

Alcohol Related Deaths in Glasgow City

A Cohort Study 2013



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EXECUTIVE SUMMARY

Purpose

The Glasgow Alcohol and Drug Partnership (ADP) is a multiagency group which is responsible for the strategic planning of drug and alcohol service provision in Glasgow City. The Glasgow ADP commissioned the investigation of alcohol related deaths in Glasgow in 2013 in order to:

Identify key risk factors which contributed towards alcohol related deaths (ARD), including the recorded histories of problem drinking and alcohol related harms.

Identify the journey of individuals who died of an ARD and their contact or involvement with alcohol treatment services and to explore the role of health services in identifying and managing alcohol related problems and other related co-morbidities in the community.

Identify the extent of alcohol treatment services used by this cohort, identifying if there are any recurrent patterns of engagement with alcohol treatment services to discover if and where they breakdown.

Key Findings

There were 189 alcohol related deaths in Glasgow City in 2013 as reported by the National Records Scotland (NRS). A representative cohort of 56 individuals were selected from the 189 individuals for further analysis, stratified by age and gender, leaving a margin of error of +/- 11%.

Key Risk Factors

- Over three quarters of the cohort were male (77%, n=43). Almost all of the cohort were White Scottish (96%, n=54). Over a third of those who died were between the 45 - 54 year age range (36%, n=20).
- The majority of the cohort (68%, n=38) lived in the most deprived areas of Glasgow in accordance to the Scottish Index of Multiple Deprivation.
- At the time of death under a third (29%, n=16) of the cohort were divorced closely followed by single (27%, n=15). A large majority (86%, n=48) of the cohort lived at home.
- Over half of the cohort lived alone (55%, n=31) and 66% (n=37) of the cohort were noted to be socially isolated. Just under three quarters (71%, n=40) of the cohort were unemployed at the time of death.
- 43% (n=24) of individuals had a close member of the family who had a problem with alcohol.
- 38% (n=21) of the cohort also used other substances alongside their alcohol use.
- Almost all (96%, n=54) of the cohort had a problem with alcohol documented in their casenotes.
- Just under a third (32%, n=18) had a problem with alcohol recorded before the age of 25 years which was the most common age range recorded.
- The majority (71%, n=40) of the cohort were recorded as 'daily drinkers'. Over half (56%, n=32) of the cohort were recorded as dependent drinkers.

Journey through Services

- Over a third (34%, n=19) of the cohort first presented to their GP with alcohol issues.
- An alcohol problem was noted by the GP for almost all of the cohort (95%, n=53).
- Almost all of the cohort (95%, n=53) had been in contact with an acute service within 3 years of death.
- The average number of Emergency Departments (EDS) contacts from 2007-2013 was 8. Alcohol was specifically mentioned in 28% (n=105) of all presentations to EDS.
- The average number outpatient appointments attended was 17 between 1998 and 2013.
- 89% (n=50) of the cohort had an inpatient episode within 3 years of death with the average number of episodes being 6.
- Half (50%, n=28) of the cohort had ever had contact with the Acute Addiction Liaison Service.
- A large majority of the cohort (82%, n=46) were in contact with social work services at some point in their lifetime. 59% (n=33) had been in contact with the Community Addiction Team, 27% (n=15) had been in contact with Homeless Services and 21% (n=12) were in contact with Community Care.
- Over half of the cohort (55%, n=31) were prescribed antidepressants.
- 70% (n=39) of the cohort died of an alcohol related liver condition, 61% (n=34) of them in hospital.

Range of Contact with Alcohol Treatment Services

- Almost three quarters of the cohort (71%, n=40) had ever been in contact with an alcohol specific service. 63% of the cohort (n=35) had been referred by their GP.
- Most of the cohort were prescribed thiamine (88%, n=49)
- Over half of the cohort (59%, n=33) had been in contact with a Community Addiction Team at some point in their treatment journey.
- 66% (n=37) of the cohort had undergone a medication assisted detox or been prescribed chlordiazepoxide to reduce the symptoms of alcohol withdrawal.
- 41% (n=21) of the cohort had undergone a medication assisted detox by an alcohol treatment service.
- Only 7% (n=4) of individuals were prescribed alcohol relapse prevention medication (2008 – 2013). 13% recorded in casenotes over lifetime.

A Profile of an Alcohol Related Death

This research reveals that an individual who will die of an alcohol related death in Glasgow City will most likely be a white Scottish male between the ages of 45 – 54 years. He will be single or divorced and will live in his own home (council rented accommodation), alone, in one of the most deprived areas of Glasgow City. He may have adult children but it is unlikely that he will be in contact with them.

He will be unemployed at the time of death and in the years leading to it, but he will have previously worked within a skilled industry and may have lost his job as a result of his alcohol use.

It is likely that he will have had his first drink at around 13/14 years of age and will have developed a problem with drinking alcohol before he reaches the age of 25 years. He will be a dependent drinker, drinking alcohol daily. He will consume on average 233 units of alcohol weekly which equates to 9 bottles of vodka per week. He will have experienced acute withdrawal symptoms and attended EDS services as a result. His GP will most likely be aware that he has had a long standing alcohol problem and he will carry the physical biomarkers of this, such as abnormal liver function tests, low platelet levels and elevated mean cell volume. He will most likely have been prescribed thiamine and omeprazole by his GP.

He will have Alcoholic Liver Disease and will have been referred for acute outpatient appointments with Gastroenterology. He will have had on average 8 acute inpatient episodes, a result of emergency admissions, probably within a general medical ward. He will have received treatment for his alcoholic liver disease and acute withdrawal symptoms and he may have been in contact with the acute addiction liaison service during one of these admissions.

He will have had contact, at some point in his drinking career, with an alcohol treatment service (including pre Community Addiction Team services). He will have been in contact with a psychiatric service, most likely a non addiction specific psychiatric service and will have received medication to reduce or stop alcohol withdrawal without any formal support.

He may have attended a community addiction team and he will have also attended a community/voluntary alcohol service. It is more than likely that he has defaulted from these services. He will be socially isolated with a lack of a social network and will most probably have a close relation with an alcohol problem. He will also be experiencing some financial problems and housing issues as a result of his alcohol use and although likely to have been in contact with police, he is unlikely to have been charged or taken into custody.

He will most likely die in hospital of an alcohol related liver condition.

Summary of Recommendations

Based on the findings of this report a summary of the recommendations made are:

1 Education and Prevention Services

1.1 Alcohol and Young People

32% (n=18) of the cohort developed problem drinking before the age of 25 years. Where the information was available, most members of the cohort had their first drink under the age 14 years. There is significant evidence that alcohol consumption by children and young people below the age of 21 years is more likely to result in problem drinking and the younger a child is when alcohol is first consumed, the higher the risk of adverse outcomes of problematic drinking and associated health and other issues. The findings support need for research on factors that lead to early age problem drinking in Glasgow and would support the WHO Global alcohol policy that the first alcoholic drink should be delayed.

- **Recommendation 1: Consideration to be given to prevention strategies that reduce children's exposure to alcohol and the availability of alcohol in their local community, in particular the findings of this report should be shared with the City Alcohol Licensing and Drug Group.**
- **Recommendation 2: Further research into the impact of increasing the legal drinking age, considering other models which delay the onset of drinking alcohol such as the American Model of 21 years.**
- **Recommendation 3: Consider further research into factors that lead to early age problem drinking, exploring factors raised in other well established research, such as the role of parents as the source for pre-adolescent alcohol and encouragement its consumption.**
- **Recommendation 4: Explore the vulnerabilities behind the sub-populations of young people as identified in this report, in particular drawing out any risk factors which could be an indicator for future alcohol problems.**

1.2 Alcohol in the Workplace

Almost all of the cohort (94%) were in employment at some point in their lifetime and several members of the cohort had spoken of losing their employment as a result of their alcohol use. However, a majority of the cohort (71%, n=40) were unemployed at the time of their death. Agencies such as the department of work and pensions (DWP) or Jobcentre Plus could work with specialist alcohol treatment services to provide support to those whose barrier to employment is their alcohol use. There was also little evidence of individuals being involved with employability services when in contact with the Community Addiction Team, even for those who were a planned discharge.

- **Recommendation 5: Work with employers to support staff that may have an alcohol problem and at risk of losing their employment. Consider the development of guidelines & resources on managing alcohol problems in the workplace.**
- **Recommendation 6: Consideration should be given to developing the role of employment and employability with partners in DWP within specialist alcohol treatment services as part of a recovery plan for an individual with an alcohol problem where appropriate.**

2 Engaging Hard to Reach & Hidden Populations

2.1 Building on the current relationship between Acute and Addiction Services

It is striking that almost all of the cohort were in contact with general acute services within three years of their death, therefore acute services and EDS in particular presents an opportunity to engage with those with an alcohol problem.

