70cl bottle (figure not shown).

Figure 5.11: Price distribution (L per adult) of pure alcohol sold off-trade as spirits in Scotland and England & Wales, 2012



Source: Nielsen off-trade price band dataset (excluding discount retailers).

Figure 5.12: Price distribution (L per adult) of pure alcohol sold off-trade as vodka in Scotland and England & Wales, 2012



Source: Nielsen off-trade price band dataset (excluding discount retailers).

Discussion

The affordability of alcohol has increased substantially since the 1980s, driven by rising disposable incomes. Between 2007 and 2011, however, affordability fell due to falling real incomes and an increase in the alcohol price index i.e. the increase in prices of alcohol relative to prices in general. Affordability rose slightly in 2012.

Affordability has increased most in the off-trade and, in particular, for off-trade beer. Nonetheless, in recent years, affordability has fallen for all drinks types except off-trade beer. The relative price and affordability shift in favour of the off-trade continues to be reflected in much higher off-trade sales, both compared to the start of the period and compared to on-trade sales, although there have been recent falls in off-trade sales.

Country-specific affordability indices cannot be calculated using the method used to calculate the UK Alcohol Affordability Index due to the absence of country-specific price indices. There has been a slightly faster growth in current disposable income in Scotland than England & Wales and a slightly slower growth in average sales prices. Although speculative, this suggests that affordability may have increased slightly more quickly and may have been sustained for longer in Scotland, which may, in part, explain why sales continued to increase for longer in Scotland than in England & Wales before beginning to fall around the time of the recent economic downturn (Figure 5.2).

Analysis of off-trade price distribution data shows that 60% of off-trade alcohol sold in Scotland in 2012 was sold at below 50ppu, the initial level proposed by the Scottish Government if the Minimum Pricing Act is implemented. This compares with 77% in 2009. This is partly due to alcohol price inflation, in particular for wine and spirits. ONS retail price data show that off-trade sale wine and spirit prices increased by nearly 30% between 2000 and 2012. This highlights the importance of the Scottish Government's proposed two-year review process of the level at which the minimum price for alcohol is set.

Consistent with findings published in previous MESAS reports, the proportions of off-trade alcohol sold at different price bands in 2012 were similar in Scotland and England & Wales. However, this chapter has again highlighted the stark differences in the volume of alcohol sold per adult at different price bands. Higher off-trade sales in Scotland were common across most of the price distribution (although not for sales at <30ppu) and across most drink types, but they were particularly marked in the 35-54.9ppu range, accounting for 85% of the total difference in per adult off-trade sales. This was largely driven by higher spirits sales in Scotland within this price range, particularly vodka. The alcohol sold within these cheaper price bands - consumed in much higher volumes in Scotland compared with the rest of Great Britain - would be most affected by MUP.

6. Alcohol-related harm

Introduction

The mean consumption of alcohol in a population is directly linked to the amount of alcohol-related health harm, although the strength of the relationship varies by country.[58] The more a population drinks the more harm it will experience, with harm related both to levels and patterns of consumption.[59] Harm can either be to an individual's health, such as liver disease or brain damage, or can arise through the wider adverse social consequences of alcohol use (e.g. offending, unemployment or absenteeism from work or school). These harms are not only experienced by the person consuming alcohol but also occur through impact on others, such as victims of alcohol-related violence. Chapter 4 describes alcohol consumption in Scotland in recent years.

This chapter provides a descriptive analysis of trends in key indicators of alcohol-related health and social harms in Scotland, and harms in specific sub-groups of the population, where possible updating the indicators reported in the previous two MESAS annual reports.[1,2] Where data permit, comparisons are made with England & Wales to determine whether these trends are Scotland-specific or part of wider UK trends, both in nature and scale.

Methods

Alcohol-related hospital discharges

The Information Services Division (ISD), part of National Services Scotland, routinely collates information on acute (non-obstetric, non psychiatric) hospital discharges from the submission of Scottish Morbidity Records (SMR01) by NHS Boards.[60] These data are available from 1981 to 2012. Each SMR01 collects information on a patient's diagnosis (or diagnoses) using International Classification of Disease Codes (ICD codes). Alcohol-related (acute) hospital discharges have been defined as in ISD routine reporting.[61] This indicator has been selected as it is robust, has long term trend data available and includes causes which are completely attributable to alcohol. However, substantial change to service delivery for alcohol problems (such as a shift to more delivery of care in the community setting) would have the potential to affect this indicator for future reporting (as is the case for psychiatric hospital discharges). The other disadvantage of this indicator is that it does not take account of conditions partly attributable to alcohol, so underestimates the overall burden of harm related to alcohol.

Each SMR01 record has space to record up to six different diagnoses. Analysis was carried out to determine if any of the six spaces had an alcohol-related code, with each discharge (a continuous inpatient stay) only being counted once. All analysis carried out in this year's MESAS report takes into account the updated analysis methods detailed in Alcohol-related Hospital Statistics Scotland 2011/12.[61]

In 1996, ISD moved from using the 9th revision to the 10th revision of the ICD. The change introduced a number of new alcohol-related ICD codes. However, mapping of codes from ICD9 to ICD10 is not exact and so caution must be used when interpreting trends over longer timeframes. Following a reappraisal of ICD9 codes used for the hospital discharge analysis, changes to the code set have been made to exclude any codes that are not completely attributable to alcohol. Inclusion of these codes in analysis presented in previous MESAS reports resulted in an over estimation of alcohol-related hospital discharge rates between 1982/83 and 1995/96.

Trends in all alcohol-related hospital discharge rates from 1982/83 to 2011/12 are presented by age group, gender and selected clinical groupings of alcoholic liver disease and alcohol psychoses. The alcohol psychoses indicator contains a group of diagnoses based on the ICD9 term 'alcohol psychosis' and which has been mapped to the corresponding ICD10 codes. The

diagnoses included are: F10.3 withdrawal state; F10.4 withdrawal state with delirium; F10.5 psychotic disorder; F10.6 amnesic syndrome; F10.7 residual and late onset psychotic disorder; F10.8 other mental and behavioural disorders. These two clinical groupings (alcoholic liver disease and alcohol psychoses) were chosen as being robust (including over time) and are indicative of long term damage from alcohol consumption. The more acute (short term) indicators such as acute intoxication are less robust over time due to changes from ICD9 to ICD10 coding.

Alcohol-related hospital discharge rates were also explored by deprivation category, with deprivation defined by the Scottish Index of Multiple Deprivation (SIMD).[62] In this report, trends in relation to deprivation are presented for the period 2001 to 2012. In addition, deprivation trends are analysed by deciles in contrast to quintiles reported in the previous two MESAS annual reports.[1,2] Deciles used within ISD are obtained by ranking the data zones from most to least deprived, then splitting this ranking into ten deprivation deciles with approximately 10% of the all-ages population in each decile ('population weighted'). Using deciles allows for more detailed analysis of the relationship between alcohol-related hospital discharges and levels of deprivation.

Comparable hospital discharge data were not available for England & Wales.

All figures may differ slightly from previously published routine statistics due to more complete data being available. Figures have been directly age and sex standardised, where appropriate, using the 1976 European Standard Population.

Alcohol-related mortality

The National Records of Scotland (NRS) routinely reports national statistics on all deaths for Scotland. As with acute hospital discharges, ICD codes are used to categorise cause(s) of death. Using the UK definition of an alcohol-related death[63], analysis has been undertaken on the underlying (i.e. main) causes of death only. The set of ICD9 codes used in this report has now been aligned with the NRS mapping, from ICD9 to ICD10, of alcohol related death codes used by NRS.[63] Trends in alcohol-related mortality rates from 1982-2012 are described, broken down by age, gender, deprivation (SIMD) and by the clinical grouping of alcoholic liver disease. Trends by deprivation decile (see section on alcohol related hospital discharges) are presented for the period 2001 to 2012. Figures have been age and sex standardised, where appropriate, using the 1976 European Standard Population. This indicator does not take account deaths partly attributable to alcohol, so underestimates the overall burden of harm related to alcohol.

Comparable available data are presented for alcohol-related deaths for England & Wales, published by the Office of National Statistics (ONS).[64] At the time of publication, alcohol-related mortality data for 2012 for England & Wales had not been published.

Adverse consequences for children

A selection of indicators of adverse consequences for children following their own alcohol consumption was selected from the Scottish Schools Adolescent Lifestyle and Substance Use Survey (SALSUS).[65] For health harm, these indicators are for children who, as a result of their alcohol consumption, have vomited, had an injury that needed to be seen by a doctor or were admitted to hospital overnight. For social harm, these indicators are for children who, as a result of their alcohol consumption, have got into an argument, had been in trouble with the police, had got into a fight or had stayed off school. The survey publishes information on smoking, drinking and drug use among 13-15 year olds in Scotland every two years, with data available from 2002. In 2012, the Scottish Government undertook a consultation on the content of SALSUS, therefore, there is no update to this indicator in this year's report. The next SALSUS survey will report in 2014.

Crime

Although alcohol is a likely contributory factor in many crimes, few crimes committed are entirely due to alcohol consumption. Two crime indicators which are 100% attributable to alcohol are the offences of drunkenness and driving under the influence of alcohol. It should be noted that changes in police practice, as well as broader social norms, may affect these indicators over time (for example, a change in legislation to enable random breath testing or change in the public acceptability of driving under the influence of alcohol). Time trends for these two offences are reported from 2001/02-2012/13, taken from the Recorded Crime in Scotland statistical bulletin.[66]

Alcohol is reported as a known factor in homicides. Annual figures from 2000/01 onwards are given, taken from Homicides in Scotland.[67]

The Scottish Crime and Justice Survey (SCJS)[68] and the Scottish Prisoners Survey (SPS) [69] both regularly collect self-reported information on aspects of alcohol and crime. The SCJS reports information on victims whose criminal incident involved a perpetrator who was under the influence of alcohol. It should be noted that this indicator is based on the perception of the victim rather than any objective measurement. There is no update to this indicator in this year's report as the SCJS is now carried out every two years and is due to report in 2014. The SPS provides self-reported data on the proportion of prisoners who were drunk at the time of their offence (data from 2005). There is no update to this indicator in this year's report at the time of writing.

Data, along with ICD codes, used to create the figures presented in this chapter are provided in the supporting Excel spreadsheets on the MESAS web pages.[41]

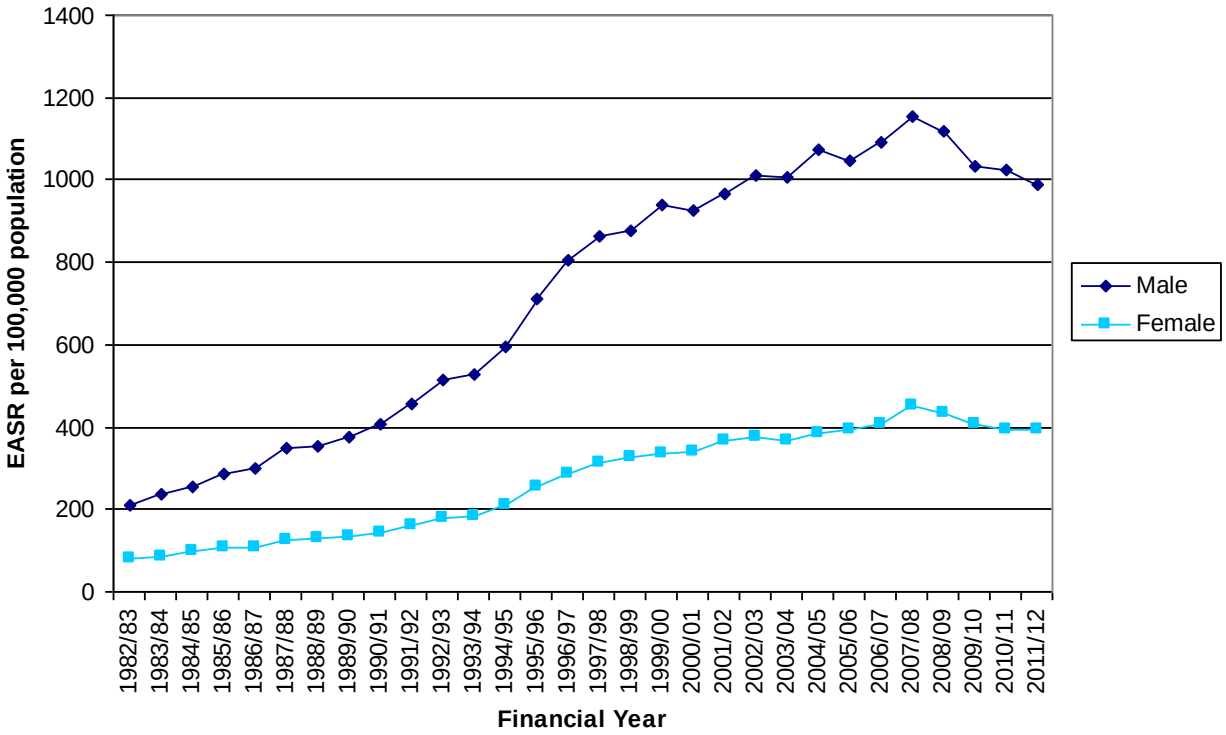
Results

Alcohol-related acute hospital discharges

In Scotland in 2011/12, the alcohol-related acute hospital discharge rate (European Age Standardised Rate or EASR) was 691/100,000 population, a fall from the previous year (709/100,000). Overall, rates have fallen by 14% over the last four years from a peak in 2007/08, but remain substantially higher than the rates seen in the 1980s (Table 6.1 – in the supporting Excel spreadsheets available online[41]).

In 2011/12, rates for men were more than double those for women (989/100,000 and 393/100,000 respectively), consistent with the pattern in 2010/11. Rates for men fell from the previous year (from 1,023/100,000 to 989/100,000) but among women there no appreciable change (395/100,000 in 2010/11 and 393/100 000 in 2011/12; Figure 6.1).

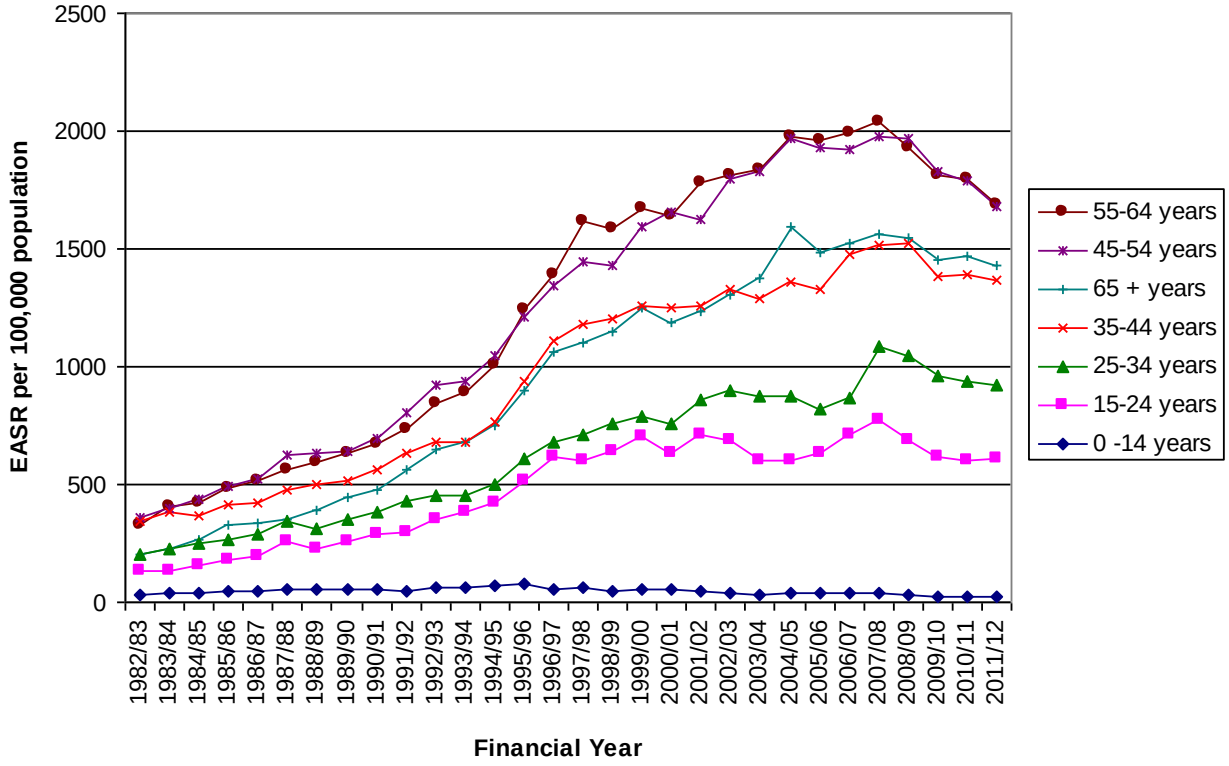
Figure 6.1: General acute inpatient discharge rates (EASR) with an alcohol-related diagnosis in any position, by gender, 1982/83 - 2011/12



Source: ISD Scotland (SMR01).