2.1.1 Emergency Department Services (EDS)

Within the acute and EDS casenotes there was no evidence of alcohol screening, brief interventions and signposting having taken place. However, there is separate manual recording of ABIs therefore this may not have been captured within patients' casenotes.

- **Recommendation 7: The findings should be shared with partners in acute services for consideration of further awareness and education sessions for EDS staff on alcohol screening and referral pathways.**

Consideration to be given to how we share data on alcohol screenings and brief interventions being carried out, and the outcome of this, with others involved in an individual's treatment or care with assertive follow up where required.

On average the members of the cohort attended EDS 8 times in a 5 year period prior to death, ranging from 1 to 37. Half of the cohort (50%, n=28) had ever had contact with the Acute Addiction Liaison service. Acute Addiction Liaison has agreed a referral pathway with EDS for those who present during service hours and a system is in place which links those who present out of hours with their local CAT. This initiative is about to roll out to Glasgow Royal Infirmary. Renfrewshire and Inverclyde are exploring the introduction of a similar system.

- **Recommendation 8: Acute and alcohol services should review existing pathways for maximising the opportunities to engage problem drinkers presenting to Emergency Departments. This should include ESD raising awareness of the Acute Addiction Liaison Service currently delivered in EDs during office hours and measuring effectiveness of out of hours services. Consideration should be given to the model of an assertive outreach which would engage with those who frequently attend EDS or MIU.**

2.1.2 Outpatient Services

This study found that many of the cohort attended outpatient appointments and, the attendance rate is relatively high at 64%. Previously, Liaison had delivered an alcohol clinic with limited success within outpatients however evidence from this study would suggest that joint working should be revisited. Currently Addiction Acute Addiction Liaison has been delivering ABI clinics in oral maxillofacial outpatient clinics which have been successful in engaging a young male population who are drinking at hazardous levels.

- **Recommendation 9: Develop a model of joint working between outpatient clinics in acute services and specialist services, focusing on delivery of alcohol treatment and care outpatient clinics such as gastroenterology and maxillofacial, ensuring a multidisciplinary and person centred approach.**

2.2 Strengthening the link between Mental Health and Addiction Services

70% of the cohort were in contact with non addiction specific mental health services in their lifetime. There were examples throughout the cohort of those who did not wish to be referred to alcohol treatment services but engaged well with mental health teams.

- **Recommendation 10: Consideration should be given to how we can improve the effectiveness of alcohol interventions for those engaging with mental health services and the interface between mental health and alcohol services.**

2.3 Addiction and Social Work Services

A majority (64%, n=36) of the cohort were in contact with social work services outwith the CAT. In many of these cases, it was documented that the individual had a problem with alcohol within the casenotes but there was no indication of a discussion around their drinking or a referral to a specialist alcohol service. Homecare in particular had daily contact with some of the most vulnerable members of the cohort.

- **Recommendation 11: Review the training and learning needs for those in social work services, ensuring awareness of the referral pathways. Special attention should be paid towards developing alcohol awareness training for social work support staff that have regular contact with this vulnerable group.**

2.4 Strengthening the role of Primary Care

Almost all (95%, n=53) of the cohort were recognised by their GP as having an alcohol problem. In most cases this was a result of attending their GP with alcohol related health issues. Under half of the cohort (41%, n=23) had even been screened for harmful/hazardous alcohol use and a quarter (25%, n=14) had ever received an alcohol brief intervention.

- **Recommendation 12: Guidance around the early detection of alcohol problems through the use of alcohol screening and ABIs for primary care professionals should be further promoted. Further research would also be beneficial to identify potential barriers to the**

detection or treatment of alcohol problems in primary care, from a patient and professional perspective.

Another important finding was the primary care prescribing of chlordiazepoxide which just under half (45%, n=25) of the cohort had received. The maximum number of prescriptions for any one individual being 27 within a 5 year period. There was no evidence in the casenotes of any dose reduction advice or follow up during subsequent consultations.

- **Recommendation 13: Tier 1 and 2 alcohol treatment and care guidance and training should be developed and promoted to ensure best practice in prescribing for alcohol problems and supported alcohol detox in primary care as there was evidence of a lack of consistency of approach, particularly in terms of Chlordiazepoxide prescribing.**

2.5 Social Isolation and Agencies within the Community

Social isolation was an emerging theme throughout the casenotes with most individuals in the cohort experiencing this throughout their drinking career and the vulnerabilities which are often associated with it, particularly the risk of exploitation. This was a finding that is reflected in casenotes of our cohort and there were 9 individuals who were referred to social work under Adult Support and Protection procedures.

There is a role for communities in tackling the problem of social isolation and a role for housing associations in particular as most of the cohort lived in council rented accommodation.

- **Recommendation 14: Liaise with housing associations to identify strategies to tackle loneliness and social opportunities within local communities with an emphasis on reducing the risk of exploitation for this vulnerable group.**
- **Recommendation 15: Consideration should also be given to establishing a peer support and befriending framework to those isolated in the community with an alcohol problem, both recovery based support and community based support.**

3 Specialist Alcohol Treatment & Care Services

3.1 The Role of Alcohol Treatment and Care Services

Over half (59%, n=33) of the cohort were in contact with a community addiction team (CAT) at some point in their treatment journey, however 85% (n=46) of all discharges were unplanned. In most cases the individuals were offered 3 appointments and were formally discharged if they did not engage with the service, in a few cases there was evidence of home visits carried out. This finding suggests a requirement to review the support for these individuals to reengage with services. Those who had a planned discharge, often as a result of meeting their recovery plan objectives, were offered a referral onto non statutory services but in most cases this was declined.

- **Recommendation 16: Consider further strengthening the assertive outreach model and risk assessment of those who do not attend appointments/engage.**

Just under a quarter (24%, n=8) of those who were in contact with the CAT reported that they had made the choice not to engage because they did not want to change their current alcohol use or see their alcohol use as a problem.

- **Recommendation 17: Consider the development of a long term harm reduction pathway and service provision for those not motivated to abstinence.**

66% (n=37) of the cohort had previously undergone a medication assisted detox or had a prescription to reduce alcohol withdrawal symptoms. A third (32%, n=18) of those were supported by the community addiction team whilst 27% (n=15) of the cohort received an addiction inpatient detox, however, very few of the cohort (13%, n=7) were prescribed relapse prevention medication and there was little evidence recorded in the casenotes of recovery orientated work or referral to an employability service.

- **Recommendation 18: Review of after-care post discharge including provision of relapse prevention medication and emphasis on recovery orientated post detox care planning with employability.**

It was identified that the assessment process fails to identify some of the key risk factors found in the profile of an alcohol related death such as social isolation which was experienced by 66% (n=37) of the cohort and other risk indicators such as familial alcohol use and age they first consumed an alcoholic drink.

- **Recommendation 19: Assessment to include questions around social isolation, familial alcohol use and onset of alcohol drinking.**

The community addiction teams should also consider strengthening their visibility and linkage to the places where people with alcohol problems most frequently attend.

- **Recommendation 20: Alcohol treatment services to build stronger links to services where those at risk of an alcohol related death frequently attend with regards to engagement and follow up.**

3.2 The Role of Pharmacy

There was very little information regarding pharmacy contact as very few were prescribed alcohol relapse medications. However, the majority of the cohort had received a thiamine prescription (88%) and will have had regular contact with their local pharmacy.

- **Recommendation 21: Glasgow ADP should consider the role of the pharmacy both in the prevention of problem alcohol use and in the management of treatment and care within the community.**

4 Information, Performance & Research

4.1 Linking Information in Real Time

An emerging theme during the interrogation of all the various different casenotes and recording systems used by services was that there were difficulties in sharing information for those involved in an individual's care. Often the major barrier to sharing information efficiently is IT systems related. A focus is required on how services can address the existing barriers within services and particularly between health and social care. The roll out of the NHS portal will allow the sharing of pertinent information visible to those involved in the care and treatment of an individual with an alcohol problem in a secure IT environment.