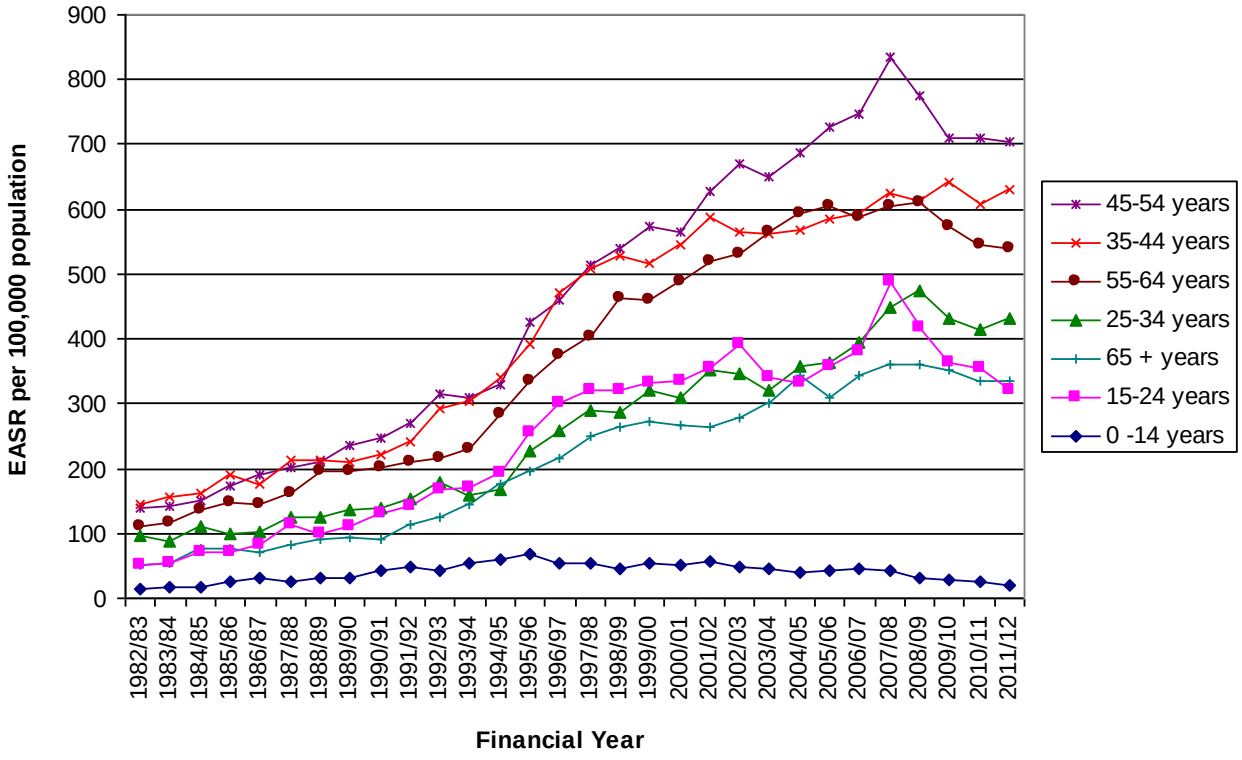
Rates have generally fallen across age groups from a peak in 2007/08, with the largest decreases occurring in men and women aged 15-24 years and between 45-64 years. Among men aged 15-24 years, however, rates have risen slightly over the last year (from 601/100,000 to 610/100,000). Over the last year, rates have also risen in women aged 25-34 years (from 414/100,000 in 2010/11 to 431/100,000 in 2011/12) and in those aged 35-44 years (from 608/100,000 to 631/100 000) (Figure 6.1a and Figure 6.1b).

Figure 6.1a: General acute inpatient discharge rates (EASR) with an alcohol-related diagnosis in any position, men by age group, 1982/83 - 2011/12



Source: ISD Scotland (SMR01).

Figure 6.1b: General acute inpatient discharge rates (EASR) with an alcohol-related diagnosis in any position, women by age group, 1982/83 - 2011/12



Source: ISD Scotland (SMR01).

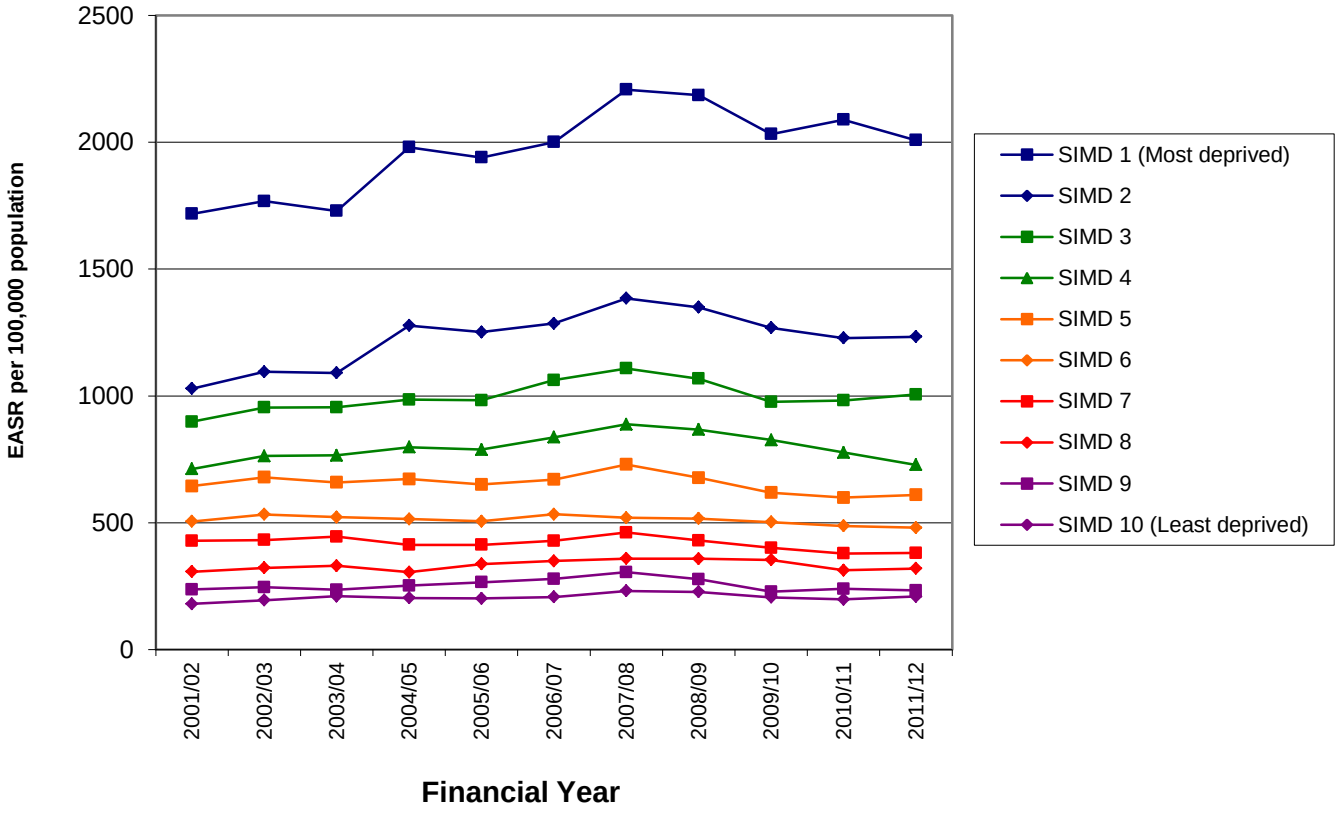
Alcohol-related acute hospital discharges, by area deprivation

In 2011/12, alcohol-related acute hospital discharge rates in the most deprived decile (as measured by the Scottish Index of Multiple Deprivation (SIMD)) were 9.6 times greater than in the least deprived decile (2,008/100,000 compared with 209/100,000). This compares to a difference of 10.6 times greater in 2010/11 (2,089/100,000 compared to 198/100,000).

In absolute terms, from a peak of 2007/08, there was a larger fall in the most deprived decile (from 2,207/100,000 to 2,008/100,000) compared to the least deprived decile (from 231/100,000 to 209/100,000). Overall, however, over the ten year period presented in Figure 6.2, the ratio between in the most and least deprived decile in Scotland has remained constant, with rates around 9.5 times greater in the most deprived decile.

Rates in all deciles have fallen from the peak in 2007/08 with rates in the least and most deprived decile having fallen by 10% and 9% respectively. Despite this, rates in the most deprived and least deprived decile are still 17% higher than those reported in 2001/02 (Figure 6.2).

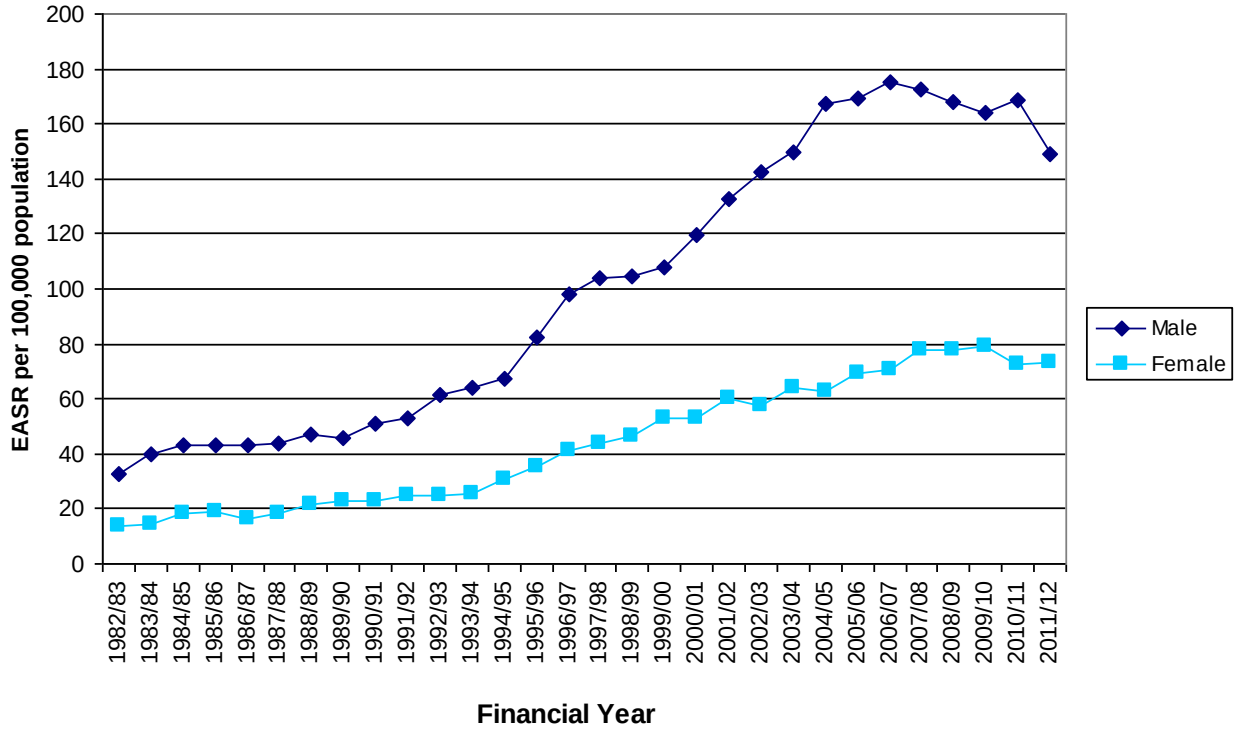
Figure 6.2: General acute inpatient discharges rates (EASR) with an alcohol-related diagnosis in any position by SIMD deprivation decile, 2001/02 – 2011/12



Alcohol-related acute hospital discharges: Alcoholic liver disease

In 2011/12, acute hospital discharge rates for alcoholic liver disease were 111/100,000, a decrease from the previous year (121/100,000). Overall, rates have fallen by 11% from a peak in 2007/08. However, this follows an upward trend from 1982/83 when overall rates had risen more than fivefold (from 23/100,000 to 125/100,000 population in 2007/08), and rates remain substantially above the levels seen in the 1980s. In 2011/12, rates for men were more than double (2.1) those for women (152/100,000 compared with 74/100,000), a similar pattern to the previous year. Rates for men were lower than the previous year (149/100,000 compared to 169/100,000) whereas rates for women were the same as the previous year (73/100,000) (Figure 6.3).

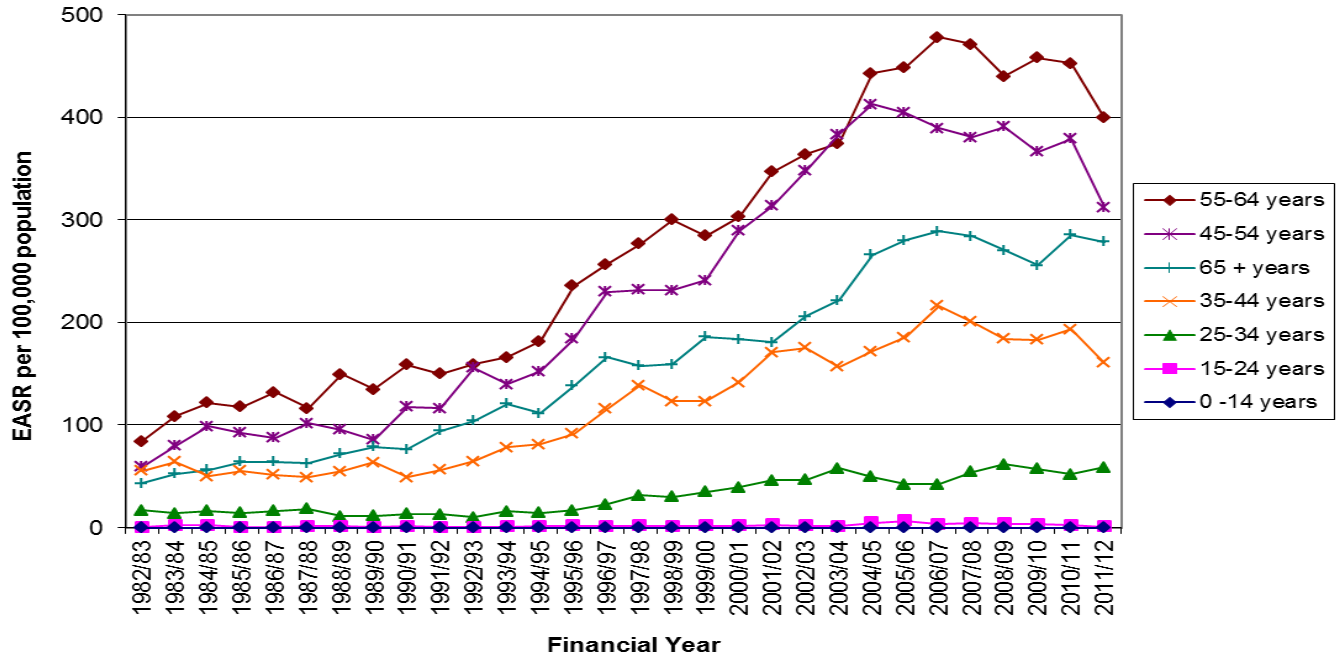
Figure 6.3: General acute inpatient discharges with a diagnosis of alcoholic liver disease in any position, EASR, by gender, 1982/83 – 2011/12



Source: ISD Scotland (SMR01).

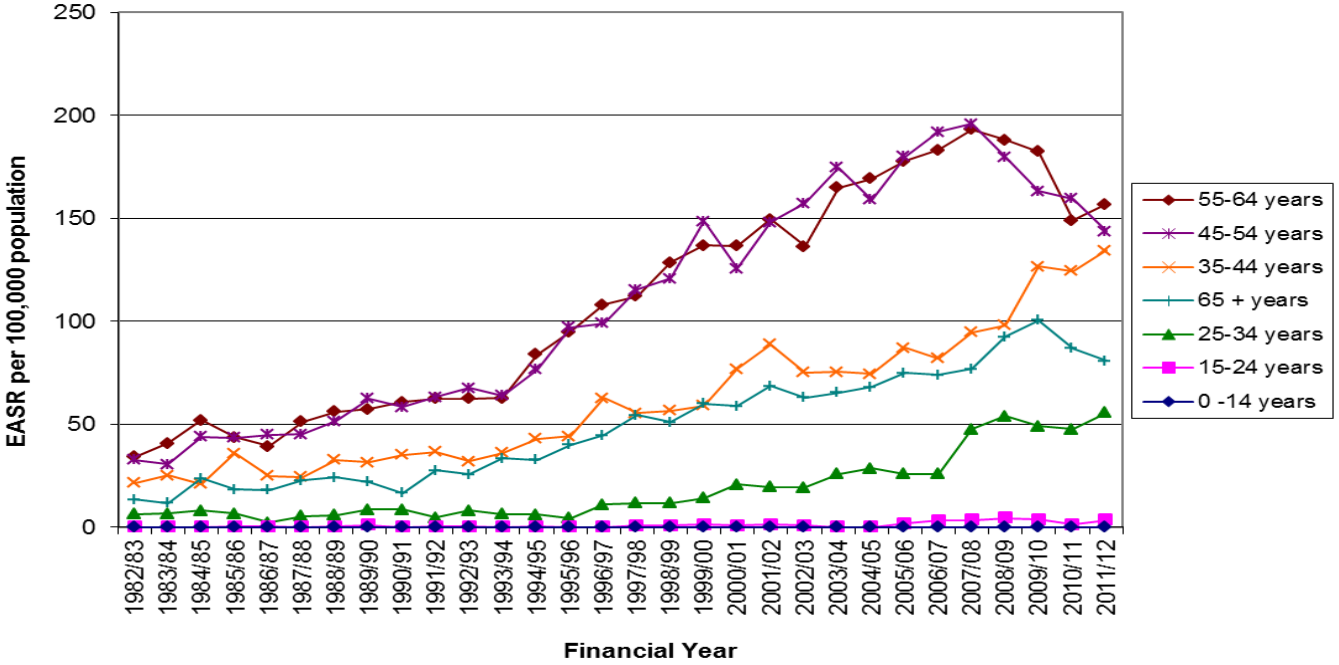
Alcoholic liver disease rates were highest amongst those aged 55-64 years (278/100,000), a similar pattern to the previous year. Over the last year, rates in men fell in those aged 35 years and older and in those younger than 25 years but rose in men aged 25-34 years (from 52/100,00 to 59/100,000). In contrast, among women, rates fell from the previous year in those aged 65+ years and 45-54 years but increased in all other age groups. Rates in women aged 25-44 years were the highest reported in this age group since the time series began. Patterns over time, however, across age groups showed substantial variation (Figure 6.3a and Figure 6.3b).

Figure 6.3a: General acute inpatient discharge rates (EASR) with a diagnosis of alcoholic liver disease in any position, men by age group, 1982/83 - 2011/12



Source: ISD Scotland (SMR01).