- **Recommendation 22: Review the main IT systems and the current process for how information is shared internally and externally, involving colleagues within IT and stakeholders from the relevant partnership organisations and services, ensuring that the roll out of EMIS & the NHS portal is a priority within addiction services.**

4.2 Exploring the Non Statutory Alcohol Services Role

Just over half (57%,n=32) of the cohort had been in contact with non statutory alcohol services however from the analysis of the casenotes it was often difficult to get an overall picture of the role of the non statutory alcohol service on the treatment and care pathways of the individuals. It would be beneficial to explore this area with an alcohol related death cohort to look in more detail at the various models across the different services and the interface between statutory and non statutory services.

- **Recommendation 23: Review the interface between commissioned services and statutory organisations. Review how ongoing work taking place within voluntary organisations is acknowledged and reflected within statutory recording systems.**

4.3 Strengthening the Evidence around the Impact of Alcohol Related Deaths

The ADP should develop a routine reporting framework around alcohol related deaths for a year on year comparison to identify local trends and patterns in alcohol related harms, assisting the ADP to meet the needs of those most at risk from an alcohol related death, incorporating monitoring the risk areas highlighted, with particular reference to social isolation and unemployment and deprivation.

- **Recommendation 24: Develop a routine and robust ADP reporting framework on alcohol and alcohol related harms, with a particular focus on alcohol related morbidity and mortality.**

5 Glasgow Alcohol Related Deaths and the National Strategy

The findings of this report did not provide any quantitative evidence toward the national strategy of Minimum Unit Pricing (MUP) or alcohol availability within communities. However, there were observations around a narrowing alcohol repertoire which was economically driven. When the financial circumstances of the cohort were at their strongest, the cohort could purchase their drink of choice, most commonly vodka (68%). However,

as their finances became more restricted, often as a result of problem alcohol use, evidence from records suggests the cohort switched to cheaper alternative drinks before, in most cases, going in to alcohol withdrawal and attending EDS or requesting Chlordiazepoxide from the GP. MUP may address this dynamic, particularly within the prevention work stream and an evaluation of the impact of MUP on an alcohol related death cohort would be an area for further research.

- **Recommendation 25: Monitor the impact of national strategies, such as MUP on Glasgow City alcohol related death figures.**

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1. INTRODUCTION

1.1 Purpose of Report

Alcohol misuse in Glasgow City presents a large burden in terms of health related and socio-economic outcomes. The burden experienced is greater in Glasgow than in any other UK city and accounts for a third of the premature mortality in Glasgow City. This impact is not replicated, even in other UK cities with similar populations and deprivation levels and has been labelled as the “Glasgow Effect” (Walsh 2010).

Following a Scottish government led requirement to investigate all drug-related deaths in Scotland and a recent requirement to prioritise a reduction in alcohol related deaths, the Glasgow City Alcohol and Drug Partnership (ADP) felt that a similar analysis of those who died of an alcohol related death would provide evidence to assess the current level of service provided to a mortality cohort and to understand the risk factors identified in a alcohol related death cohort in order to assist in the prevention of future deaths.

A previous report based within the NHS Greater Glasgow and Clyde health board area demonstrated the extent of contact in a cohort of those who died of an alcohol-related death in 2003, the key findings of which suggested that those who died from alcohol-related conditions were usually in contact with statutory and voluntary services, however, opportunities were missed in the detection, assessment, and management of alcohol problems within specific settings, (Morris et al, 2012).

This report uses a mixed method approach, bringing together a statistical analysis of alcohol related morbidity and the life story of the individual members of the cohort to demonstrate the experience of alcohol related harms in Glasgow. The aim of this report is to update evidence using a cohort of those who died in 2013, whilst recognising the organisational changes and policy implementations that have taken place since the previous findings were published.

There are 3 objectives to this research.

- **Identify key risk factors which contributed towards alcohol related deaths, including the recorded histories of problem drinking and alcohol related harms.**
- **Identify the journey of individuals through alcohol treatment and explore the role of health services in identifying and managing alcohol related problems and other related co-morbidities in the community.**
- **Identify the involvement of alcohol treatment services within this cohort, identifying if there are any recurrent patterns of engagement with alcohol treatment services and to identify if and where engagement breaks down.**

The outcome of this report will assist the ADP in its decision making process regarding future policy and provision of alcohol prevention and treatment services and improve population level outcomes and the experience of future patients and their care.

1.2 What is an alcohol related death (ARD)

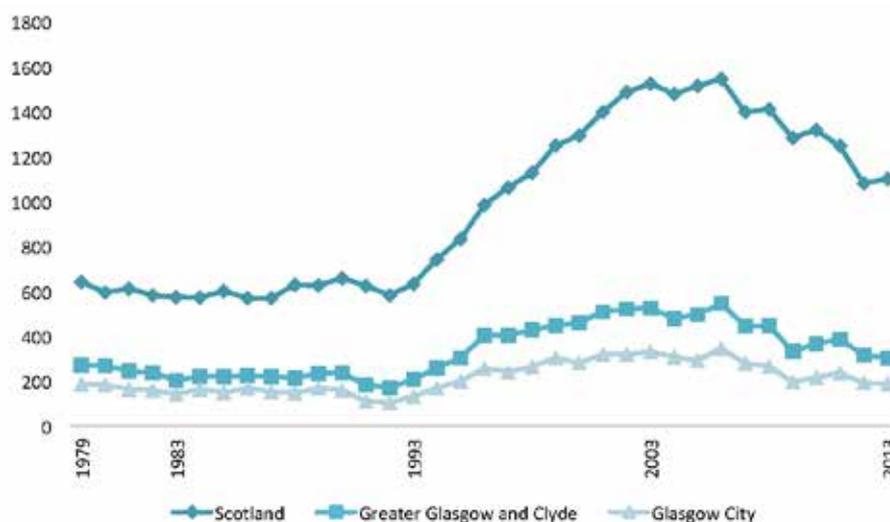
Within this report an ‘Alcohol Related Death’ is referred to under the current definition of the National Records of Scotland which only includes those causes regarded as being most directly due to alcohol consumption. The definition includes all deaths from chronic liver disease and cirrhosis (excluding biliary cirrhosis), even when alcohol is not specifically mentioned on the death certificate and includes deaths due to poisoning with alcohol (accidental, intentional or undetermined). This definition excludes any other external causes of death, such as road traffic and other accidents whilst under the influence of alcohol.

1.3 Alcohol Related Deaths in Glasgow and NHS Greater Glasgow and Clyde

Measuring alcohol related mortality and morbidity is considered the best (gold standard) measure of alcohol related harms. (Monitoring and Evaluating Scotland’s Alcohol Strategy (MESAS) Final Annual Report, 2016). The National Records of Scotland (NRS) records the incidence of Alcohol Related Deaths using the standard definition and releases a report annually.

The NRS informs us that NHS Greater Glasgow & Clyde accounted for 27% (n=302) of the total deaths in Scotland in 2013, Glasgow City accounting for 17% (n=189) overall.

Figure 1 - National, Greater Glasgow & Clyde Health Board and Glasgow City Comparison
(Source: NRS / ISD)



The death rate in Glasgow City began to rise in 1993, peaking to 345 in 2006 and beginning to decline again with the 2013 death rate being the lowest total since 1995.

1.4 Glasgow in Comparison – Scottish Cities

Within Scotland, Glasgow has the highest rate of alcohol related deaths than any other local authority area.

The following table is a comparison with various local authority areas, Edinburgh which is the closest in population to Glasgow, North Lanarkshire, which is its closest neighbour and Inverclyde and Dundee City which have similarly high shares of the 15% most deprived areas in Scotland (Scottish Government, 2013)

Table 1 - Crude Rate of Alcohol Mortality Local Authority Comparison

	ARD Deaths 2013	Crude Rate per 100,000 (of the general population)
Glasgow City	189	31.6
North Lanarkshire	100	29.6
Inverclyde	19	23.6
Dundee City	29	19.5
Edinburgh City	86	17.6

Glasgow City experiences more than double the number of alcohol related deaths than Edinburgh City with a death rate which is almost double. Dundee City and Inverclyde represent local authority areas with similar levels of deprivation however Glasgow City alcohol death rates per 100,000 of the general population are significantly higher.

1.5 The “Glasgow Effect” & Health Inequalities

Comparisons have been made between Glasgow and other major UK cities that are similar in population and demographic (Walsh et al 2010) and the findings suggests that premature mortality is 30% higher in Glasgow (after adjusting for differences in key areas such as income deprivation) than in Liverpool or Manchester for both males and females, in deprived and non-deprived neighbourhoods. Around half of ‘excess’ deaths under 65 years of age were directly related to alcohol and drugs, furthermore alcohol related deaths were 2.3 times higher in Glasgow, therefore problematic alcohol use clearly plays its part in contributing to the “Glasgow Effect”.