Figure 6.3b: General acute inpatient discharge rates (EASR) with a diagnosis of alcoholic liver disease in any position, women by age group, 1982/83 - 2011/12



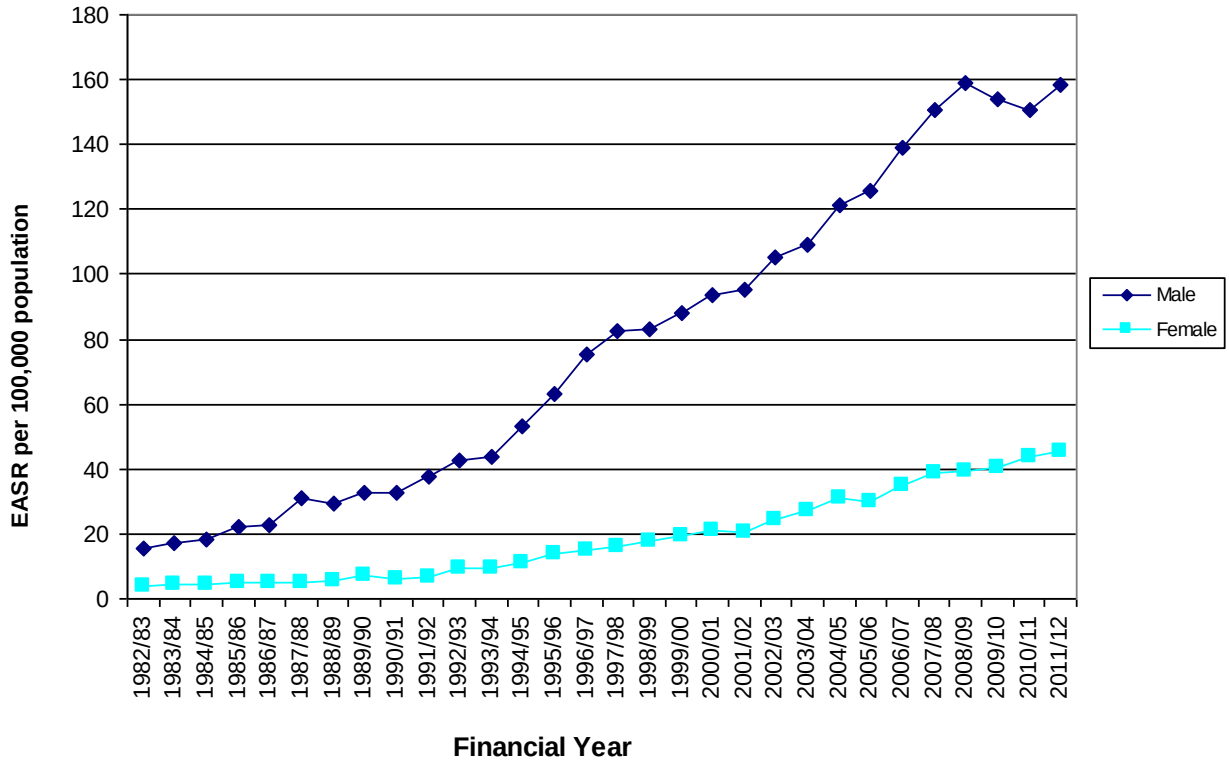
Source: ISD Scotland (SMR01).

Alcohol-related acute hospital discharges: Alcohol psychoses

In 2011/12, acute hospital discharge rates for alcohol psychoses were 102/100,000, a slight increase from the previous year (97/100 000), and the highest recorded rate since the time series began. Between 1982/83 and 2011/12, overall rates for alcohol psychoses have risen tenfold (from 10/100,000 to 102/100,000). In 2011/12, rates for men were 159/100,000, a slight increase from the previous year (151/100,000). Rates for women were also marginally higher than the previous year (46/100,000 compared with 44/100,000). Rates for men were, therefore, 3.5 times

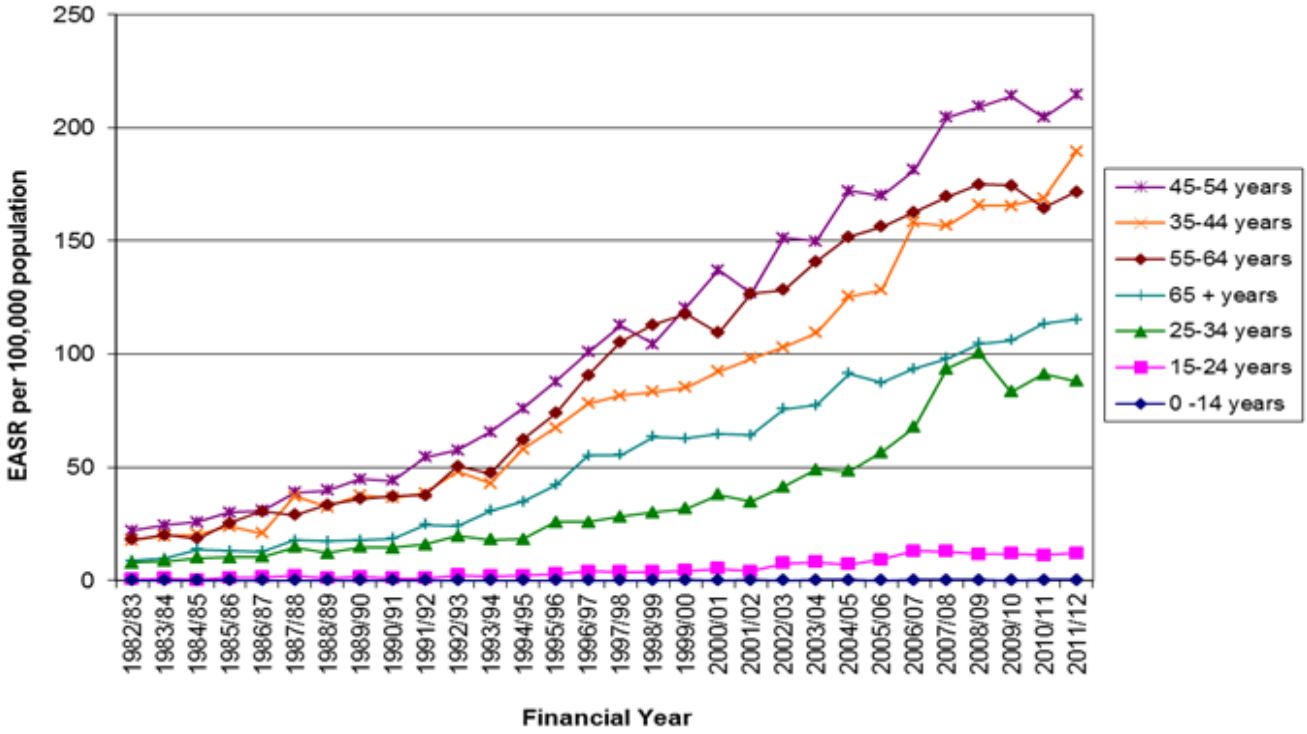
greater than for women in 2011/12, similar to the relative difference reported in 2010/11. Rates for women continue to show an upward trend (Figure 6.4). The majority of the clinical grouping alcohol psychoses (81% in 2011/12) was accounted for by the clinical diagnosis of alcohol withdrawal. It is this specific diagnosis that accounted for majority of upward trend in recent years (data not shown).

Figure 6.4: General acute inpatient discharges with a diagnosis of alcohol psychoses in any position, EASR, by gender, 1982/83 – 2011/12



Rates were highest in those aged 45-54 years (214/100,000), a similar pattern to the previous year. For both sexes combined, rates in the age groups, 35-44, 45-54, 55-64 and 65+ years increased in the last year whereas there was no appreciable difference in rates in those aged under 34 years. Patterns over time across age groups were highly variable (Figure 6.4a).

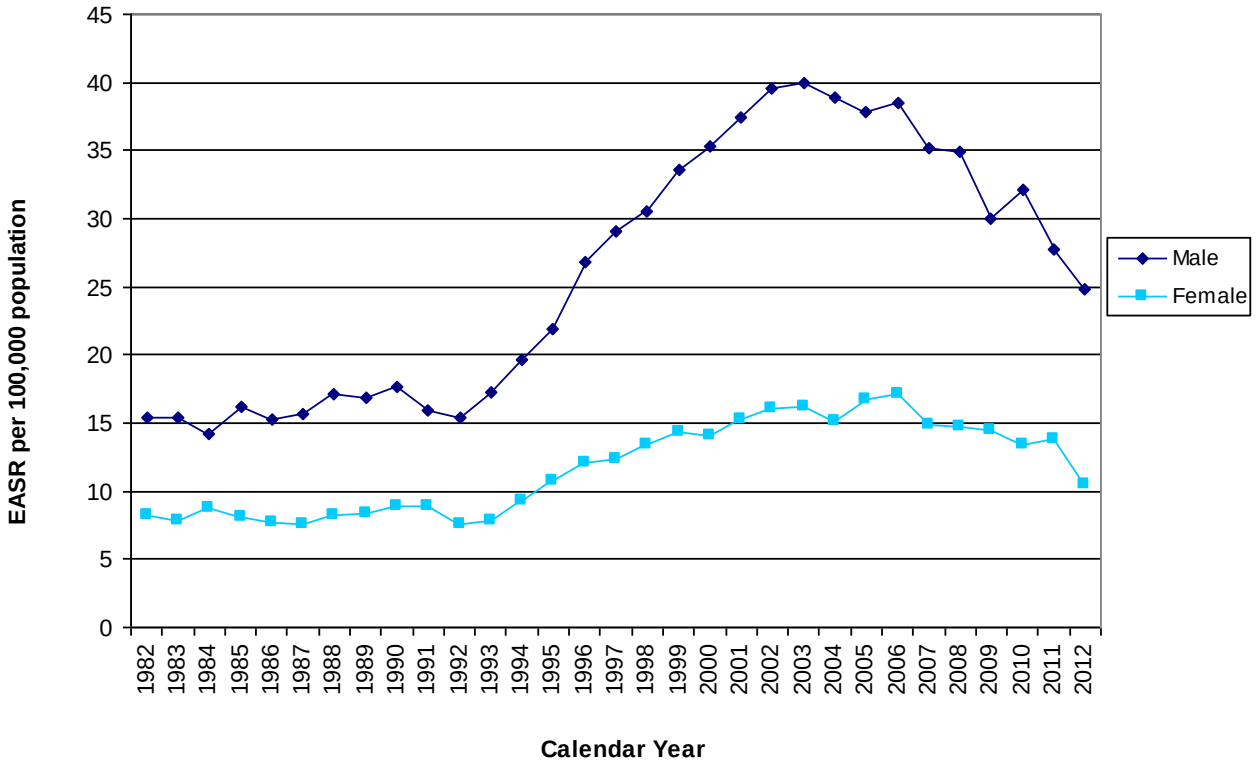
Figure 6.4a: General acute inpatient discharge rates (EASR) with a diagnosis of alcohol psychoses in any position, by age group, 1982/83 - 2011/12



Alcohol-related deaths

In Scotland in 2012, the alcohol-related mortality rate (underlying cause) was 18/100,000 population, a 14% fall from the previous year (21/100,000 population). Overall, rates have fallen by 36% from a peak in 2003 (28/100,000). This follows an upward trend from 1982 when overall rates had more than doubled (from 12/100,000). In 2012, rates for men were 25/100,000 population, a slight fall from the previous year (28/100,000). Rates for women fell, between 2011 and 2012, from 14 to 11/100,000 population. The relative difference between men and women increased from 2.0 to 2.4. Rates for men fell by 38% from a peak in 2003 (40/100,000 population) and rates for women fell by 35% from a peak in 2006 (17/100,000 population) (Figure 6.5). However, in both sexes rates remain substantially higher than those in the 1980's.

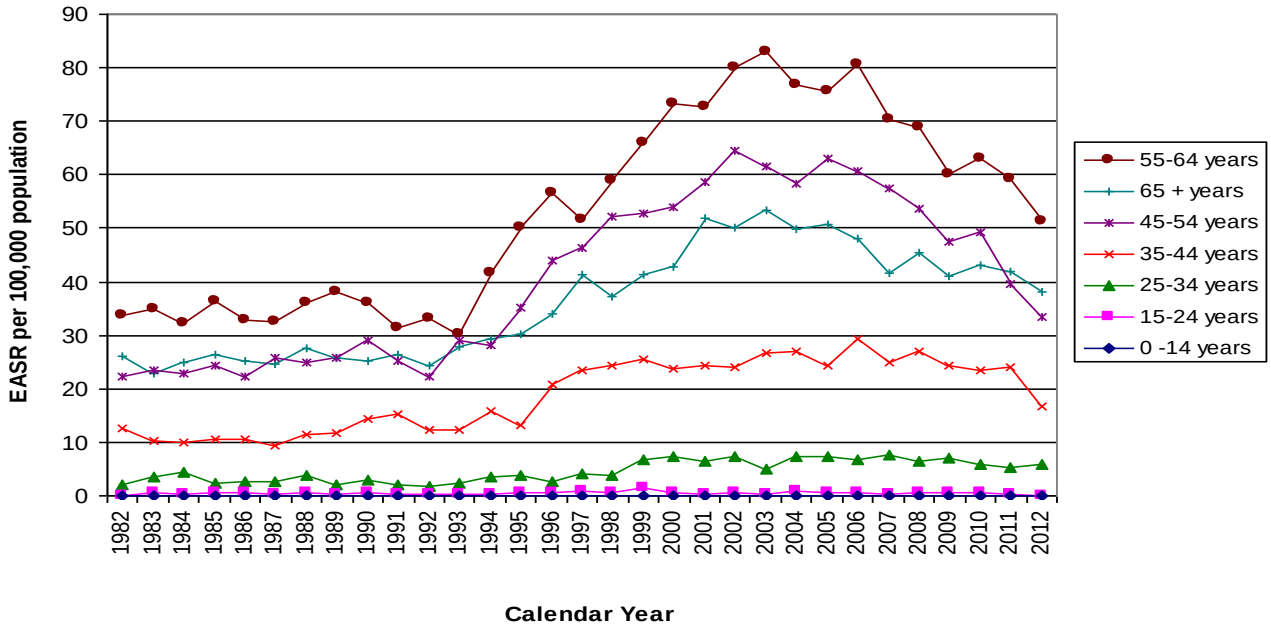
Figure 6.5: Alcohol-related deaths (underlying cause), EASR, by gender, 1982-2012



Source: ISD Scotland (NRS).

Rates were highest in those aged 55-64 years (51/100,000), as they have been in previous years. Rates fell across all age groups except those aged 25-34 years, which showed little change (from 5 to 6 per 100,000). Rates across age groups have generally fallen since 2002-04 but remain above the levels seen in the 1980's (Figure 6.5a).

Figure 6.5a: Alcohol-related deaths (underlying cause), EASR, by age group, 1982 - 2012



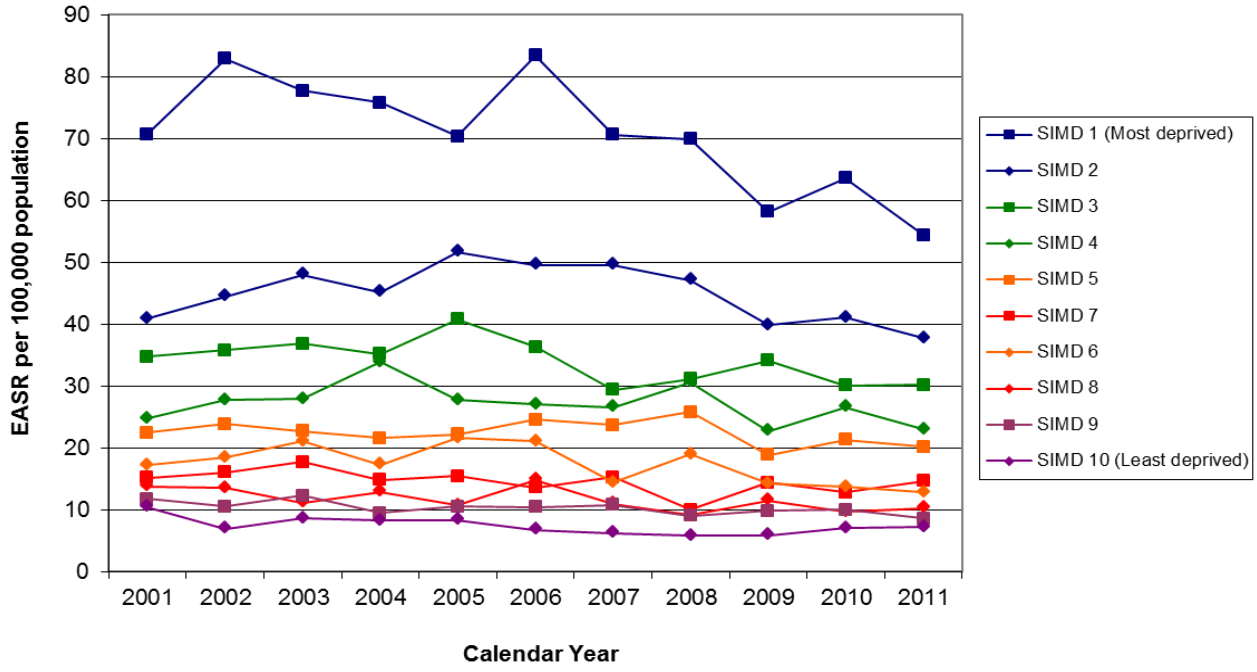
Source: ISD Scotland (NRS).

Alcohol-related deaths by area deprivation

In 2011, alcohol-related mortality rates in the most deprived decile (as measured by SIMD) were 7.7 times greater than in the least deprived decile (54/100,000 compared with 7/100,000). This compares to a difference of 9.1 times greater in 2010 (64/100,000 compared to 7/100,000). Over the ten year period presented in Figure 6.2, the ratio between the most and least deprived deciles was at its highest in 2006 at 11.8 times greater (83/100,00 compared to 7/100,000) in the most deprived decile. By 2011, the ratio had reduced to 7.7 (54/100,000 compared to 7/100,000).

Trends in rates across deciles have varied. For example, there has been a marked downward trend in the most deprived decile, decreasing from 83/100,000 in 2006 to 54/100,000 in 2011. In contrast, between 2001 and 2009 rates in the least deprived decile fell from 11/100,000 to 6/100,000 but have remained constant at this level since 2009 (Figure 6.6).

Figure 6.6: Alcohol-related deaths (underlying cause), by deprivation category, 2001-2011

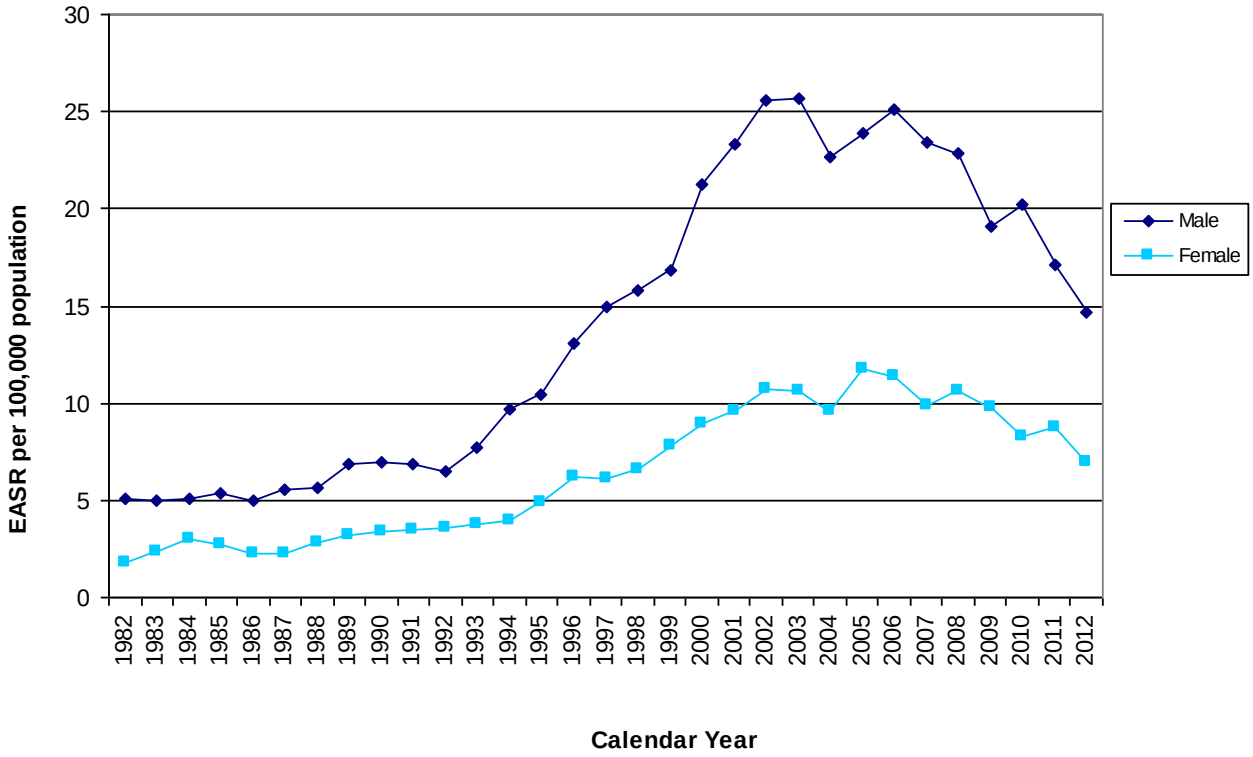


Source: ISD Scotland (NRS).