1.6 Alcohol Related Harm in Scotland - Setting the Scene

In Scotland in 2013 there were a total of 1100 Alcohol related Deaths.

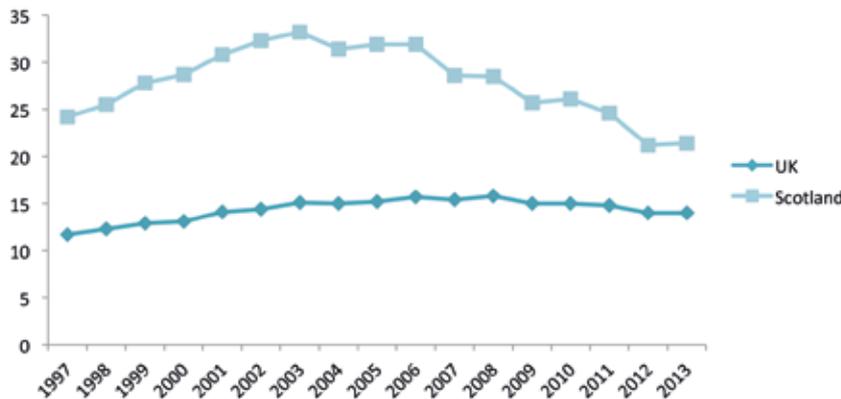
Figure 2 – Scotland, Alcohol Related Deaths, 1979 -2013 by Gender



In 2013, 21 people died every week in Scotland from an alcohol related death and alcohol-related problems are estimated to cost Scotland over £2bn. (SHAAP, 2013)

1.7 Scotland in Comparison with the UK

Figure 3 - Scotland in comparison to the rest of the UK



In 2013 Scotland's alcohol-related death rate at 21.4 per 100,000 population (ScotPHO National Alcohol Profile) was significantly higher than that of the UK national average at 14.0 per 100,000 (ONS, Alcohol Related Deaths Statistical Bulletin, 2013)

1.8 Consumption

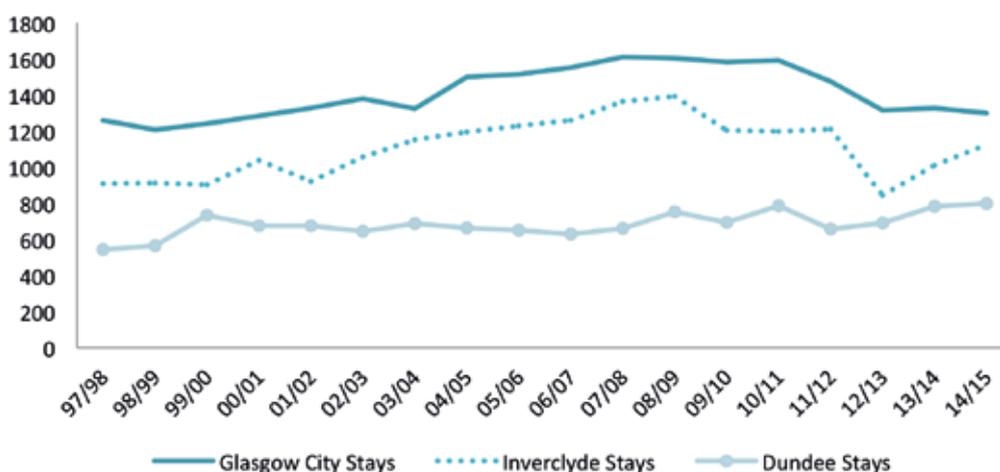
In 2013 alcohol consumption overall had been decreasing in Scotland however off trade alcohol had steadily increased, year on year since 1994 from 21,235 litres sold to 33,472 in 2013. On-trade sales however had been falling since 1994 which indicates declining social drinking (possibly influenced by the smoking ban) and indicated a rise in people buying and consuming their alcohol at home. Individuals in Scotland were sold 15% more alcohol (per litre) per individual than in England & Wales in 2013. In 2014 Scotland drank almost a fifth more than individuals in England and Wales. The most recent figures from 2015 (MESAS alcohol sales and price update, 2016) indicate that sales and therefore consumption are continuing to rise and the difference in consumption between Scotland and England & Wales has risen to 20%.

1.9 Alcohol Harm Paradox

According to the Scottish Health Survey 2014 the level of consumption between the most and least deprived is almost similar (see appendix 3). Unlike other health related co-morbidities such as smoking, individuals in more deprived areas are more likely to be admitted to hospital with an alcohol related condition or die of an alcohol related death. This is what is referred to as the 'Alcohol Harm Paradox' (Bellis, 2016). It should be noted however that figures regarding consumption which come from a self reported survey can under represent heavy

drinkers by anywhere between 10 - 50% (Ely et al, 2001). Possible reasons given for this is that heavy drinkers may be more likely to refuse to take part in surveys or less likely to be contacted because they change address more frequently, or are homeless (Lemmens et al, 1988).

Figure 4 - Alcohol Hospital Stays per 100,000 EASR)



1.10 Alcohol Related Hospital Statistics

In 2013/14 there were 35,059 alcohol-related general acute hospital stays in Scotland which equated to a standardised rate of 672 stays per 100,000 of the population.

Glasgow City has consistently made up over 60 % of all alcohol related general acute discharges within NHS Greater Glasgow and Clyde since 1997 (ISD, Hospital Related Statistics, 2015)

There has been a steady decline in rates since 2007/8 which has been predominantly driven by a decline in the presentation of ‘acute’ conditions, such as harmful use and toxic effect. Chronic’ conditions, such as alcohol-related liver disease and alcohol psychosis have remained stable or have increased.

In 2014/15, alcohol-related stays in general hospitals were nearly 8 times more frequent for individuals living in the most deprived areas compared to the least deprived areas.

Alcohol-related psychiatric stay rates in 2013/14 were more than 16 times higher for patients living in the most deprived areas compared to the least deprived areas making the gap between the richest and poorest the largest difference seen since recording began.

2. ACCESSING HELP FOR ALCOHOL PROBLEMS IN GLASGOW

2.1 Tier 1 & 2 Services

The beginning of an individual's contact with services and problematic alcohol use prevention is usually out with specialist services. Many primary services within tier 1 and 2 have a role in education, prevention, identification and signposting to more specialist tier 3 and 4 services. Tier 1 and 2 services tend to be more accessible and will often be the starting point for an individual in their alcohol treatment journey.

Table 2 - Tier 1 & 2 Interventions

Level	Settings	Interventions
Tier 1	GP/primary care, health promotion, ambulance, EDS, social services, general housing and homelessness services, outreach services, maternity / antenatal services, general psychiatry, CAMHS, probation, police	Alcohol awareness and education, screening for alcohol problems, minimal interventions, brief interventions, need assessment, referral to specialist service, harm reduction
Tier 2	GP/Primary Care; Open access alcohol services / Drop-in services; specialist alcohol services / community alcohol team; AA/self-help groups; 'wet' and 'dry' houses/hostels, outreach services	Open access services, specialist advice and info, harm reduction, GP advice and info, screening, referral to more specialist services, brief interventions (in generalist and specialist settings), motivational interventions, telephone advice and info, need assessment, counselling and psychotherapy, psycho-educational interventions, group work, relapse prevention, liaison workers working with primary care, liver units, EDS, and psychiatric services, family/carer support services, crisis intervention, preparation for assisted withdrawal, mentoring, befriending, advocacy, diversionary activities
Tier 3	Specialist community alcohol services, structured day programme services, hostels – 'dry' and 'wet'; hospitals, community mental health teams, range of linked services inc mainstream health services, drug treatment services, probation, social services	Assisted withdrawal in the community / at home – both supervised and unsupervised, structured community treatment programmes/ day programmes, group therapy / group work programmes, relapse prevention, outreach, (comprehensive) assessment (including MH assessment), motivational, interventions, specialist liaison services working with mainstream health services, structured counselling, CBT/ psychosocial interventions, controlled drinking, interventions, alcohol and offending programmes, family/carer support, structured key-worker support, alternative therapies, links to other services e.g. drug treatment, mental health/dual diagnosis services, alcohol 'shared care' services, community care assessments, structured care planning
Tier 4	Hospital inpatient units; residential rehab units, general medical wards, liver units, wet and dry housing/hostels, gastroenterology, hepatology clinics	Inpatient detox, residential rehab services, specialist assessment and referral, psychiatric input for conditions (such as Korsakoff's), aftercare services – e.g. tenancy support, specialist medical care e.g. for liver problems etc, group therapy, relapse prevention, 12-step programmes

(Source: National Treatment Agency www.referrersguide.com/Guidelines/MOCAM%20summary.pdf)

2.2 Tier 3 & 4 Services

Glasgow Addiction Service provides specialist drug and alcohol treatment services to all individuals in the Glasgow City area. In order to look at the total number of Alcohol Related Deaths in context it is important to look at the number of referrals received by a specialist treatment service in relation to alcohol.

Table 3 - Addiction Service Referrals Received - Calendar Year 2013

Addiction Issue	No	% of total referrals
Alcohol	3418	62%
Drugs	1926	35%
Other	83	2%
Drugs & Alcohol	62	1%
Total	5489	100%

(Source: Glasgow ADP CareFirst)

Individuals with an alcohol problem can be referred into alcohol services in several ways. They can self present to a community addiction team (CAT), be referred by their GP or they may have been seen by the Acute Addictions Liaison service as an inpatient in hospital for an alcohol related issue. Other health professionals that the individual may have had contact with should have access to the appropriate CAT details and signpost self referral as per the addiction training available to all NHS health professionals.

Once in service the individual will be screened in order to determine the appropriate level of service provision. If alcohol consumption is screened as hazardous or harmful with minor risk and impact, the referral will be sign posted to another lower intensity service e.g. Local Council on Alcohol or an agreed alternative support service. If levels of alcohol use indicate dependency or harmful use with additional complexity e.g. social issues, health issues or vulnerability or risk, the individual will be care managed by the CAT.

There are a range of higher intensity services accessed through the specialist alcohol team based within the CAT. The individual will have a care manager from within the addiction team and may have the input of a range of professionals, namely social care staff, nursing staff (generic addiction nurses and alcohol nurses), medical officers, addiction psychiatrists, pharmacists, occupational therapists, psychologists and dieticians. The high intensity services available are; Hospital Day Services, Hospital Inpatient Services, Alcohol Related Brain Damage (ARBD Services), Dietetics, Occupational Therapy, Addiction Psychology and Addiction Psychiatry along with specialist acute medical support in general medicine, hepatology and gastroenterology.

3. METHODOLOGY

3.1 Definition

The cases were selected using the following definition of an Alcohol related Death as defined by the NRS:

The National Statistics definition of alcohol-related deaths only includes those causes regarded as being most directly due to alcohol consumption, as shown below. The definition includes all deaths from chronic liver disease and cirrhosis (excluding biliary cirrhosis), even when alcohol is not specifically mentioned on the death certificate. Apart from deaths due to poisoning with alcohol (accidental, intentional or undetermined), this definition excludes any other external causes of death, such as road traffic and other accidents. The definition allows for consistent comparisons over time for those deaths most clearly associated with alcohol consumption.

It does not include other diseases where alcohol has been shown to have some causal relationship, such as cancers of the mouth, oesophagus and liver, accidents or homicides involving alcohol.

Table 4 - ICD 10 Codes Alcohol Related Death

ICD-10 codes for included within the Alcohol Related Deaths Definition		
F10 Mental and behavioural disorders due to use of alcohol	K29.2 Alcoholic gastritis	K86.0 Alcohol induced chronic pancreatitis
G31.2 Degeneration of nervous system due to alcohol	K70 Alcoholic liver disease	X45 Accidental poisoning by and exposure to alcohol
G62.1 Alcoholic polyneuropathy	K73 Chronic hepatitis, not elsewhere classified	X65 Intentional self-poisoning by and exposure to alcohol
I42.6 Alcoholic cardiomyopathy	K74 Fibrosis and cirrhosis of liver	Y15 Poisoning by and exposure to alcohol, undetermined intent

(Source: NRS)

3.2 Cohort

56 cases were chosen, stratified by age and gender to be representative of the 189 alcohol related deaths in Glasgow City in 2013. The number of cases selected followed the selection process carried out in other, similar studies which cover different time periods for the purposes of comparison, keeping in mind that this study will only look at Glasgow City deaths.

The initial phase of the research involved a scoping exercise where an initial 35 cases were selected from the 189. The purpose of the scoping exercise was to assist with establishing a core data set and to allow the exploration of data sources. GP casenotes, Community Addiction Team casenotes, the clinical portal, PiMS, Genisys and careFirst were the data explored at this phase.

The question set was derived from a number of sources including previous research carried out regarding alcohol related deaths, the drug related death question set and previous alcohol harm reduction research and information from the Glasgow Centre of Population Health.

After the analysis of the data for the 35 cases the findings were reviewed and an additional 21 cases were added to the data set to make a total of 56 cases within the cohort. By increasing the sample size the likelihood of the sample being representative of the entire alcohol related death cohort for Glasgow City (n=189) increased and the margin for error reduced from +/- 15% (n=35) to +/- 11% (n=56).

3.3 Data Sources

Table 5 - Methodology Data Sources

Source	Data type	Source Category	Type
Primary Care Record	Primary	NHS	Paper
Community Addiction Team Casenotes	Primary	NHS & SW	Paper
Acute Casenotes	Primary	NHS	Paper
Patient Information Management System	Primary	NHS	Electronic
Genisys	Primary	NHS	Electronic
careFirst	Primary	SW	Electronic
careJust	Secondary	SW	Electronic
iWorld	Secondary	SW/Homeless	Electronic
Glasgow University Forensic Medicine Database	Primary	Glasgow University	Electronic
HCV Dataset	Secondary	NHS	Electronic
Clinical Portal	Primary	NHS	Electronic
NRS Alcohol Related deaths dataset	Secondary	NHS	Electronic
SafeHaven Dataset (incorporating SMR 00, 01, 04, PIS dataset, GP LES dataset, Trakcare EDS dataset)	Secondary	NHS/Glasgow University	Electronic

4. RESULTS

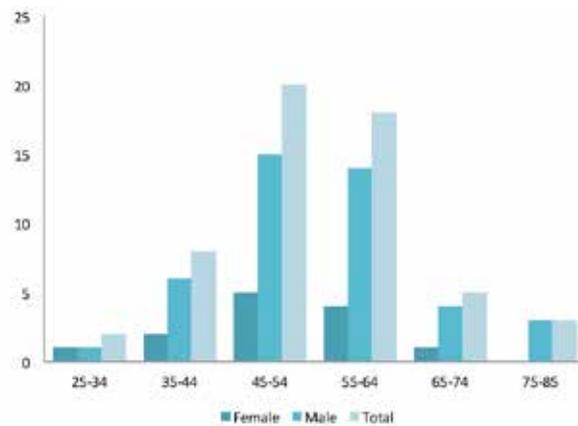
4.1 Exploratory Research - Cohort Analysis

4.2 Demographics

4.2.1 Age and Gender

The sample was stratified by age and gender to the main alcohol death population group with a slight adjustment required so as to not over represent any one age group within the female cohort.

Figure 5 - Cohort Age by Gender (Source: NRS)



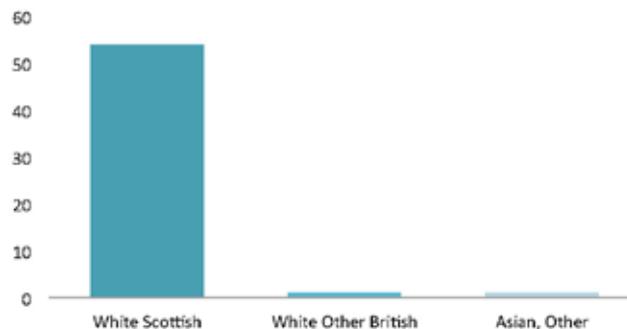
Over three quarters of the cohort were male (77%, n=43), 23% (n=13) were female. Over a third of those who died were between the 45 - 54 year age range (36%, n=20)

The average age of death for males was 54 years, for females it was 51 years. The overall average age of death within the cohort was 54 years, the mode being 56 years of age.