Alcohol-related deaths: Alcoholic liver disease

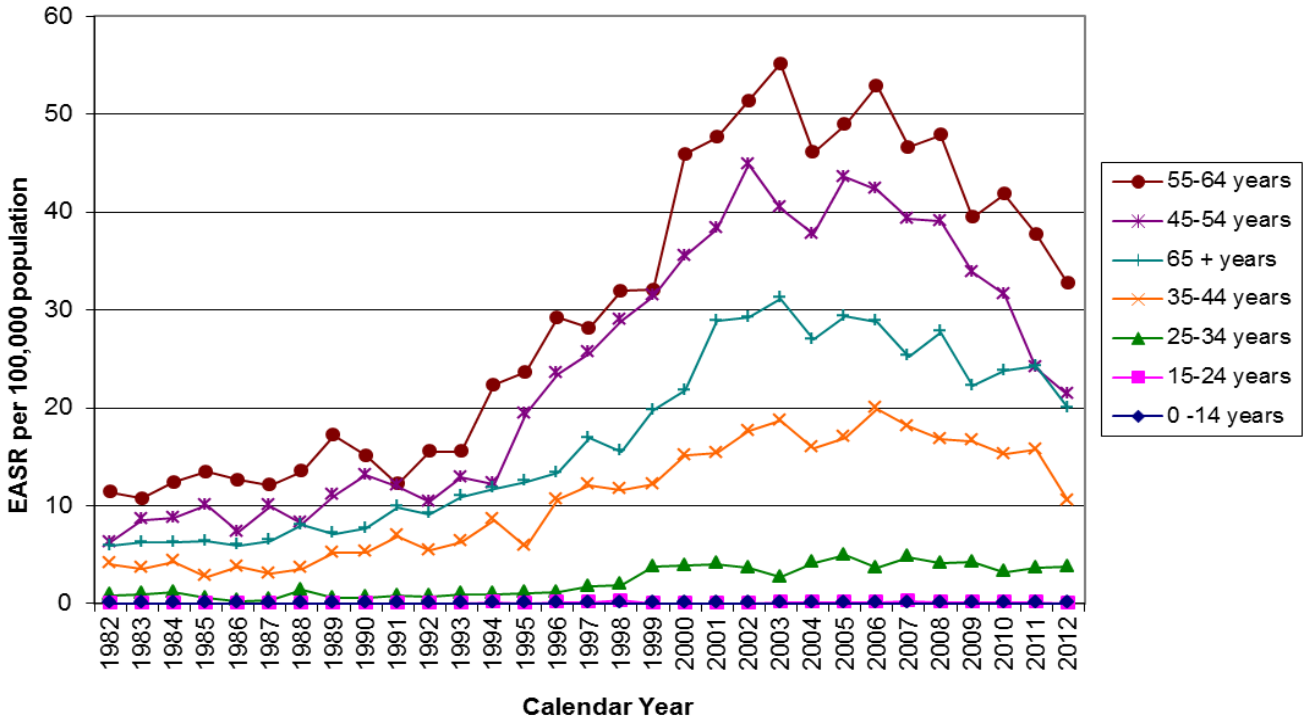
In 2012, mortality rates for alcoholic liver disease were 11/100,000 population, a fall from the previous year (13/100,000). Overall, rates have fallen by 39% from a peak in 2006 (18/100,000 population). This follows an upward trend from 1982 when overall rates rose by six-fold (from 3/100,000 population). In 2011, rates for men were 15/100,000 population, a slight fall from the previous year (17/100,000 population). Rates for women were 7/100,000 population, a fall from the previous year (9/100,000 population). Rates for men were approximately double those for women, a similar pattern to the year before. Since 2006, alcoholic liver disease mortality rates for men and women have fallen by 40% and 36% respectively, but remain substantially above the rates seen in the 1980's (Figure 6.7).

Figure 6.7: Deaths from alcoholic liver disease (underlying cause), by gender, 1982 to 2012



In 2012, rates were highest in those aged 55-64 years (33/100,000 population), as with the previous year. From a peak in 2006, falls in mortality rates can be seen across all age groups with the exception of rates in those aged 25-34 years which have remained constant at approximately 6/100,000 over the last five years (Figure 6.7a).

Figure 6.7a: Deaths from alcoholic liver disease (underlying cause), by age, 1982 - 2012



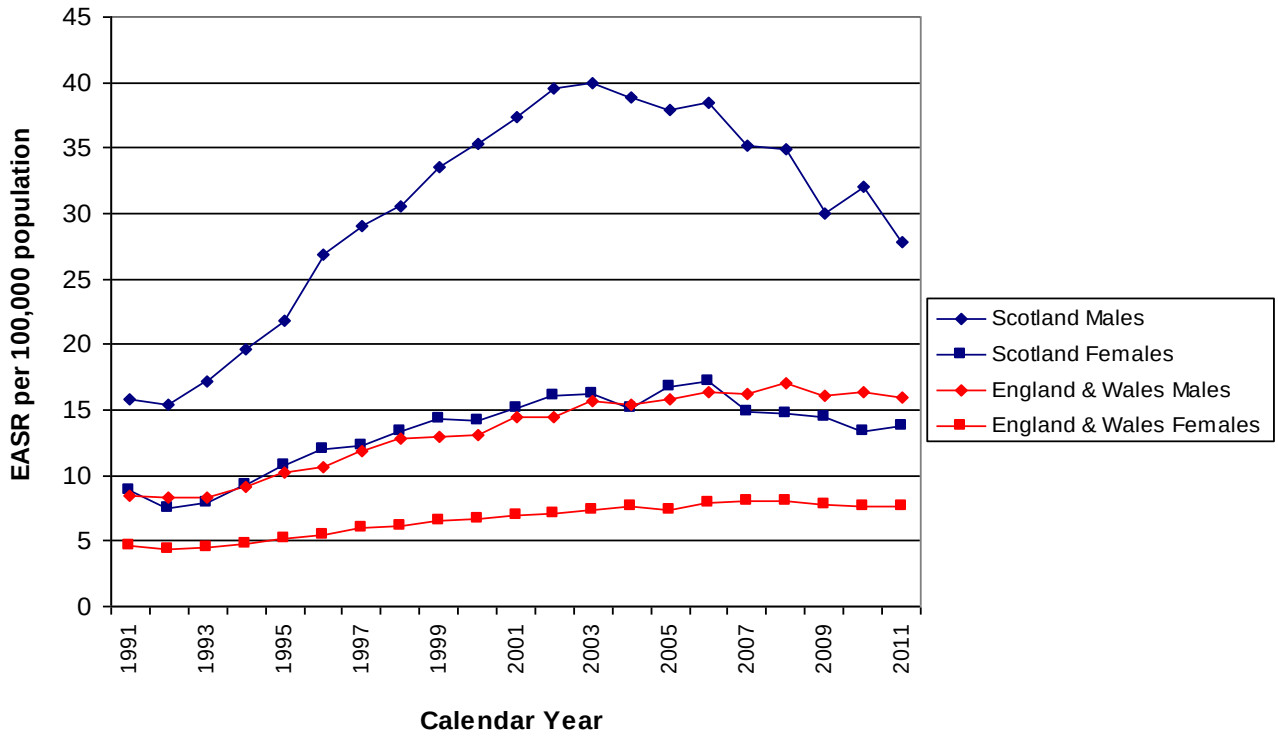
Source: ISD Scotland (NRS).

Alcohol-related deaths, Scotland, England & Wales

In 2011, alcohol-related mortality rates for men in Scotland were 1.8 times greater than those for men in England & Wales (28/100,000 compared to 16/100,000 population). A similar pattern was seen for women, with alcohol-related mortality rates for women in Scotland approximately double those for women in England & Wales (14/100,000 compared to 8/100,000). The gap between Scotland and England & Wales has declined since a peak in the early 2000s, but in relative terms is still the same as that reported in the early 1990s (Figure 6.8).

In Scotland, in 2011, alcohol-related mortality rates for men had fallen by 29% from a peak in 2003 (40/100,000 population) and alcohol-related mortality rates for women fell by 20% from a peak in 2006 (of 17/100,000). By contrast, in England & Wales, alcohol-related mortality rates in men peaked in 2008 (at 17/100,000) and have since stabilised. Alcohol-related mortality rates for women have remained at a plateau of 8/100,000 for the past 6 years (Figure 6.8).

Figure 6.8: Alcohol-related deaths (underlying cause), Scotland, England & Wales, EASR, by gender, 1991-2011

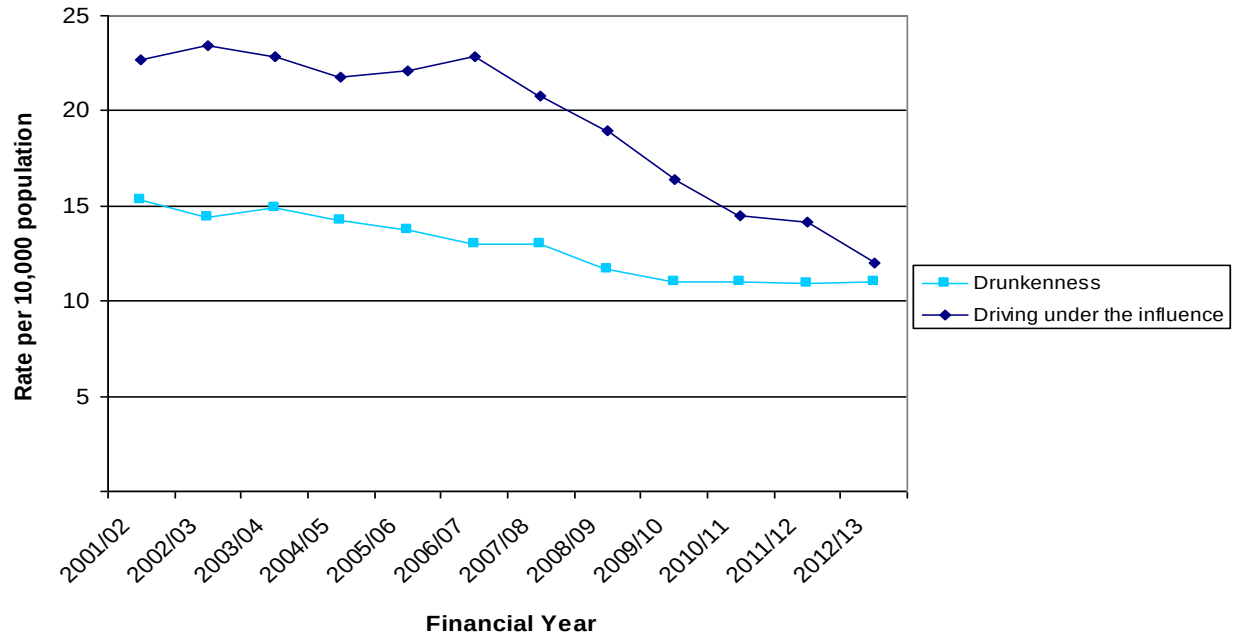


Source: NRS and ONS.

Alcohol-related social harm

In 2012/13, the number of convictions for driving under the influence of alcohol was 12/10,000 population and the rate for drunkenness was 11/10,000 population. Over the past decade, rates of "driving under the influence" offences have declined by 48% (from 23 per 10,000 in 2001/02 to 12 per 10,000 in 2012/13). The rate of drunkenness offences decreased by 27%, between 2001/02 and 2009/10, but have remained constant since then, at 11 per 10,000 population (Figure 6.9).

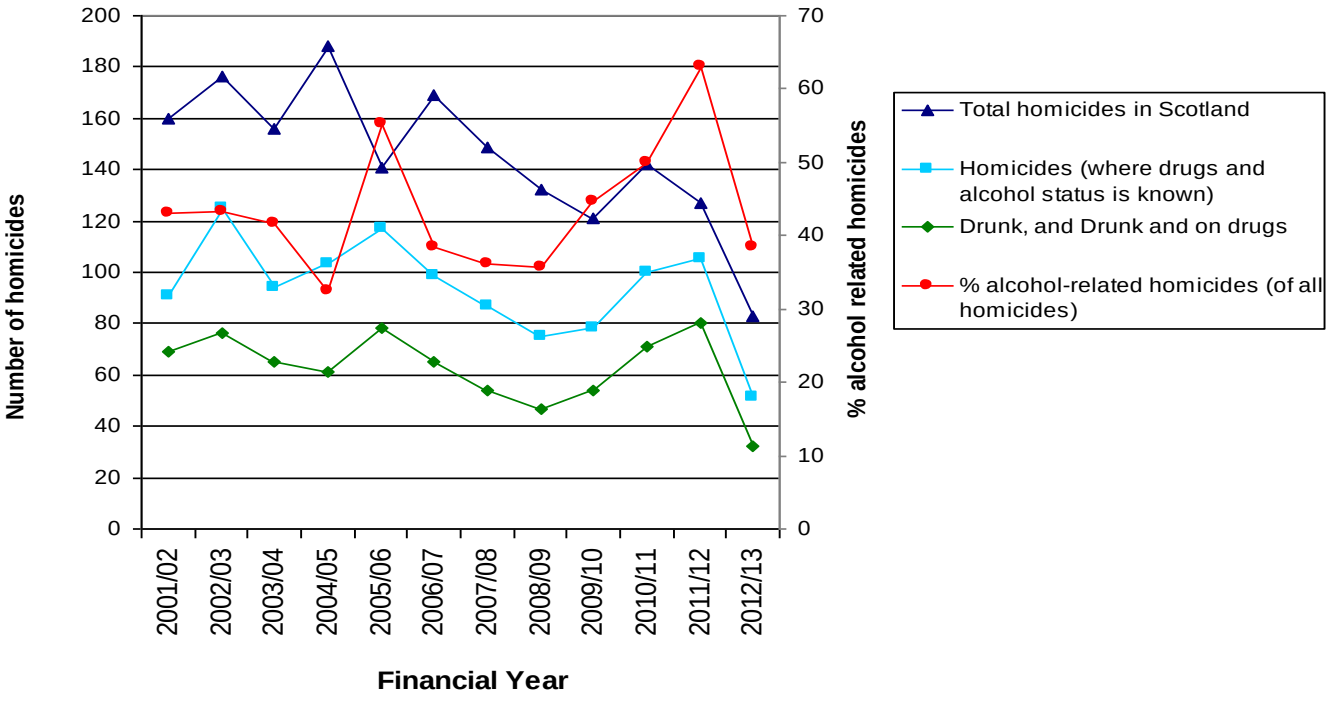
Figure 6.9: Driving under the influence of alcohol and drunkenness offences rates (per 10,000 pop), Scotland 2001/02 - 2012/13



Source: Recorded Crime in Scotland, Scottish Government.

In 2012/13, there were 83 homicides in Scotland, a 41% fall from the previous year (127). Alcohol was a known factor in 62% (32/51) of these cases where the drink/drug status of the accused was known, a decrease on the previous year, when alcohol was a known factor in 76% of cases (80/105). Although there has been a 48% fall (from 160 to 83) in the numbers of homicides since 2001/02, numbers have fluctuated with a peak in 2004/05 of 188 (Figure 6.10).

Figure 6.10: Homicides in Scotland by alcohol status (where known) 2001/02 to 2012/13



Source: Homicides in Scotland, Scottish Government

Discussion

Scotland has a very high-level of alcohol-related harm. Although a number of key indicators of alcohol-related morbidity and mortality have begun to show falls in recent years, alcohol-related mortality rates in Scotland are approximately two times higher than they were in the early 1980s and remain nearly twice as high as those in England & Wales.

Over the past nine years alcohol-related mortality rates have fallen by a third resulting in a substantial narrowing of the gap between Scotland and England & Wales. Mortality rates for alcoholic liver disease have also fallen, by 39% since 2006. Alcohol-related hospital discharge rates have fallen by 14% in the past four years across all age groups and both genders. The rates of some crimes linked to alcohol have also shown considerable falls, albeit set within the context of falling numbers of recorded crime in Scotland.[66]

However, these overall falls in mortality and morbidity need to be interpreted with some caution as they are not necessarily consistent across all age groups, or by gender or diagnosis. The fall of 11% in hospital discharge rates for alcoholic liver disease over the past four years is more modest than the fall in overall hospital discharge rates, and discharge rates for alcohol psychoses have increased in both men and women over recent years. The rising rates of alcohol psychoses have in the main been driven by increased rates of the clinical diagnosis of alcohol withdrawal, a cluster of symptoms which result from reduction or cessation of alcohol consumption in patients with alcohol dependence. These rising trends may be indicative of a growing problem of patients with alcohol dependence given there is no convincing evidence that service design changes account for this. By contrast there has been an increasing move towards community detoxification services. There is also evidence to suggest that the fall in alcohol related hospital discharge and mortality observed in the older age groups is not taking place in young adults.

Over the past thirty years, rates of alcohol-related harm have been consistently higher among men than women, with male morbidity and mortality rates being generally twice as high. Rates of alcohol-related harm (as measured) are generally higher in older age groups.

Alcohol-related harm is disproportionately experienced by those from more deprived areas for both morbidity and mortality, differences which are not wholly reflected in self-reported consumption patterns (see Chapter 4). Over the past 10 years, the gap in alcohol-related hospital discharge rates between the most and least deprived groups has generally remained constant. Absolute rates in the most deprived decile are higher than those reported in 2001/02. By contrast, the ratio of alcohol-related death rates between the most and least deprived groups increased from 6.8 to 7.6. There was also a greater relative fall in rates in the least deprived group (31% compared to 23%). Absolute rates have fallen in the both the least and most deprived deciles, with larger decreases in the most deprived decile. There would, therefore, seem to be a changing picture with regard to inequalities in alcohol-related harm in recent years.