4.2.2 Ethnicity

Almost all of the cohort were classified as 'White Scottish' (n=54). Other ethnicities listed were 'White, Other British' (n=1) and 'Asian, Other' (n=1)

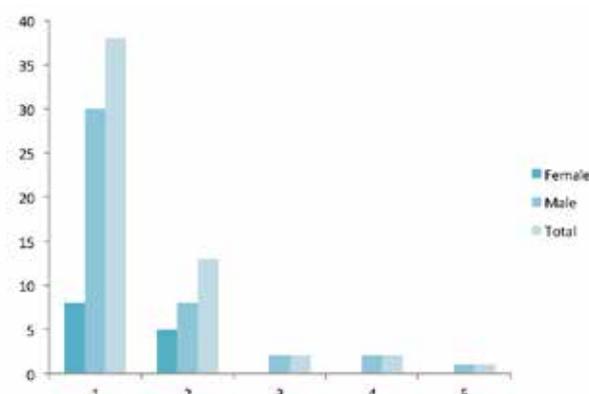
Figure 6 – Ethnicity (Source: NRS)



4.3 Social Environment and Deprivation

The majority of the cohort (68%, n=38) lived in the most deprived areas of Glasgow in accordance to the Scottish Index of Multiple Deprivation. (1 is the most deprived and 5 is the least deprived).

Figure 7 - SIMD by Gender (Source: NRS)



There is a strong body of research which links deprivation to poor health outcomes and alcohol related harms and mortality. This evidence is reflected in the findings of the cohort. One study (Bellis, 2016) suggests that this gap is the result of an increased likelihood that those in the least deprived areas are also strongly linked to a range of other detrimental health behaviours including smoking, excess weight and poor diet/exercise which increase the risks of developing alcohol-related conditions.

4.4 Social History

Through a retrospective analysis of the casenotes it was found that many members of the cohort had experienced the socio-economic problems that have been highlighted in previous studies. Employment status, housing and financial problems, relationship status and incidences of domestic violence, family and friend's social network and contact with the police all emerged as themes from the casenotes.

The impact of alcohol related harms is often felt much wider than the drinker, hence the importance of recognising alcohol use disorders in the context of public health. Evidence suggests that a poor socio-economic outlook is strongly linked with a higher rate of mortality (Gordon et al, 2010).

4.4.1 Family, Relationships & Social Networks

A majority of the cohort had mentioned their parents within the casenotes. In 41% (n=23) of the cases, the cohort had reported having positive childhood memories and supportive parents growing up.

Just under a third (45%, n=25) of the cohort had spoke of the impact of a parent dying with n=8 individuals stating that their parents death had a direct impact on an increase in their drinking.

38% (n=21) of the cohort indicated that they had a strained relationship with their parents, even if they were supportive.

There is evidence that suggests that adverse childhood experiences (ACEs) are strongly aligned with the early onset of alcohol drinking (Dube et al, 2006) and that there is a significant relationship between experiencing two or more adverse childhood events and the development of a dependency. ACEs were not measured in this study but could be considered retrospectively in further research.

Table 6 – Relationship with Parents

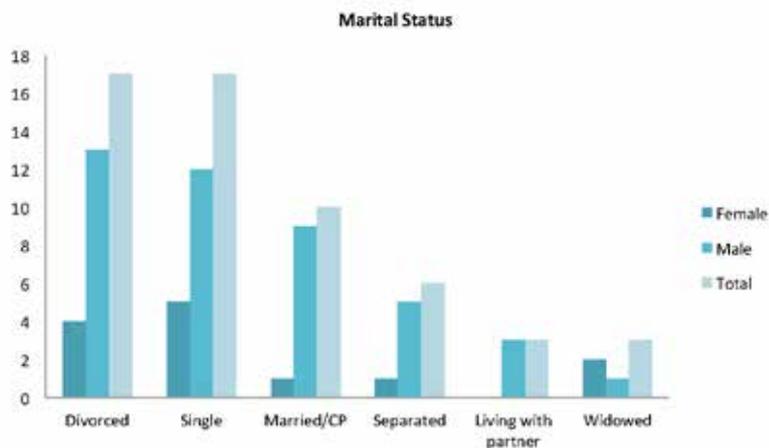
Relationship with Parents	No	%
Described positive relationship with parents growing up	23	41%
Described negative relationship with parents growing up	13	23%
Described parents as a heavy/dependent drinker	18	32%
Parents have died	25	45%
Described strained relationship with parents in adulthood	21	38%

(Source: casenote analysis)

Joe's dad died when he was young and he had always had a close relationship with his mum. He was in a steady job and is married with 2 children. However after his marriage breaks down and he receives final warning at work. He asks to move back in with his mum for financial reasons. His drinking escalates from a couple of cans of cider a week to 8 cans daily. His mum urged him to tell his GP who then referred him to the Community Addiction Team. He engaged, with the support of his mum, who also helped him during his home supported detox. However, he relapsed causing a lot of tension between him and his mum. He reengaged with the CAT team and with voluntary services and is admitted for an inpatient detox but he discharged himself before it was complete. He did not keep his appointments with day services and relapsed to drinking soon after and his mum asked him to leave. Joe presented to the homeless casework team and was accommodated in a hostel, during this time his consumption increases and his health and self care deteriorates.

At the time of death under a third (29%, n=17) of the cohort were divorced closely followed by single/never married (27%, n=15). 18% (n=10) of the cohort were married whilst 11% (n=6) were separated. 5% (n=3) were cohabiting at the time of death and a further 5% (n=3) were widowed.

Figure 8 Cohort Marital Status (CP=Civil Partnership) (Source: casenote analysis)



It is believed that positive life events, such as getting married and having children, have a positive influence on drinking behaviours (Thandie et al, 2015). However studies have also shown the impact of negative life events such as separation or divorce on increased consumption and heavier patterns of drinking as a result of alcohol use as well as the causal effect of alcohol use in the breakup of a marriage or long term relationship. (Boden et al, 2013).

Table 7 – Relationship Themes (Source: casenote analysis)

Recurrent Relationship Issues	No of Cohort	%
Believed relationship breakdown was result of alcohol use	13	23%
No mention of relationships in casenotes	11	20%
Victim of domestic abuse	10	18%
Increase in drinking after relationship breakdown	8	14%
Perpetrator of domestic abuse	8	14%
History of overdose due to end of relationship	4	7%

Several recurrent themes emerged from the casenotes of the cohort, namely the effect of alcohol use on relationships and vice versa. 23% (n=13) of the cohort described to a health professional that they believed that their relationship breakdown was a result of their alcohol use.

“Patient’s partner called, feels that they can’t cope with patient’s behaviour, still drinking, not eating and remains very weak” - Id 23, GP Consultation

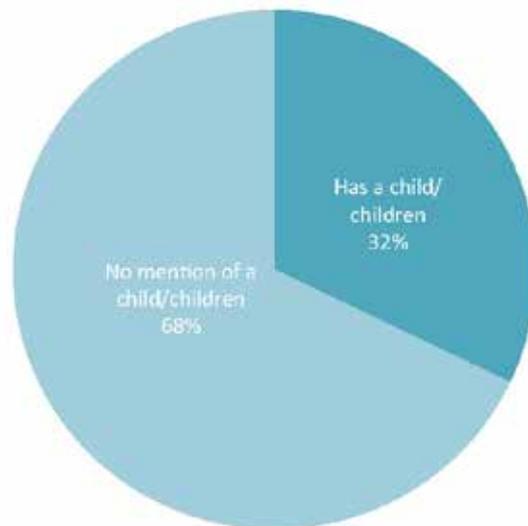
Domestic violence also emerged as a theme within some of the relationships within the cohort both as a perpetrator (14%, n=8. Female, n=3, male, n=5) and as a victim of domestic violence (14%, n=10, all female)

“With ex-partner for 15 years before they split. Main issues relate to anger whilst drunk, including domestic assault” - Id 17, Psychiatric assessment.

“Partner was reported to be abusive toward client, in a relationship partner from the age of 14 ... assaulted by partner, has an injunction out against partner, destitute at present” – Id 32, Community Addiction Team Observation.

Just under a third of the cohort were parents (32%, n=18). At the time of death there were no children under the age of 16 in the care of any member of the cohort.

Figure 9 – Children (Source: casenote analysis)



Contact and relationships with children was an issue for several members of the cohort and impacted on their life in various ways.

“Stated that partner will not let the patient see children ... feeling very low and socially isolated. Contacting lawyers and family mediators to try and see daughters.”
- Id 34, Criminal Justice Assessment

“Client is homeless and has been charged with drug possession and being incapable of caring for children whilst intoxicated with alcohol, children have been placed into care” – Id 54, Standby Social Work Services Observation

“Client presented here to self refer to address addiction issues, wants to have children returned.” – Id 54, Community Addiction Team Observation

“Has a difficult relationship with children, son has behavioural problems and has been aggressive towards client. Client has no contact with daughter. Client began drinking excessively with their partner to cope with stress of son.” - Id 56, Community Addiction Team Review

4.4.2 Familial Alcohol Use

Familial alcohol use was a common theme within the cohort with 43% (n=24) individuals noted to have experienced this.