Conclusion

In summary, Scotland has a high level of alcohol-related harm compared to the rest of the UK and Western and Central Europe.[48] While there have been sustained improvements in most health and social indicators of alcohol-related harm in Scotland in recent years, levels remain substantially above those seen in the 1980s. In addition, this general pattern of improvement is not apparent for alcohol pychoses and for alcoholic liver disease among younger women.

7. The contribution of economic conditions to recent falls in alcohol-related harms in Scotland

Introduction

Earlier chapters have shown that alcohol sales and alcohol-related harms, having risen rapidly during the 1990s, have recently been in decline in Scotland, although they remain high compared to England & Wales and the rest of western and central Europe.[70,71] As explained in the MESAS baseline report[1], an important element of the approach to evaluation adopted in the MESAS programme is to assess whether and how contextual factors have influenced the intended outcomes of the Scottish Government's alcohol strategy. One obvious contextual factor that may have impacted on alcohol consumption and harms is the recent economic downturn.

The potential effects of economic downturns on alcohol-related harms are ambiguous. There is evidence that they may reduce consumption and harms through the impact of declining incomes (and consequent reductions in the affordability of alcohol), or they might encourage the consumption of alcohol as a means of coping with exposures related to economic downturns such as increased unemployment.[3,72-77]

This chapter therefore explores trends in sales and harms, as measured by alcohol-related mortality, during periods of economic downturn. In particular, it explores variation in economic trends and mortality between socio-economic groups and between regions to assess whether and how harms and economic context may be related.

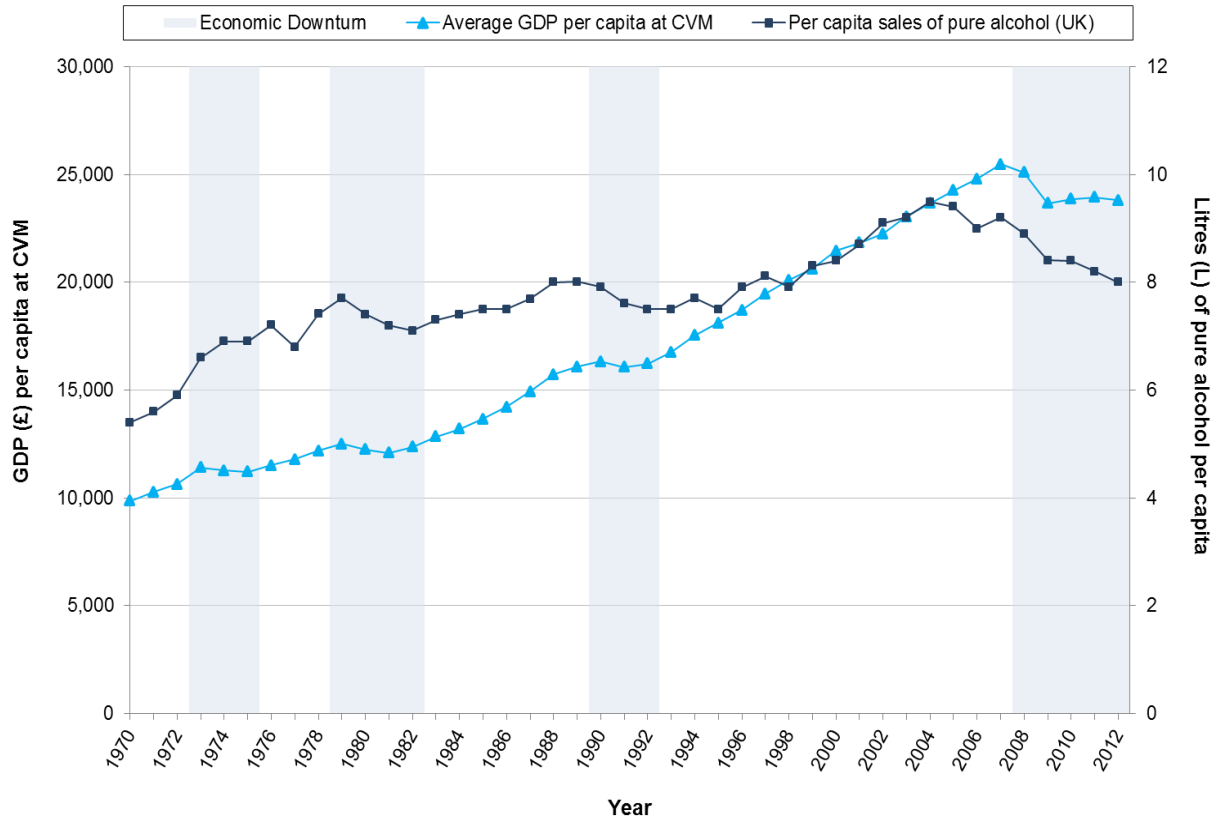
Background

Figure 7.1 shows trends in on alcohol released for sale based on HMRC data and levels of economic activity, measured by Gross Domestic Product (GDP) per capita. The chart also highlights periods of economic downturn, defined as periods from an initial decline in economic activity up until economic activity returns to its original level.

The alcohol released for sale data shown in Figure 7.1 are not directly comparable with the alcohol sales data described elsewhere in the report. They are for the UK rather than GB and they are per capita, which in part explains why sales are lower than in other charts in the report that are based on sales per adult. However, they are the only source of sales data which can provide a trend for several former economic downturns.

The chart shows that sales have fallen in the three economic downturns in the UK since the late 1970s, suggesting a possible causal link between the two.[2] However, Figure 7.1 also shows that in the recent downturn the fall in alcohol sales at a UK level pre-dated the onset of the downturn in 2008. This suggests that, even if the economic downturn is a causal factor contributing to the current decline in alcohol-related harms, other factors may also be part of the explanation.

Figure 7.1: Per capita sales of pure alcohol, per capita Gross Domestic Product and periods of economic downturn. UK, 1970-2012



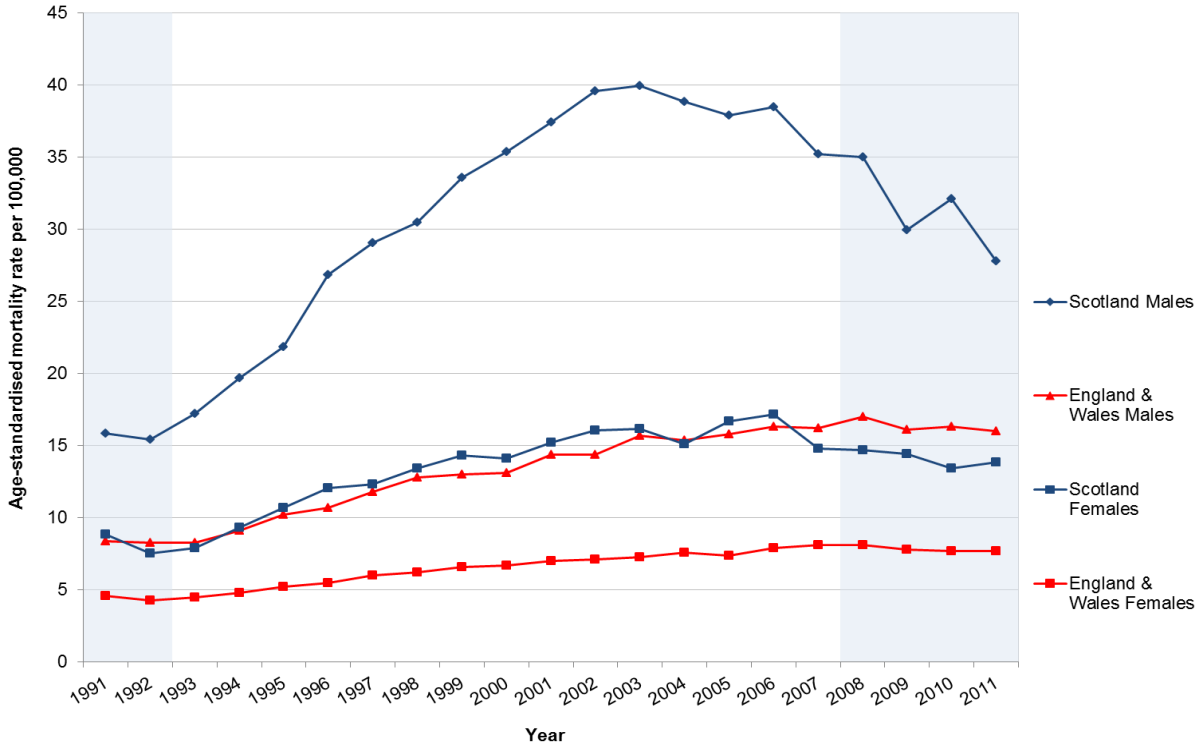
Sources: British Beer and Pub Association based on HMRC data[34] ONS[78] IFS[79]
Notes: (1) economic downturns have been defined as periods beginning in the year GDP began to fall (see Muriel and Subieta[79]) and ending in the final year in which GDP per capita remained below pre-downturn levels[80] (2) CVM = chained volume measures, used to adjust for inflation taking into account shifts in spending patterns over time.

Figure 7.2 plots age-standardised alcohol-related mortality for men and women in Scotland and England & Wales from 1991 to 2011. In Scotland, after a prolonged period of rising alcohol-related mortality in Scotland during the 1990s, rates began to fall. For men, alcohol-related mortality rates peaked in 2003, before the onset of the recent economic downturn, and fell gradually before starting to fall more rapidly from 2006. In women, mortality was relatively stable from 2003, with a slow decline from 2006.

In England & Wales, the rise in mortality rates slowed around 2003, increasing more gradually up to 2008 before declining slightly.

Throughout the period, alcohol-related mortality rates in Scotland remained markedly higher than in England & Wales.

Figure 7.2: Alcohol-related deaths, Scotland, England & Wales, European Age-Standardised Rate (EASR), by gender, 1991-2011

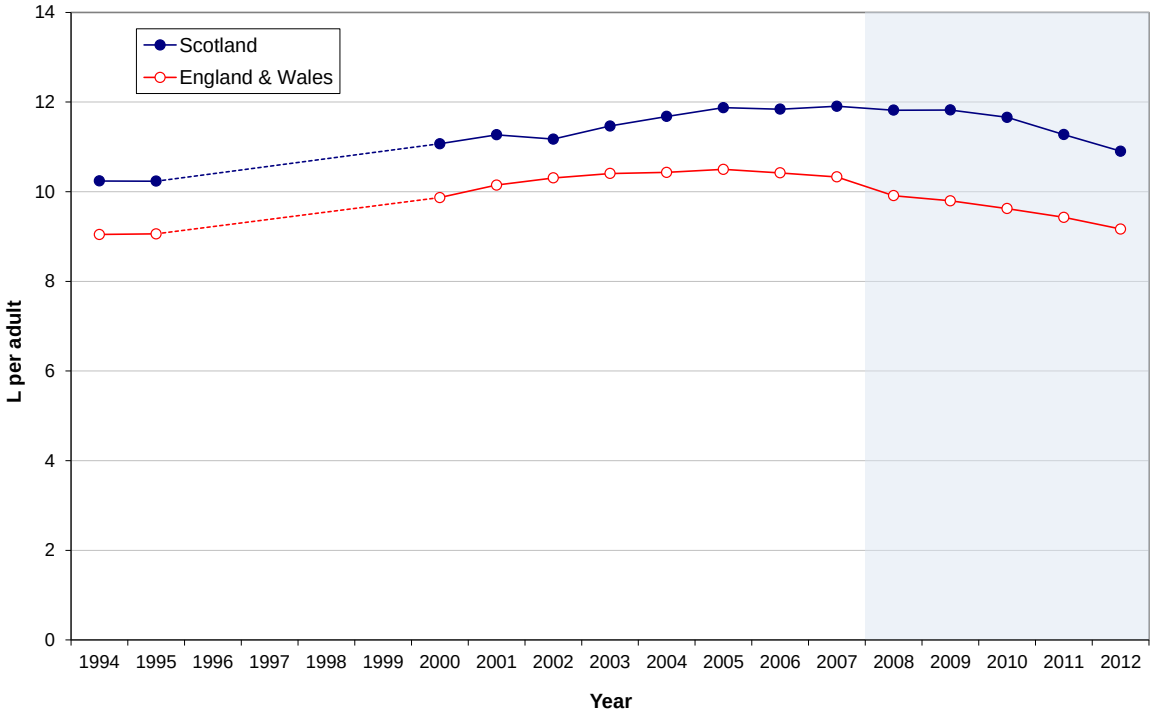


Source: From chapter 6, NRS and ONS.
Note: The shaded area represents years of economic downturn.

Although Figures 7.1 and 7.2 suggest that alcohol-related mortality for men in Scotland started to fall at roughly the same time as UK alcohol released for sale began to fall, Figure 7.1 is based on UK data, which mask important differences between countries within the UK. Therefore, Figure 7.3 looks at differences in alcohol sales trends between countries. It shows that after sales had risen in Scotland from 1994 until the mid-2000s, mean per adult sales remained stable until 2009 when they began to fall. Figure 7.3 also indicates that alcohol-related mortality in Scotland began to fall before alcohol sales began to fall.

In England & Wales, on the other hand, sales were fairly stable from 2002 to 2005, before starting to fall and then declining more rapidly from 2008 with the onset of the economic downturn.

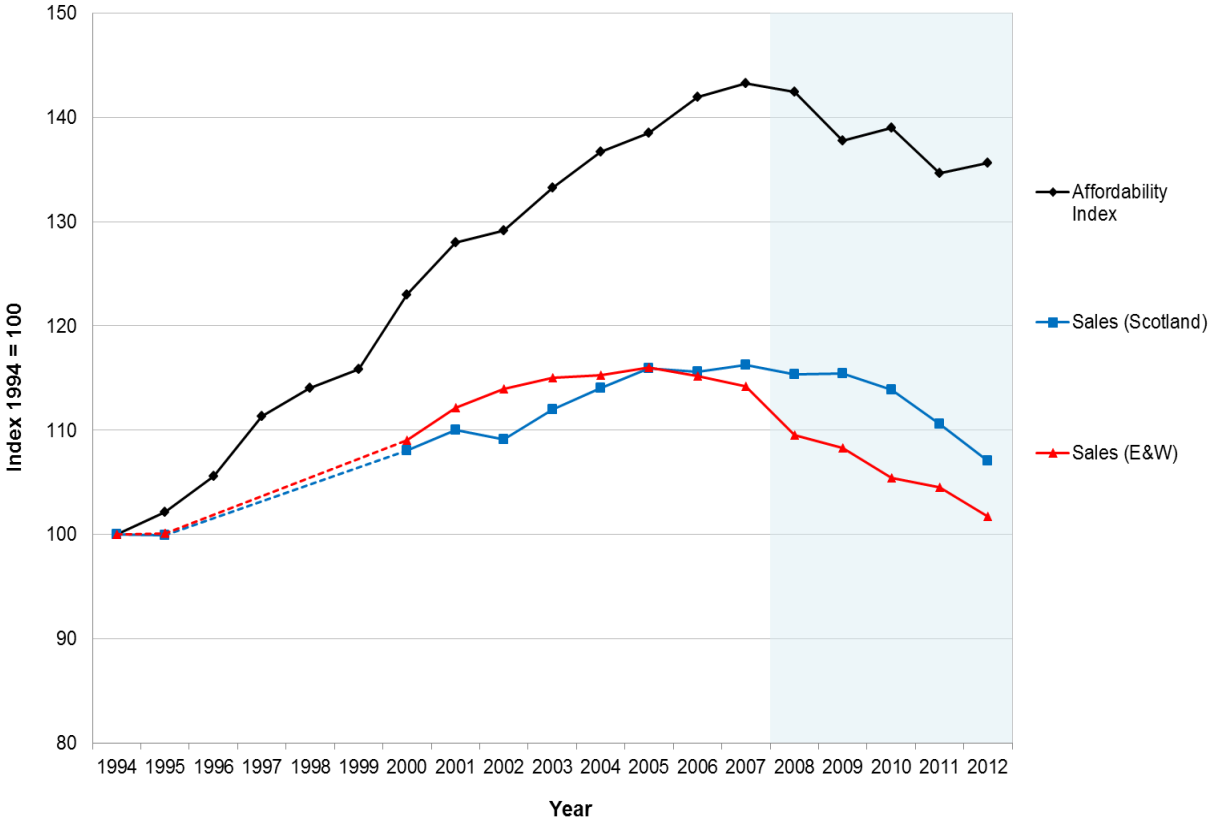
Figure 7.3: Litres of pure alcohol sold per adult (aged ≥16 years) in Scotland and England & Wales, 1994-2012



Source: From chapter 4, derived from Nielsen/CGA sales dataset (off-trade sales in 2011 and 2012 were adjusted to account for the loss of discount retailers).
Note: The shaded area represents years of economic downturn.

Alcohol-related mortality in Scotland also began to fall prior to the reduction in the affordability of alcohol measured at a UK level. Affordability measures the rate of change of alcohol prices relative to real disposable incomes per capita (see Chapter 5). Affordability has fallen since 2007, driven by the fall in mean per capita incomes during the recent economic downturn (Figure 7.4).

Figure 7.4: Trends in affordability (UK) and indexed per adult alcohol retail sales (Scotland and England & Wales), 1994-2012



Source: From Chapter 5, based on data from Statistics on Alcohol, England 2013; Nielsen/CGA sales dataset (off-trade sales in 2011 and 2012 adjusted to account for loss of discount retailers).
Note: The shaded area represents years of economic downturn.

Hence, the relationship between aggregate measures of economic context and alcohol-related mortality is more complicated than the economic downturn causing aggregate incomes and sales to fall with associated reductions in mortality. The fall in mortality in Scotland pre-dates the downturn measured at a UK level, pre-dates falls in affordability and sales, and is patterned by sex. The fall is also more marked in Scotland than in England & Wales. Purely economic explanations for recent trends would need to be able to explain: (i) the timing of these trends, (ii) sex differences, and (iii) the differences between Scotland and England & Wales.

Therefore, in the remainder of this chapter, we consider possible explanations for these differences.