“Father was a problematic drinker and died in his early 40’s, two brothers are also problematic drinkers” – Id 4, Community Addiction Team observation.

“Born and bred in Glasgow till 8, then family split and he was brought up by guardians. His alcohol use got worse when his father died in 1980, his father was an alcoholic who died suddenly” – Id 22, Psychiatric assessment.

“Father who was an alcoholic died. Described her mother, aunt and grandmother as alcoholics. After her mother died, it triggered heavy drinking”
– Id 29, GP referral to Alcohol Treatment Service.

The probability of developing an alcohol problem is increased by having a close family member with an alcohol problem, particularly if it is a first degree relative with an alcohol problem (Morgan & Ristson, 2010).

4.4.3 Bereavement

Along with family and employment issues other adverse life events such as a significant bereavement also emerged from the casenotes. 43% (n=24) of the cohort discussed a significant bereavement which had an impact on their life and in some instances these events were directly linked in to an increase or relapse in alcohol use.

“History of alcohol excess which client attributes to losing her children, her children died at a young age and her partner passed away a few months ago, unexpectedly” – Id 6, Community Addiction Team, self referral.

“Brother has passed away, funeral tomorrow, had been drinking heavily” – Id 18, GP consultation.

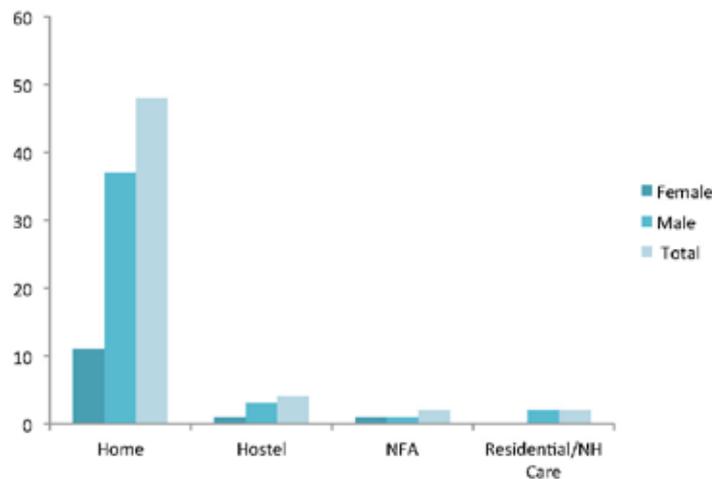
“Client relates her heavy drinking to the death of her grandmother, the following year her grandfather died and then a few years later her father died.” – Id 54, Addiction Inpatient Assessment.

“Long history of alcohol use, had a 6 year period of abstinence, however sister died 6 months ago and he has commenced drinking 3-6 litres of strong cider per day” - Id 45, Acute Addiction Liaison contact.

4.4.4 Housing & Homelessness

Almost all (86%, n=48) of the cohort lived in their own home, 5% (n=3) lived in hostel. 2 individuals (4%) resided within in a nursing home and 2 individuals (4%) were of no fixed abode at the time of death.

Figure 10 - Living Circumstances



Over half of the cohort lived alone (55%, n=31). These findings are in keeping with a Finnish study from Herttua et al (2011) which had shown that living alone is associated with an increased risk of alcohol-related mortality, regardless of gender, socio-economic status, or other alcohol related health co-morbidities.

This was reflected in the analysis of the cohort casenotes.

“Drinking at home alone, every day up to 427 units a week”

– Id 4, Community Addiction Team baseline assessment.

“Lives alone, separated, lives in own flat, drinks alone”

– Id 8, Community Addiction Team baseline assessment.

One of the biggest issues affecting those within the cohort is social isolation which was evident in a majority of the cohort case notes (66%, n=37).

There is a substantial body of research that suggests social networks play a critical role in an individual’s health status (Mowbray et al, 2014). Further research (Berkmand & Syme, 1979 and House et al, 1988) suggests that as an individual’s social network depletes, through bereavement or/and relationship and family breakdowns, alcohol consumption increases.

Social isolation was referred to directly by some of the cohort (16%, n=9).

"A referral has been made to voluntary organisation as a potential support to encourage patient to get out and about more as he is currently quite isolated and advises he doesn't go out much"

– Id 19, Community Addiction Team Observation.

"States boredom and social isolation lead to pub attendance"

– Id 40, Community Addiction Team referral.

"I've been a loner because I cannot trust anyone apart from my brother who helps when he can, however he has his own problems and life to lead" – Id 4, GP Patient registration questionnaire.

Social isolation was also recognised by health and social work professionals as a problem area in the lives of some of the cohort.

"Found patient to have a routine that is focused on alcohol, spends lots of time alone in her room" –

Id 28, Occupation Therapy Assessment.

"Patient's binges are becoming more frequent and there are ongoing difficulties in services being able to keep in contact with him as he isolates himself at such times"

– Id 19, Community Addiction Team Observation.

"Little social support and socially isolated at this time" – Id 3, CPN, Homeless Services.

Problems with obtaining and sustaining a tenancy was an emerging theme throughout the casenotes of the cohort with 38% (n=21) of the cohort experiencing problems with housing at least once within their lifetime.

In several cases contact with social work was initiated due to issues with housing problems such as arrears or a notice of proceedings (eviction) being served against them within social housing (14%, n=5).

"In arrears, gas cut off, prioritising alcohol over bills, referred to CASS (Community Alcohol Support Service) for assistance with this" – Id 10, Community Addiction Service Observation.

"Has not paid mortgage for 2 months and is currently on sick leave from work so is only getting statutory sick pay, borrowed money from brother, there is a pile of unopened mail in the house"

– Id 52, Community Addiction Team Observation.

Just under a third of the cohort (32%, n=18) had experienced homelessness and had made an application to the Homeless Casework Team.

A further 9% (n=5) of the cohort had approached the homeless casework team for advice.

Several members of the cohort had at one time or another lived in hostel accommodation, for some of the cohort it was felt to be a safer and more stable environment.

"Client drinks 10-12 super lagers every day and has no intention of decreasing alcohol intake. Doesn't want to move out of hostel and take responsibility for paying bills etc"

- Id 28, Homeless Service Observation.

"Client has been homeless for the past 2 years and is currently living in the hostel but will have to move." – Id 48, Addiction Psychiatry Assessment.

For some members of the cohort, residing within homeless accommodation ensured at least some level of engagement with services

"Client continues to reside in hostel and continues to use alcohol daily. Mental Health Vol Org has closed client's case due to non engagement. Contact restricted to appointments with doctor and physical health nurses at clinics who attend at the hostel" – Id 46, Community Addiction Team.

For others, obtaining a tenancy was a motivating factor and part of a recovery plan for those seeking help for alcohol related problems.

“Client used to have a tenancy but had to give this up 18 months ago due to relationship difficulties. Since then client had been living with his brother, sister and mother, but after recent problems with drink the client does not feel like they can return there. Feels very motivated to stop drinking and find a tenancy” - Id 4, Community Addiction Team Observation.

4.4.5 Education, Employment and Socio-Economic Status

Just under a third of the cohort (32%, n=18) had schooling mentioned within their casenotes. For some it was a positive experience, leaving with qualifications to go onto higher education (n=4) or into employment training schemes (n=2). However for over half of those where school information was recorded stated that they did not enjoy school and this was typified with truanting, drinking, substance misuse and expulsion (n=9). Four of the cohort explicitly describes themselves as “trouble” or a “troublemaker” when discussing their school experience.

“The patient enjoyed school but played truant and left with no qualifications”

– Id 18, Psychiatric Assessment.

“No qualifications, the patient was expelled from school at age 12 and at 15, was a known troublemaker” – Id 29, Addiction Psychiatry Assessment.

“Attended mainstream school but had considerable issues with authority”

– Id 5, Liaison Psychiatry Review.

Almost the entire cohort (94%, n=53) had previously been in employment at some point in their lifetime. The most common previous occupations for the cohort were within the retail/leisure industry with occupations such as supermarket worker and kitchen/bar staff.