Income trends by income group

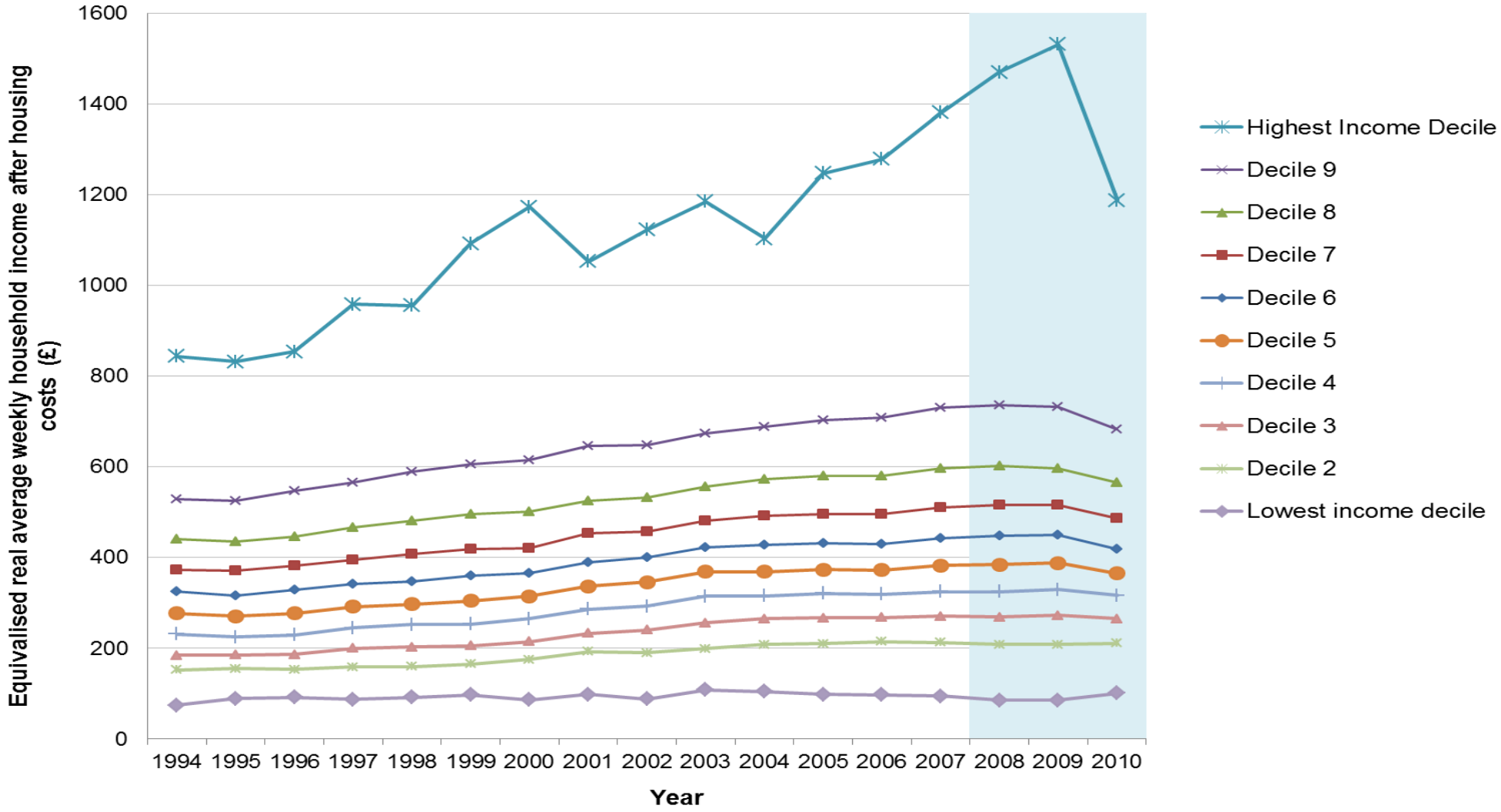
One possibility is that the extent, impact and timing of economic downturns differs between sexes, socio-economic group and/or region in ways that are hidden in aggregate data.[5,81] For example, incomes for people in lower socio-economic groups, in whom harms are more prevalent, may have fallen more and/or sooner than those in higher groups. If so, changes in consumption and harms could differ between groups and lead to a fall in harms before the onset of economic downturn as measured by aggregate data.

To explore this possibility, trends in Scotland in mean, real, weekly, equivalised, household incomes after housing costs (AHC) were compiled for income deciles for the years 1994-2010, derived from the Department of Work and Pensions Family Resources Survey (FRS).[i]

Figure 7.5 presents trends in real equivalised household incomes after housing costs by income deciles from 1994-2010. Trends vary by income decile. In the lowest income decile (decile 1), real equivalised household incomes peaked in 2003 and fell by 21% up to 2010 when they increased. Incomes in decile 2 peaked in 2006 and were flat thereafter. For all the remaining deciles, incomes continued to increase up until 2008 or 2009, with particularly marked increases in the highest income decile (decile 10). In 2010, income deciles 3-10 saw falls in income, in particular the highest income decile.

[i] https://www.gov.uk/government/organisations/department-for-work-pensions/series/family-resources-survey--2#group_1013

Figure 7.5: Equivalised real average weekly household incomes, after housing costs, by income deciles for Scotland 1994-2010 (£)



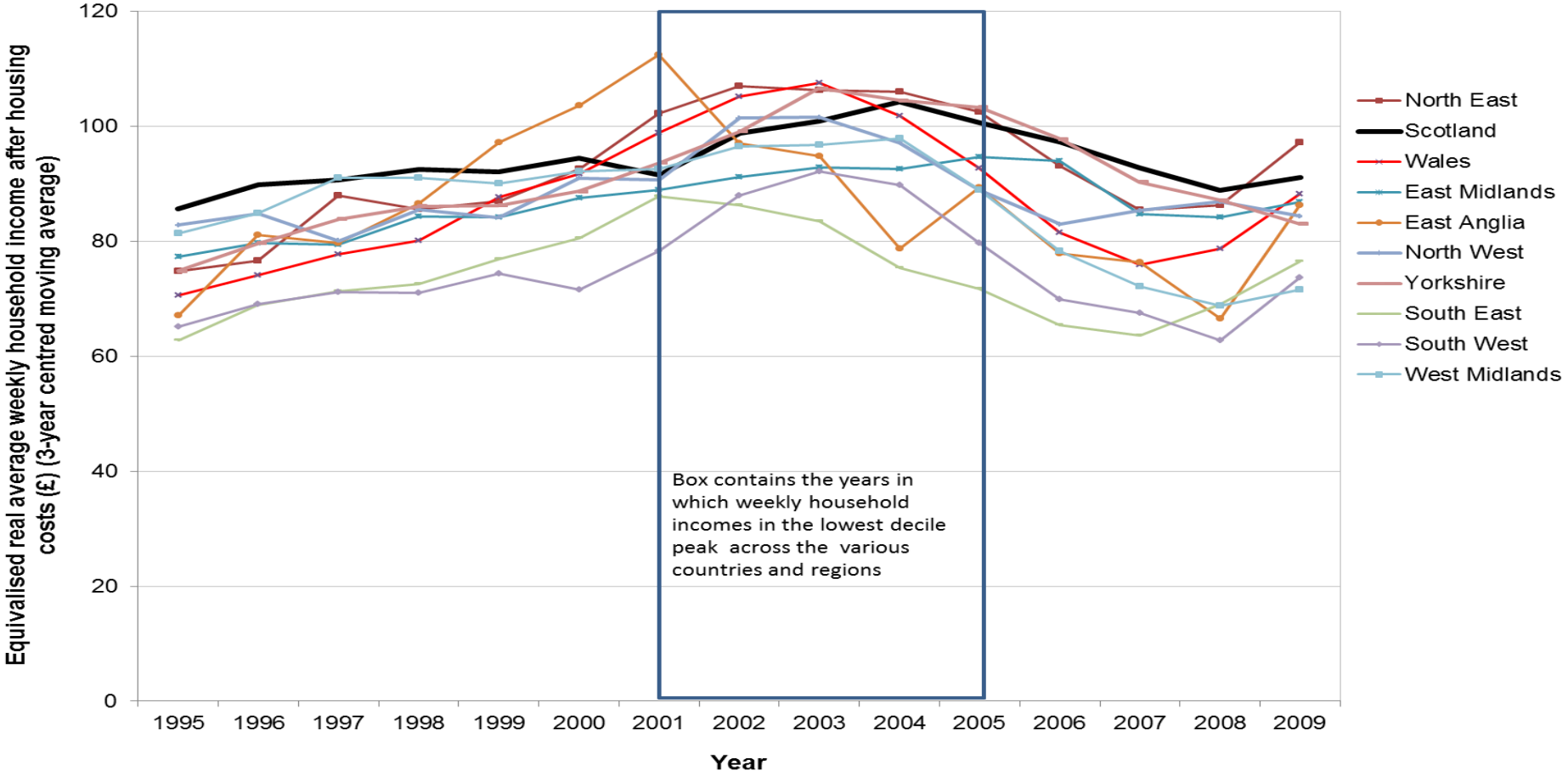
Source: NHSHS analysis of IFS data derived from FRS.
Note: The shaded area represents years of economic downturn.

Given that alcohol-related mortality is higher in groups of lower socio-economic status, this offers a possible explanation as to why mortality for Scotland as a whole began to fall before the onset of the economic downturn in Scotland. This possibility would be stronger if the pre-downturn declines in income in the lowest decile were more apparent in Scotland than England. Figure 7.6 therefore presents trends in incomes in the lowest income decile in Scotland, Wales and regions of England. The box highlights the range of years over which mean weekly equivalised income peaked across the different countries and English regions. The year on the x-axis corresponds to the middle year of the 3-year period over which the rolling average is calculated.

In practice, the decline in incomes in the early 2000s in the lowest income group occurred across all regions and the decline actually started slightly later in Scotland compared to many other regions. Therefore, although income trends in the lowest income deciles may have contributed to the overall decline in mortality in Scotland, they cannot explain the different timing of the trends in the different countries.

The increase in incomes in the higher income groups over the period as a whole (apart from the fall in 2010) was also seen across all regions (data not shown).

Figure 7.6: Equivalised real average weekly household income after housing costs for lowest income decile by GB region (excluding London) 1994-2010 (3 year centred moving average)



Source: NHSHS analysis of IFS data derived from FRS.
Note: The shaded area represents years of economic downturn

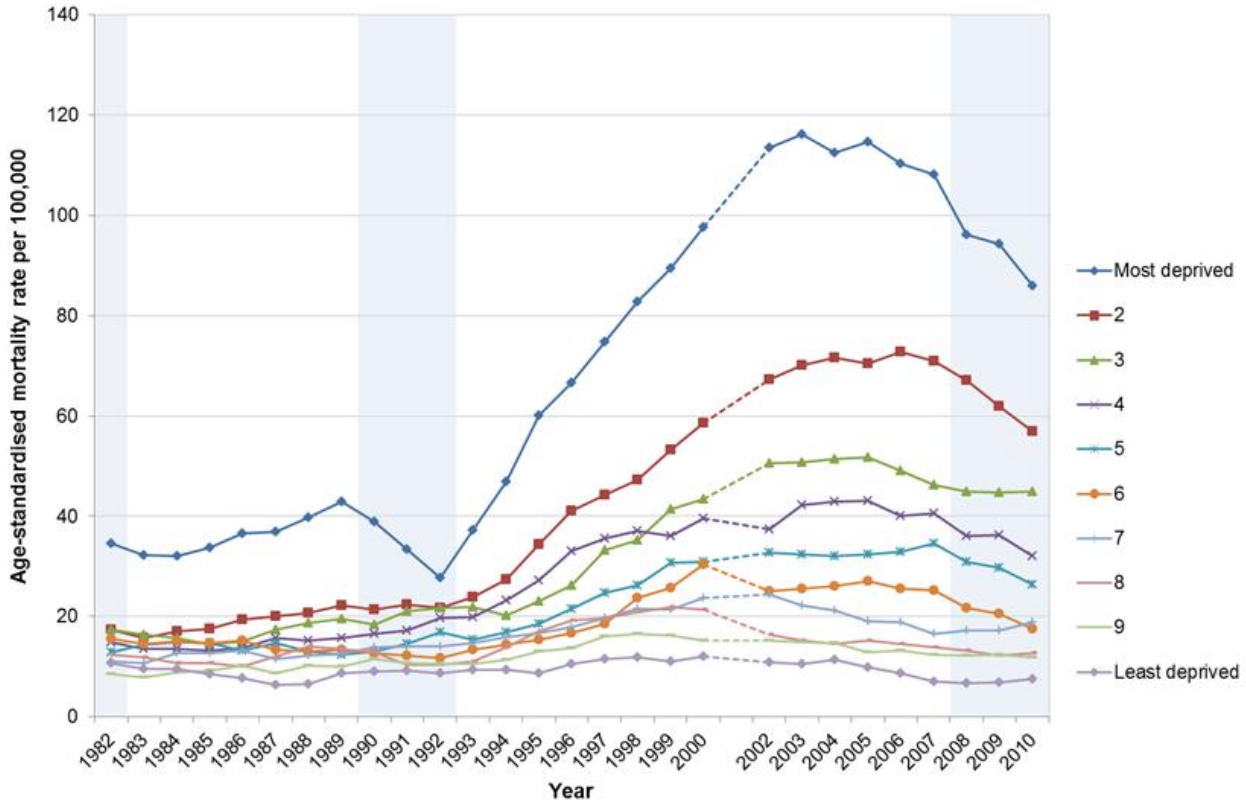
Trends in mortality by deprivation decile

To explore directly whether aggregate mortality trends have been driven by mortality trends in low income groups, ideally we would assess mortality trends by income group. Such data are not available. Therefore, we have approximated such analyses by exploring mortality trends by levels of area-based measures of deprivation.

Age standardised alcohol-related mortality rates stratified by sex and Carstairs-based deprivation deciles were calculated for Scotland for the period 1981-2001. Alcohol-related deaths within sex, 5-year age bands and Carstairs deciles were obtained from National Records for Scotland (NRS). Population data were derived from the 1981, 1991 and 2001 censuses with interpolation between census years. The 1991 Carstairs index was used across all time periods up to 2001. Population denominator data with which to compile continuous trends in age-standardised alcohol-related death rates by Carstairs deprivation decile between 2002 and 2011 were not available when these analyses were carried out. Therefore, the deprivation deciles were defined using the Carstairs index for the period 1981-2001 and the Scottish Index of Multiple Deprivation (SIMD) for the period 2001 to 2011. Age standardised mortality rates were directly calculated using the 1976 European Standard Population.

Figures 7.7 and 7.8 show trends in alcohol-related mortality in Scotland by deprivation decile for men and women. Figure 7.7 shows a particularly marked rise, in both proportionate and absolute terms, in alcohol-related mortality amongst men in the most deprived decile from the early 1990s up to 2003, compared to those in other deciles. Rates peaked in most deciles in the early to mid 2000s, with rates beginning to fall in the most deprived decile in 2003. The biggest subsequent fall, in absolute terms, occurs in the most deprived decile, although there have been reductions of comparable magnitude in proportionate terms across most deciles. Also of note is the marked decline in alcohol-related mortality amongst those in the most deprived decile during the economic downturn in the early 1990s.

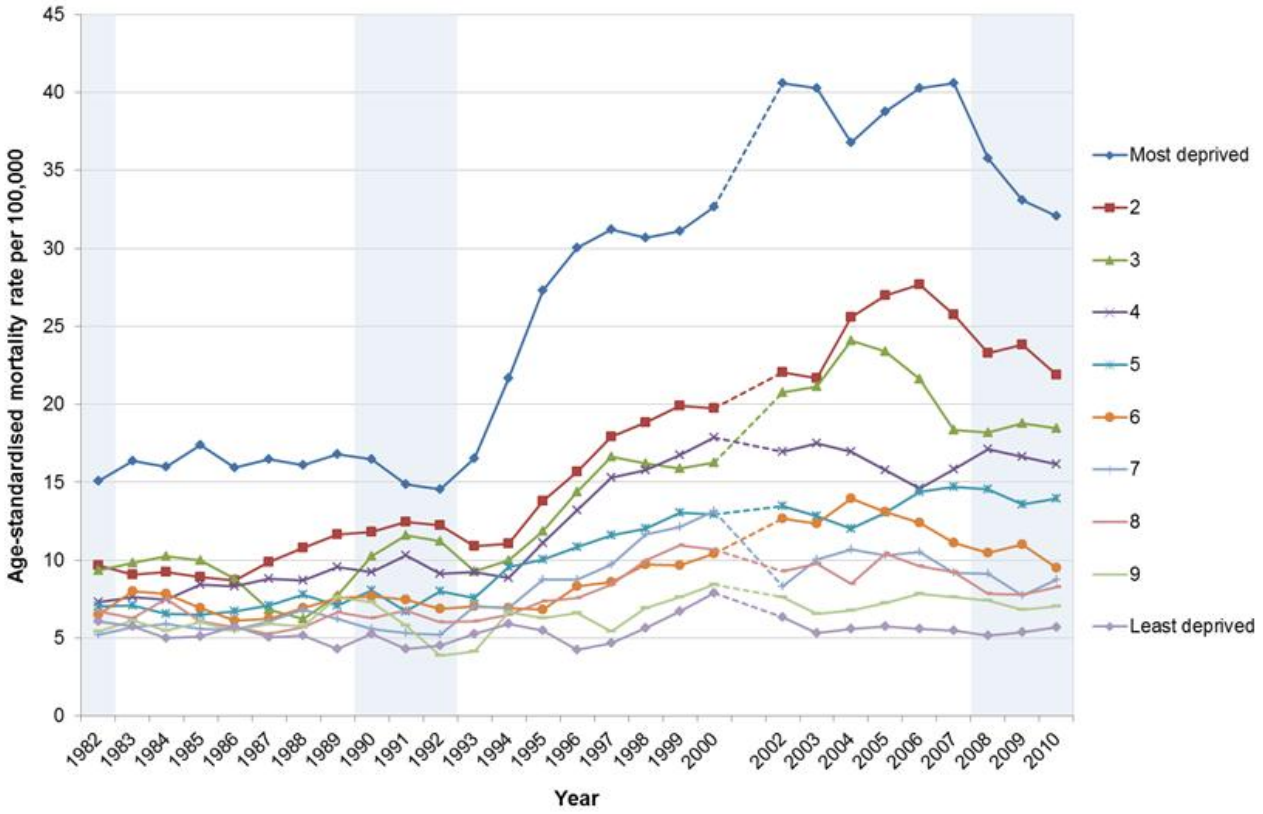
Figure 7.7: Trends in age standardised alcohol related mortality, 3-year moving averages, by deprivation deciles for men in Scotland 1981-2011



Source: NHSHS and ISD analysis of NRS mortality data.
Note: 1981-2000 deprivation deciles are based on Carstairs scores, 2001-2011 deprivation deciles are based on Scottish Index of Multiple Deprivation. The dashed lines interpolate between the rates based on the two different measures of deprivation.

Figure 7.8 shows that amongst women in Scotland, like men, the most deprived decile sees the biggest rise in alcohol-related mortality between the early 1990s and 2002, in both relative and absolute terms. There is then a fall before a second peak in 2007 followed by a fall of 21% to 2010, the biggest reduction in any decile. The decline is also bigger in proportionate terms than the other deciles in the most deprived half of the deprivation distribution, but some less deprived deciles show bigger falls in proportionate terms.

Figure 7.8: Trends in age standardised alcohol related mortality, 3-year moving averages, by deprivation deciles for women in Scotland 1981-2011



Source: NHSHS and ISD analysis of NRS mortality data.
Note: 1981-2000 deprivation deciles are based on Carstairs scores, 2001-2011 deprivation deciles are based on Scottish Index of Multiple Deprivation. The dashed lines interpolate between the rates based on the two different measures of deprivation.

Regional mortality trends

The analyses so far suggest that the timing and scale of effects of recession may differ between socio-economic groups, which in turn may help to explain why the start of the fall in mortality predates the start of the economic downturn as measured by aggregate data. They do not explain why mortality began to fall several years later in England & Wales. This may again be the result of aggregate trends disguising sub-national differences. If aggregate mortality trends are driven by trends in groups of lower socio-economic status, these effects may be more apparent in regions where such groups represent a higher proportion of the population, like Scotland and like regions with more similar economic structures to Scotland, such as Wales or the industrial regions of England. These areas may display mortality trends more similar to Scotland that are not apparent in aggregate data for England & Wales as a whole, dominated as it is by the much larger population in the south and east of England.

To explore this possibility, trends in alcohol-related mortality in English regions and Wales were compiled using data on age-standardised mortality rates for men and women from the ONS website.[82] These trends were compared to mortality trends in Scotland.

Figure 7.9 and Table 7.1 show trends in alcohol-related mortality in English regions and Wales for men. Mortality rates in all regions, with the exception of the South East, peaked later than in Scotland, although two points are worthy of note. First, for most regions in England and in Wales, alcohol-related mortality rates peaked just before or in the early stages of the recent economic downturn, compared to the earlier peak in Scotland in 2003. For all except two, the South East

and the East Midlands, mortality rates peaked between 2006 and 2008. The East Midlands peaked later in 2010 whereas the South East peaked earlier in 2003.

Second, in Scotland, the industrial regions of the Midlands and the north of England, together with Wales, there were much bigger absolute and relative increases in alcohol-related mortality than in regions in the south and south east of England. Rates increased by just over 100% in England and Wales as a whole between 1991 and 2008. In Scotland, the Midlands, Wales and the north, increases ranged from 137% in the North West between 1991 and a peak in 2007, to 172% in the East Midlands between 1991 and a peak in 2010. In contrast, rates only increased by 48% in London between 1991 and a peak in 2006, 73% in the South East where rates peaked in 2003, and 92% in the East of England, where rates peaked in 2008.

Figure 7.9: Age standardised alcohol-related mortality rates, males, Scotland, English regions and Wales, 1991-2011

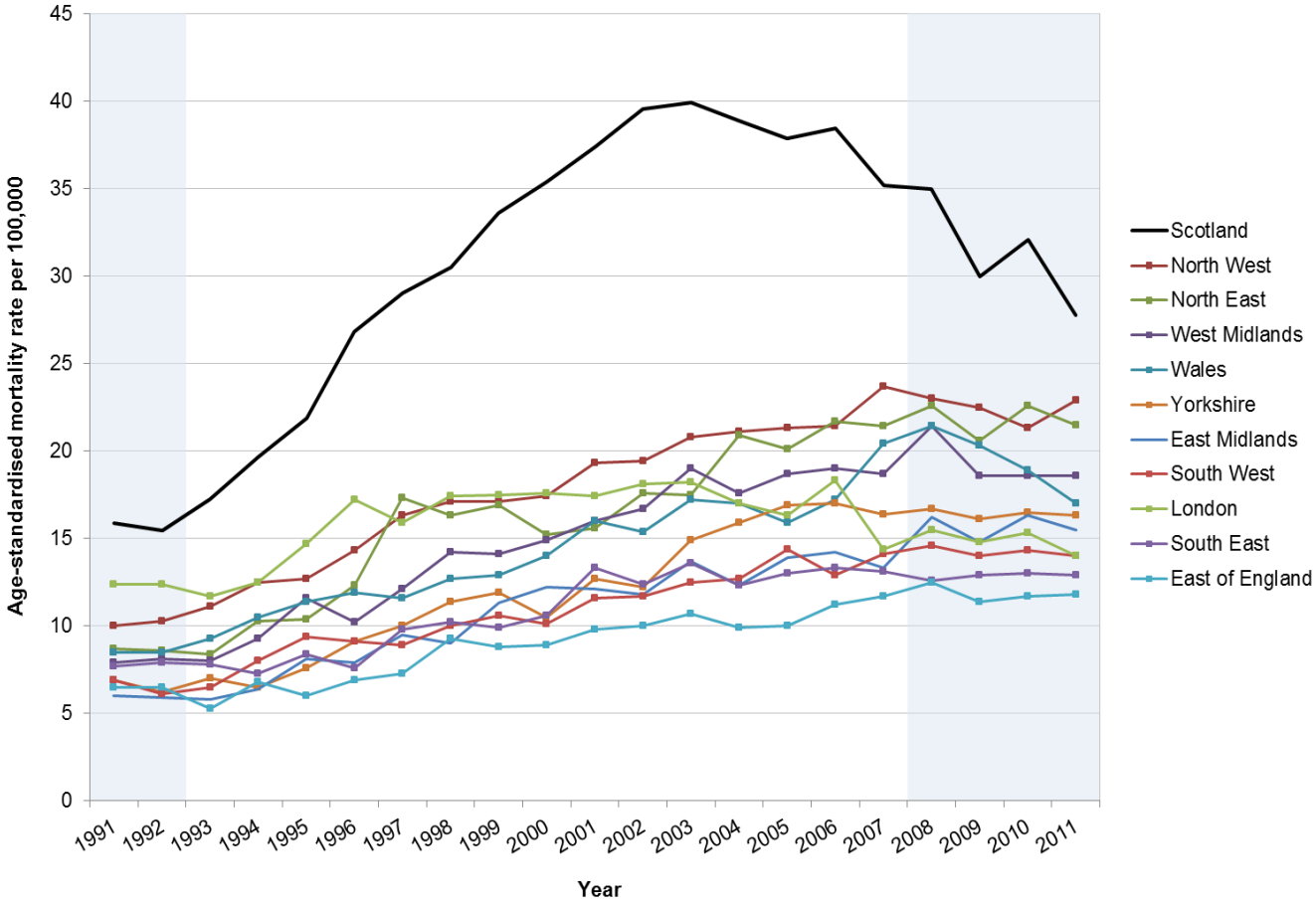


Table 7.1: Changes in age standardised alcohol-related mortality rates, males, English regions and Wales, 1991-2011

Region	Rate per 100,000, 2011	% Change 1991-2011	Year rates peaked	% fall from peak to 2011	% rise to peak from 1991
Scotland	**27.8**	**75%**	**2003**	**30%**	**152%**
North West	22.9	129%	2007	3%	137%
North East	21.5	147%	2008	5%	160%
West Midlands	18.6	135%	2008	13%	171%
Wales	17.0	100%	2008	21%	152%
Yorkshire & Humber	16.3	136%	2006	4%	146%
East Midlands	15.5	158%	2010	5%	172%
South West	14.0	103%	2008	4%	112%
London	14.0	13%	2006	23%	48%
South East	12.9	68%	2003	3%	73%
East of England	11.8	82%	2008	6%	92%
England & Wales	**16.0**	**90%**	**2008**	**6%**	**102%**

Source: ISD analysis of NRS data and NHSHS analysis of data from ONS alcohol-related mortality statistics[82]

Similar patterns exist for women (Figure 7.10 and Table 7.2). Like men, in all except two regions in England and in Wales, alcohol-related mortality rates peaked between 2006 and 2009. This is also true in Scotland where rates peaked in 2006 (compared to 2003 in men). In Yorkshire and Humberside, rates increased up to 2011 and in London they peaked in 1999, well before the recent economic downturn began.

As with men, in Scotland, the industrial regions of the Midlands, Wales and north of England, there were bigger absolute and relative increases in alcohol-related mortality rates than in regions in the south and south east of England. Rates increased by 76% in England & Wales as a whole between 1991 and 2007. In Scotland, the Midlands, Wales and the north, increases ranged from 93% in Wales and Scotland between 1991 and peaks in 2008 and 2006 respectively, to a rise of 185% in the North East between 1991 and a peak in 2008. In contrast, in the south, increases in rates ranged from 26% in London between 1991 and the peak in 1999 to 85% in the East of England, where rates peaked in 2008.

Figure 7.10: Age standardised alcohol-related mortality, females, Scotland, English regions and Wales, 1991-2011

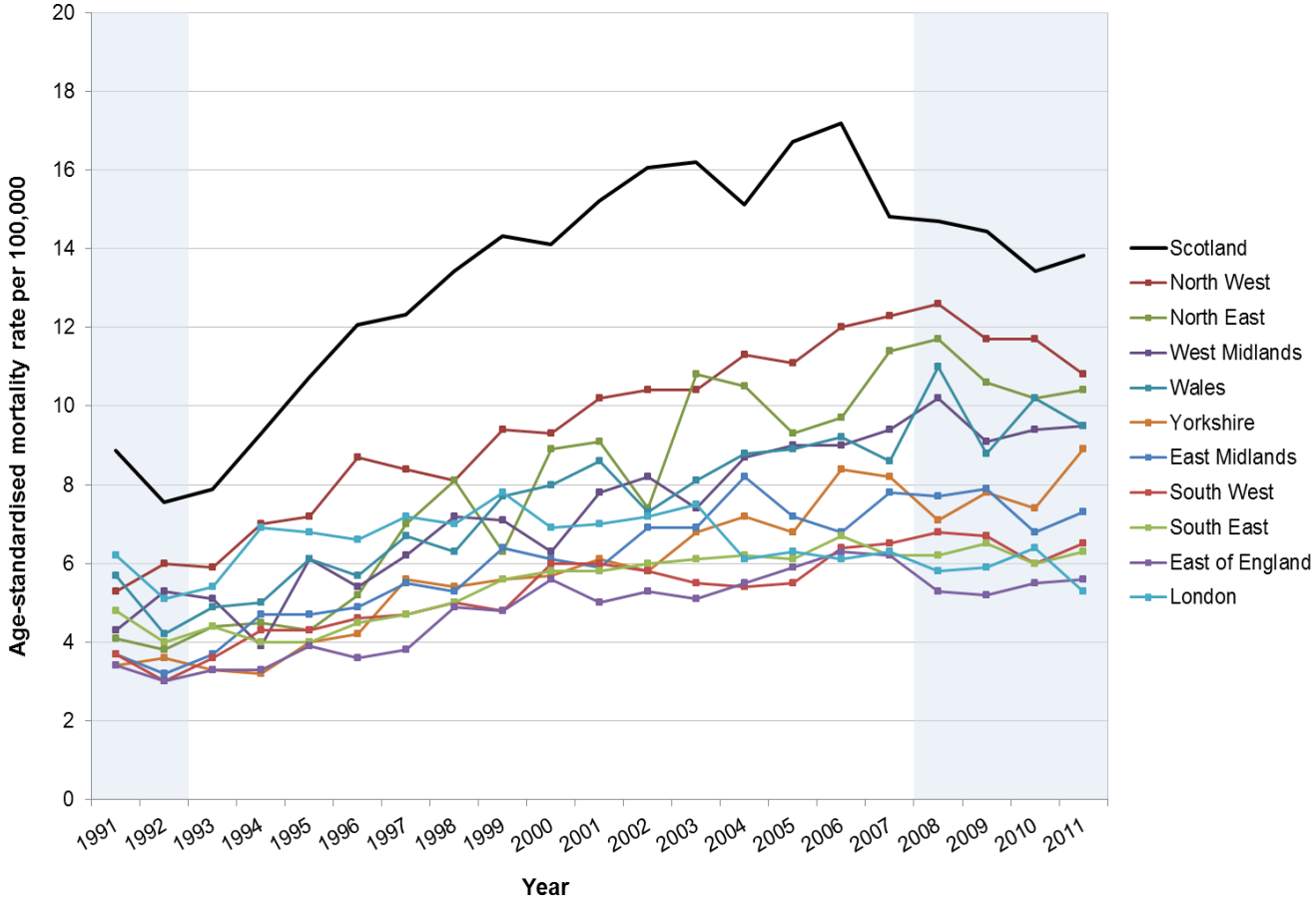


Table 7.2: Changes in age standardised alcohol-related mortality rates, females, English regions and Wales, 1991-2011

Region	Rate per 100,0000 2011	% Change 1991-2011	Year rates peaked	% fall from peak to 2011	% rise to peak from 1991
Scotland	**13.8**	**56%**	**2006**	**19%**	**93%**
North West	10.8	104%	2008	14%	138%
North East	10.4	154%	2008	11%	185%
West Midlands	9.5	121%	2008	7%	137%
Wales	9.5	67%	2008	14%	93%
Yorkshire & Humber	8.9	162%	2011	0%	162%
East Midlands	7.3	97%	2009	8%	114%
South West	6.5	76%	2008	4%	84%
South East	6.3	31%	2009	3%	35%
East of England	5.6	65%	2006	11%	85%
London	5.3	-15%	1999	32%	26%
England and Wales	**7.7**	**67%**	**2007/8**	**5%**	**76%**

Source: ISD analysis of NRS data, NHSHS analysis of data from ONS alcohol-related mortality statistics[82]

Discussion

Summary of findings

To assess whether the economic context might explain recent downward trends in mortality in Scotland, this chapter explored:

1. trends in income by income group to establish whether the poorest experienced falls in income prior to the downturn
2. trends in mortality by deprivation category to establish whether recent falls in mortality in Scotland are driven by groups with lower socio-economic status
3. trends in alcohol-related mortality in English regions and Wales to establish whether alcohol-related mortality trends in Scotland are similar to economically comparable areas in England and Wales.

It found that, unlike other deciles, income in the lowest income decile in Scotland started to fall from 2003, before the economic downturn of the late 2000s, and continued to do so up to 2009. It also found that mortality rates in the most deprived groups have been responsible for most alcohol-related deaths and have declined most quickly since 2003. Coupled with the fact that mortality rates are higher amongst those of lower socio-economic circumstances, this suggests that changes in the economic circumstances of the lower socio-economic groups that predate the downturn may be a reason why alcohol-related mortality rates began to fall before the economic downturn defined at a UK level. More generally, these data highlight the possibility that aggregate economic trends disguise trends in the economic circumstances of particular sub-groups that may be driving overall trends in harms.

This conclusion is also supported by the analysis of trends in alcohol-related mortality in English regions and Wales compared to Scotland. The analyses showed that, overall, for both men and women, many of the more industrial regions of England & Wales saw the largest increases in alcohol-related mortality. In many regions, the increases were as large in percentage terms, between 1991 and their peak, as they were in Scotland. However, in Scotland, rates peaked earlier, the absolute increases were much larger and current rates remained substantially higher, although they have also fallen faster and seen larger drops in absolute terms. In addition, unlike in Scotland, the decreases in incomes in the early to mid-2000s in the lowest income groups in England & Wales (Figure 7.7) were not associated with a concurrent decline in alcohol-related mortality. Mortality rates in most regions did not actually decline until around the time GDP started to fall in 2008 (Figures 7.10 and 7.11).

Strengths and Limitations of the Analyses

The work undertaken so far is limited to descriptive analyses of existing data sources and a limited range of variables related to economic downturns that might influence harms. The analyses have not used a precise definition of the economic similarities and differences between Scotland, Wales and regions of England and they have not defined areas *within* Scotland, Wales or English regions in terms of their economic characteristics. Such large areas are economically heterogeneous. More precise definitions of economically distinct areas within each country or region might enable a more precise assessment of whether mortality trends differ between economically distinct regions according to their levels of prosperity, unemployment, levels of industrialisation or other potentially relevant economic variables.

A strength of the analysis is that it uses established data sources, albeit some of these have their own limitations. For example, the FRS from which the income data by decile data were derived had a 62% response rate. Some forms of income and outgoings that would affect spending power are not included, for example, borrowing or the costs of servicing debt. In addition, the

deprivation data used to compile the trends in mortality by deprivation decile between 1981 and 2012 had to be compiled using two different definitions of deprivation for the 1981 to 2001 period and the 2001 to 2011 period and two different methods for compiling the population denominators: interpolation between census years at postcode sector level for 1981-2001 and mid-year population estimates at datazone level for 2001-2011. It is also an area-based measure of deprivation whilst the income measure was based on households. Nevertheless, the sources of death data were the same in the analyses of the two time periods and the similarities between the mortality rates at the end of the first period and the start of the second period suggest the differences in measuring population denominators and deprivation have not had a major impact on the estimated rates for each decile.

Implications and interpretation

The analysis has shown the importance of identifying the specific effects of economic downturns. Downturns are usually defined in terms of GDP, but there is no single relationship between GDP and economic variables likely to influence harms, such as disposable income and, therefore, alcohol sales.[83] In the 1970s downturn, sales continued to rise despite falls in real household disposable income (RHDI). RHDI did not reach its 1973 levels again until 1978, and although this appears to have put a brake on the rapid growth in sales of the early 1970s, it only translated into an actual fall in sales in 1977.

In contrast, the economic downturn of the 1980s saw a fall in both RHDI and sales, whereas in the downturn of the 1990s, sales fell despite continuous rises in RHDI through the recession. Further falls in RHDI weren't seen again until the recent economic downturn, during which RHDI and sales have matched each other quite closely. Growth in RHDI began to slow before the economic downturn began in 2008. Between 1989 and 2003, annual growth in RHDI averaged more than 3%, compared to average annual growth rates of 1.4% between 2004 and 2007 and 0.6% between 2007 and 2010[84]), coinciding with the stabilisation of and subsequent fall in sales (see Figure 7.3). This highlights the variability of economic downturns in terms of how they affect economic variables such as disposable incomes which in turn may explain variable impacts of economic downturns on mortality.

The hypothesised causal link between economic downturns and harms is through falling incomes and associated falls in sales and consumption in the lower socio-economic groups in whom mortality rates are highest, coinciding with the start of the downward trend in mortality in 2003. There are no readily available data on trends in sales by income or deprivation category with which to explore trends by socio-economic group. However, the survey data described in Chapter 4 show higher rates of harmful drinking amongst the most deprived between 2008 and 2011. They also show declines in mean weekly alcohol consumption by harmful drinkers that are not apparent in hazardous or moderate drinkers, albeit only since 2009, and they show falls in the percentages of harmful and hazardous drinkers since 2003. These data support the suggestion that differential trends in consumption across different drinker types and socio-economic groups may help to explain recent trends in mortality, although differences in the timing of trends between England & Wales and Scotland complicate the picture. In England & Wales, falls in sales pre-date both the economic downturn and the fall in alcohol-related mortality.

The analyses have suggested a role for economic context in explaining recent falls in alcohol-related mortality in Scotland but they also suggest the explanation is more complicated than downturns driving reductions in income and associated reductions in consumption and mortality. Even focusing on regions that are more similar to Scotland economically, there are differences between Scotland, England and Wales, in particular the relatively high mortality rates in Scotland, the bigger increases through the 1990s and the earlier start to the recent falls. These differences suggest there may be distinct factors driving trends in Scotland.[85] This phenomenon has been noted for a range of causes and has been the subject of extensive investigation.[86,87]

Conclusion

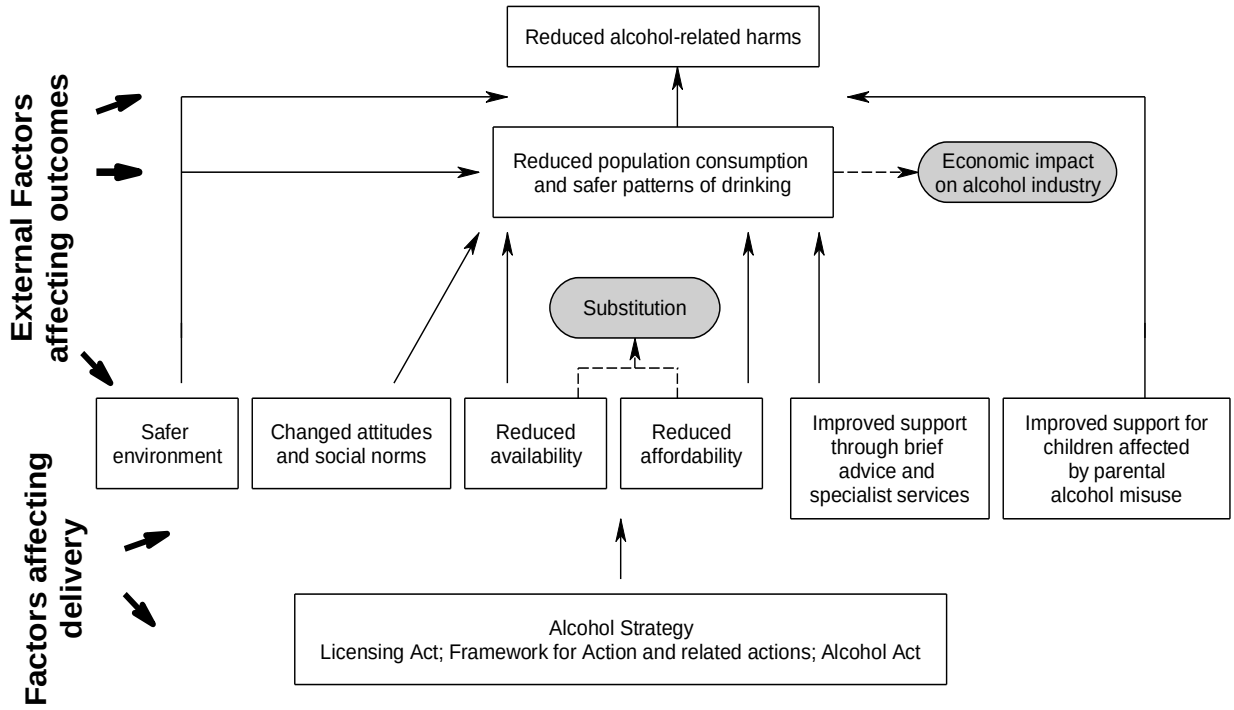
The earlier decline in alcohol-related deaths in Scotland may be partially explained by a decline in real incomes amongst the lowest income decile from 2003 which may have reduced alcohol affordability, consumption and harms earlier for this group; and may have impacted on the Scottish trend because of the particularly high proportion of alcohol-related deaths in the most deprived group. However, similar declines in the lowest income deciles were also seen from around 2003-6 in English regions without a similar decline in alcohol-related harms, suggesting this does not provide a full explanation.

Since the early 1990s, Wales and English regions and that are more similar economically to Scotland have seen proportionate increases in alcohol-related mortality that are comparable to Scotland and substantially larger than less industrial regions of England. These similarities also suggest a role for economic context in driving alcohol-related mortality. However, the higher levels of alcohol-related mortality in Scotland, the size of the increase in absolute terms and the timing all differ markedly, with the rise and subsequent fall happening earlier in Scotland. These differences have been observed previously across a range of causes of mortality. They are the subject of a large body of current research focusing on economic and non-economic causes in both the recent and more distant past. However, the reasons for them remain unknown.

8. Discussion and overview

The 2010 MESAS baseline report set out a Theory of Change, based on the best available evidence, of how the actions in Scotland's alcohol strategy, if implemented fully and as intended, was expected to reduce alcohol-related harm.[1] The Theory of Change hypothesised that if the alcohol strategy led to changes in the social, physical, service and economic environments around alcohol, there would be a reduction in population consumption, safer patterns of drinking in individuals and, in turn, alcohol-related harm would decline. The Theory of Change recognised that factors external to the alcohol strategy could also impact on these outcomes, both positively and negatively.

Figure 8.1: High level Theory of Change for the alcohol strategy



After three years of MESAS reporting it is possible to review progress in the key outcomes in this Theory of Change.

Scotland still has very high rates of alcohol-related mortality and morbidity, although both have declined in recent years. The rates of some crimes linked to alcohol have also shown considerable falls, albeit set within the context of falling numbers of recorded crime in Scotland. However, these overall falls in mortality and morbidity are not consistent across all age groups, or by gender or diagnosis, and there are some trends of particular concern. Hospital discharge rates for alcoholic liver disease for women aged 25-44 continue to rise, consistent with other research.[88] Discharge rates for alcohol-related psychoses have increased in both men and women over recent years and may be indicative of a growing problem of patients with alcohol dependence. Other research has detected a recent rise in rising alcohol-related mortality rates in Glasgow.[89] Taken together with the fact that alcohol-related deaths are still two times higher than they were in the early 1980s, and nearly twice as high as those in England and Wales, it is important to ensure that the overall improvement continues and that all groups benefit.

This report has shown that population consumption in Scotland, as measured by alcohol sales, has fallen in the three years since 2009. However, sales remain 19% higher in Scotland

compared to England & Wales, with most of the difference attributable to sales through the off-trade, particularly sales of spirits, especially vodka. Analysis shows that 60% of off-trade alcohol sold in 2012 was sold below 50ppu, the initial level proposed by the Scottish Government. This compares with 77% in 2009 and highlights the importance of the Scottish Government's proposed two year review process of the level at which minimum unit pricing is set.

Scotland's alcohol strategy seeks to reduce population consumption and ultimately to reduce alcohol-related harm through a comprehensive package of policy interventions and legislation. The likely contribution of key components of the strategy on these outcomes are summarised below.

First, the 2012 MESAS annual report suggested it was plausible that the delivery of Alcohol Brief Interventions (ABIs) through key health service settings could have accounted for a small proportion of the decline detected last year. Delivery of ABIs has continued, with a further 94,916 reported in 2012/13 and it is reasonable to assume that ABI delivery may be making a small contribution to the improvements seen.

Second, MESAS analysis reported earlier this year shows that the implementation of the Alcohol Act, which included a ban on multi-buy promotions in Scotland's off-trade, was associated with a 2.6% fall in off-trade alcohol sales, driven by a 4% reduction in wine in the 12 months following the ban. This is likely to have made a contribution to the overall decline in alcohol sales in 2012. Other research analysing shopping panel data concluded that the ban had no impact on the volume of alcohol purchased in Scotland.[90] MESAS will undertake further analysis and critical appraisal to evaluate the impact of the Alcohol Act on consumption and alcohol-related harm.

Third, there are elements of the implementation of the Licensing Act that have been positive, most notably the appointment of Licencing Standards Officers and staff training, which may have improved adherence and serving practices. In addition, the Licensing Act was perceived to have reduced irresponsible promotions in the on-trade. On the other hand, there were difficulties with the application of the public health objective and in the use of overprovision assessments to reject new applications and both of these need further work to support implementation. There is also currently a lack of comprehensive and comparable data with which to assess availability and there needs to be consideration as to how this may be addressed. Changes in availability are therefore yet to be determined, but the challenges associated with the public health objective and overprovision are such that any change that may have occurred is most likely to be driven by market changes, partly in response to the current economic context, rather than policy.

Fourth, the increased investment in alcohol treatment and care services since 2008 may be having an impact and this will be explored in a later report. It is also possible that the public discourse around alcohol that has been taking place in Scotland over recent years has had an effect on consumption through changes in knowledge and attitudes. This will be examined in the 2014 MESAS annual report.

The Theory of Change recognises the importance of external factors in affecting outcomes either positively or negatively. The current economic context is one such external factor likely to be exerting an effect. In recent years, alcohol affordability (a function of alcohol price and disposable income) has declined due to the economic downturn and its effect on disposable incomes and alcohol prices. This might explain some of the recent decline in sales, alongside the effects of any market-driven changes in availability. The fact that the start of overall fall in male alcohol-related morbidity rates in 2003 predates both the recession and the more recent fall in population consumption is consistent with the finding that disposable income for the lowest income decile started to fall in 2003. Disposable incomes in the second lowest decile started to fall in 2006, coinciding with the start of the fall in female alcohol-related mortality and the sustained and steeper fall in male rates. The rates of these alcohol-related harms are highest for those living in the most deprived areas, and in absolute terms, it is this decline in the rates in these areas that

has driven the overall decline in Scotland. It is therefore likely that the decline in alcohol-related mortality in Scotland since 2003 is at least partly explained by the decline in incomes, and hence alcohol affordability, for the lowest income groups. As alcohol affordability decreases so does alcohol consumption, which is associated with lower alcohol-related harms and vice versa.[56] This suggests that an improvement in the economic context in general, and for most affected sub-groups in particular, may reverse at least some of these declines. It is therefore important to continue monitoring the economic context in general and disaggregated trends in particular to both contribute to the evaluation by understanding their contribution to the trends and to detect early any increase in alcohol-related harm which may follow a return to economic and income growth.

To conclude, Scotland is experiencing a recent and sustained decline in alcohol-related harm across most measures. It is likely that some elements of alcohol strategy are contributing to this decline. Falling incomes in the lowest income deciles are also likely to explain part of the decline, although the analysis is not wholly conclusive and other factors are probably also important. Monitoring trends for the purposes of both on-going policy development and evaluation should continue.

Abbreviations

AAI	Alcohol Affordability Index
ABIs	Alcohol Brief Interventions
ABV	Alcohol by Volume
AHC	After housing costs
Alcohol Act 2010	The Alcohol etc. (Scotland) Act 2010
AUDIT	Alcohol Use and Disorders Identification Test
BBPA	British Beer and Pub Association
CGA	CGA Strategy
CVM	Chained Volume Measures
EASR	European Age Standardised Rate
FRS	Department of Work and Pensions Family Resource Survey
GB	Great Britain
GDP	Gross Domestic Product
GLF	General Lifestyle Survey
HSE	Health Survey for England
ICD	International Classification of Disease
IFS	Institute for Fiscal Studies
ISD	Information Services Division (part of NHS National Services Scotland)
L	Litres
LB	Licensing Boards
Licensing Act	Licensing (Scotland) Act 2005
LSO	Licensing Standards Officer
MESAS	Monitoring and Evaluating Scotland's Alcohol Strategy
Minimum Pricing Act	The Alcohol (Minimum Pricing) Scotland Act 2012
MUP	Minimum unit pricing
Nielsen	The Nielsen Company
NRS	National Records of Scotland
ONS	Office for National Statistics
ppu	pence per unit
RHDI	Real Disposable Household Income
RPI	Retail Price Index
RTD	Ready to drink (alcoholic beverages)
SALSUS	Scottish Schools' Adolescent Lifestyle and Substance Use Survey
SCJS	Scottish Crime and Justice Survey
SDDUYP	Smoking, Drinking and Drug Use Amongst Young People
SHeS	Scottish Health Survey
SIMD	Scottish Index of Multiple Deprivation
SMR	Scottish Morbidity Records
SPS	Scottish Prisoner Survey
SWA	Scottish Whisky Association
UK	United Kingdom
WHO	World Health Organization

Glossary

Affordability of Alcohol Index (AAI): Affordability is a term used to describe the relationship between price and disposable income. Changes in the affordability of alcohol can stem from changes in disposable income and/or changes in the price of alcohol. Trends in affordability at a UK level are measured by the Affordability of Alcohol Index (AAI).

Alcohol Brief Intervention (ABI): A short, evidence based, structured conversation about alcohol consumption with a patient/service user that seeks in a non-confrontational way to motivate and support the individual to think about and/or plan a change in their drinking behaviour in order to reduce their consumption and/or risk of harm.

Alcohol by Volume (ABV): A measure of the amount of pure alcohol (i.e. ethanol) included in an alcoholic beverage (expressed as a percentage of total volume).

Alcohol clearances: These are collected by Her Majesty's Revenue and Customs (HMRC) and represent the volume of pure alcohol released for sale by manufacturers and wholesalers for consumption in the UK, based on excise duty declarations.

Alcohol Price Index: The Relative Alcohol Price Index shows how the average price of alcohol has changed in comparison to the prices of other goods and services, as measured by the retail price index.

Alcohol psychoses: The alcohol psychoses indicator contains a group of diagnoses based on the ICD9 term 'alcohol psychosis' and which has been mapped to the corresponding ICD10 codes. The diagnoses included are: F10.3 withdrawal state; F10.4 withdrawal state with delirium; F10.5 psychotic disorder; F10.6 amnesic syndrome; F10.7 residual and late onset psychotic disorder; F10.8 other mental and behavioural disorders.

Alcohol-related harm: A generic term to describe the adverse consequences to health, crime, education or wider society as a result of alcohol consumption.

Alcohol-related morbidity: Ill health (due to disease or injury) directly attributable to alcohol consumption. This does not include other diseases where alcohol is causally implicated in a proportion but not all cases of the condition.

Alcohol-related mortality: Death (due to disease or injury) directly attributable to alcohol consumption. This does not include deaths where alcohol has been shown to be causally implicated in a proportion of, but not all, cases.

Alcohol sales data: These are data supplied by market research specialists, The Nielsen Company and CGA Strategy, who provide estimates of the amount of alcohol sold by on- and off-trade outlets in Great Britain.

CGA Strategy ('CGA'): Specialist on-trade consultants who provide on-trade alcohol sales data.

Chained Volume Measures (CVM): Are measures used to adjust for inflation taking into account shifts in spending patterns over time.

Dependent drinkers: A cluster of behavioural, cognitive and physiological factors that typically include a strong desire to drink alcohol and difficulties in controlling its use. Someone who is alcohol-dependent may persist in drinking, despite harmful consequences. Dependent drinkers will also give alcohol a higher priority than other activities and obligations.

Economic downturn: is defined as periods from an initial decline in economic activity up until economic activity returns to its original level.

Equivalised household income: a measure of household income that adjusts household income to account for different demands on resources, by considering the household size and composition.

Harmful drinkers: Are defined as those who consume more than 50 and 35 units of alcohol per week for men and women respectively.

Hazardous drinkers: Are defined as those who consume between 21-50 and 14-35 units per week for men and women respectively

Logic model: A logic model is a visual representation of how an intervention (such as a project, a program, or a policy) is understood or intended to produce particular results or changes in outcomes.

National Records of Scotland: was formed in April 2011, following the merger of General Register Office for Scotland (GROS) and the National Archives of Scotland (NAS). NRS is responsible for the registration and statistical functions of the Registrar General of Scotland including population demographic statistics and census details.

Natural volume: The actual volume of an alcoholic drink as it is sold or consumed. For example, an ordinary strength (12% ABV) bottle of wine contains 750ml natural volume or 90ml pure alcohol.

The Nielsen Company ('Nielsen'): Market research specialists who provide off-trade alcohol sales and price band data.

Off-trade: This term is used to describe alcohol retail outlets licensed to sell alcohol for consumption off the premises. It includes supermarkets independent shops (e.g. grocers, newsagents), petrol stations and co-operatives.. Also called 'off-sales'.

On-trade: This term is used to describe alcohol retail outlets which sell alcohol for consumption on the premises. It covers licensed pubs, clubs, restaurants, hotels and cafes. Also called 'on-sales.'

Price band data: These data are supplied by The Nielsen Company for the off-trade only. Items scanned at Electronic Point of Sale have a known volume (natural volume) and a net retail price (which takes into account discounts and special offers). Natural volumes are converted into units of pure alcohol using a category-specific percentage ABV to derive the net retail price in pence per unit (ppu). Items are then coded into one of 17 price bands.

Pure Alcohol Volume: An alcoholic beverage contains ethanol, also known as pure alcohol. Pure alcohol volume is the volume of ethanol in an alcoholic beverage rather than the total (i.e. natural) volume. In line with international convention, this report describes alcohol sales in terms of the volume of pure alcohol sold, unless otherwise specified.

Real Disposable Household Income: Real Households' Disposable Income is the total households' income, minus payments of income tax and other taxes, social contributions and other current transfers, converted to real terms (i.e. after dividing by a general price index to remove the effect of inflation).

Retail Price Index (RPI): The Retail Price Index is an indicator of inflation in the United Kingdom (UK). It measures the average change from month to month in the prices of goods and services purchased in the UK.

SIMD: The Scottish Index of Multiple Deprivation (SIMD) is an area based measure of relative deprivation. SIMD uses 37 indicators in 7 domains (current income; employment; health; education, skills and training; housing; geographic access and crime) to rank Scotland's 6505 datazones (small geographical area each containing about 750 people) from 1 (most deprived) to 6505 (least deprived).

SIMD deciles: SIMD deciles divide the ranked datazones into 10, Decile 1 containing the 10% most deprived datazone and Decile 10 containing the 10% least deprived datazones in Scotland.

SIMD quintiles: SIMD quintiles divide the ranked datazones into 5, Quintile 1 containing the 20% most deprived datazone and Quintile 5 containing the 20% least deprived datazones in Scotland.

Theory of change: A theory of change (ToC) is a theory of how and why an intervention or programme works. It identifies the outcomes that the intervention or programme is designed to achieve and the preconditions, pathways and interventions necessary to achieve the desired outcomes.

Unit of alcohol: Alcoholic drinks can be described in terms of units. In the UK, a unit corresponds to 8 grams or 10 millilitres (ml) of ethanol (pure alcohol). The number of units in a given quantity of alcoholic drink can be calculated by strength of alcohol (% ABV) x volume (millilitres) divided by 1000.

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