Table 8 – Last Known Occupation (Source: casenote analysis)

Last Known Occupation by Industry	No of cohort	%
Retail/Leisure	10	18%
Professional/Civil Service	7	13%
Domestic	7	13%
Unknown	6	11%
Tradesman	6	11%
Building Trade	6	11%
Driving	5	9%
Engineering	4	7%
Never employed	3	5%
Musician	2	4%
Total	56	100%

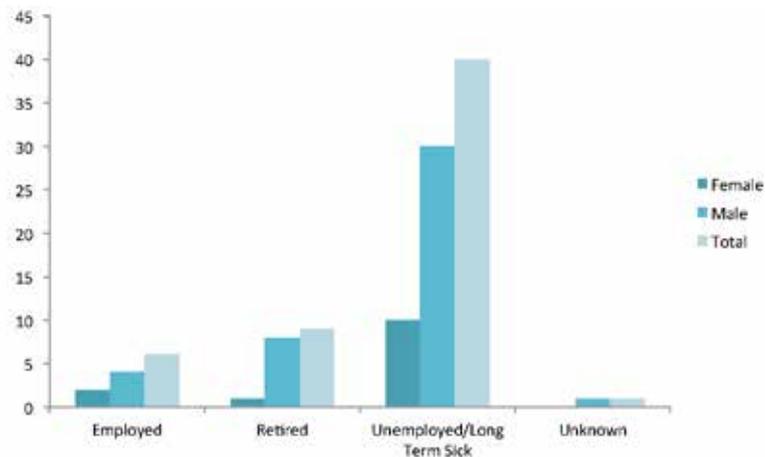
Several members of the cohort had discussed through the casenotes the loss of their employment as a result of their alcohol use.

“The client goes through spells of binges on alcohol and then they can stop completely for several months. The client has lost employment through alcohol and is now keen to address this problem.

They have attended AA in the past, but does not feel this is right at this time” – Id 6, Community Addiction Team Referral.

“Alcohol started impacting more on the clients life in their late thirty’s when the client lost their employment due to alcohol misuse and lost their tenancy after a fire was started when they were intoxicated” – Id 22, Community Addiction Team Baseline Assessment

Figure 11 - Cohort Employment by Gender (Source: casenote analysis)

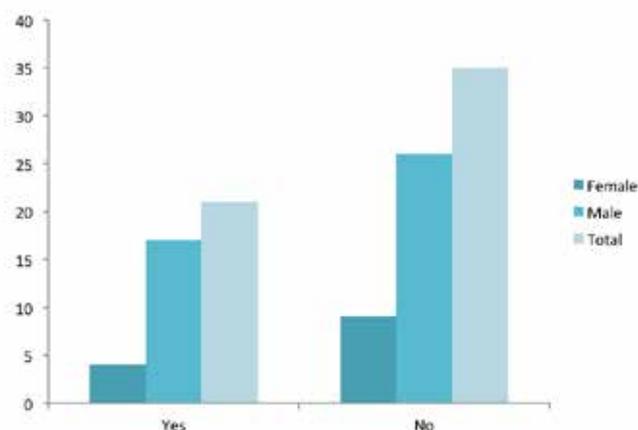


At the time of death a majority of the cohort were unemployed/long term sick (71%, n=40). 16% (n=9) were retired (m=8, f=1) and 11% (n=6) were in employment (m=4, f=2).

4.4.6 Substance Use

38% (n=21) of the cohort also used other substances alongside their alcohol use.

Figure 12 - Substance Use (Source: casenote analysis)



Cannabis was the highest reported other substance used within the cohort (59%, n=10) with illicit diazepam recorded for just under half of the cohort (47%, n=8).

29% (n=5) of those with other substance use noted only took cannabis.

The most common poly substance combination recorded was Heroin and Cannabis and Heroin and Diazepam (35%, n=6 respectively).

“On Opioid Replacement Therapy, reported he has been injecting £10 heroin daily, sharing with his friend. He reported that drugs were not a problem it is drink that is an issue”

– Id 4, Community Addiction Team, Medical Officer Review.

“His drug career started from the age of 13/14 beginning with cannabis and then progressed to hard drugs. To stay clean from opiates he started using alcohol which has become his primary drug. He is now using alcohol, benzodiazepines and dihydrocodeine”

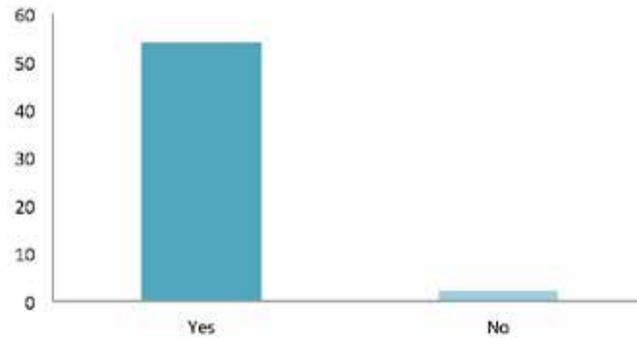
– Id 3, Community Addiction Team observation.

4.5 Alcohol Use, Patterns and Behaviours

4.5.1 Alcohol – Identifying Problem Drinking

Almost all (96%, n=54) of the cohort had a problem with alcohol documented at some point in their casenotes across all data sources.

Figure 13 - Cohort known problem with alcohol, all casenotes



Research suggests that the identification of an alcohol problem in its early stages can reduce the risk of developing a dependent drinking habit and the associated alcohol related health and psychological harms (Scottish Government ABI Local Delivery Plan, 2015).

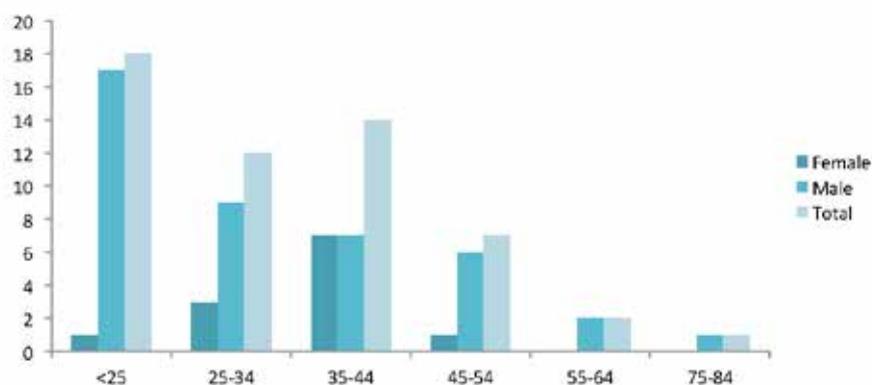
Of the 2 individuals that did not have an alcohol problem documented (one male, one female) both individuals are included in the overall analysis.

Male Profile: He was noted to be a non drinker within his GP casenotes and had normal MCV and Platelet levels. He was diagnosed with multiple sclerosis and non alcoholic cirrhosis of the liver. He died at home and cause of death was certified by his GP. His cause of death was classified by the NRS as Other and Unspecified Cirrhosis of the liver.

Female Profile: She frequently attended her GP regarding her diabetes. She had a FAST screen carried out by the GP and scored 0. She was diagnosed with non-alcoholic steatohepatitis. She had persistently abnormal liver function test and abnormal B12 levels which required injections. She had one recorded incident of attending EDS due to collapse. A few months before she died she had a home visit from her GP relating to feeling unwell, she stated she had been drinking heavily, which she told the GP she doesn't normally do, there was no evidence that her alcohol use was discussed with her at any subsequent GP appointments. A post mortem was carried out to establish the cause of death. Her cause of death was classified by the NRS as Alcoholic cirrhosis of liver, Acidosis, Fatty (change of) liver not elsewhere classified.

The male profile was included in the NRS data for 2013 however an analysis of the casenotes determined that this individual should not have been included as cases such as this will skew results.

Figure 14 – Age Alcohol Problem First Recorded (Source: casenote analysis)



Just under a third (32%, n=18) of the cohort had alcohol related problems recorded under the age of 25 years with almost all of this age range being composed of males (m=17, f=1).

Guidelines produced by NICE suggested that alcohol use increases steeply to reach a peak in an individual's early 20s, this is the period when alcohol use-disorders are most likely to begin (Alcohol-Use Disorders, Diagnosis, Assessment and Management of Harmful Drinking and Alcohol Dependence - NICE, 2010).

Alcohol problems within the female cohort emerged much later, most commonly within the 35-44 year age range where 54% (n=7/13) of the female cohort had an alcohol problem documented. An alcohol problem was not documented for 2 individuals.

Table 9 - Average and Range of Age when alcohol problem first noted (Source: casenote analysis)

Age Alcohol Problem First Noted	No
Average Age	32
Oldest	75
Youngest	12
Mode	18

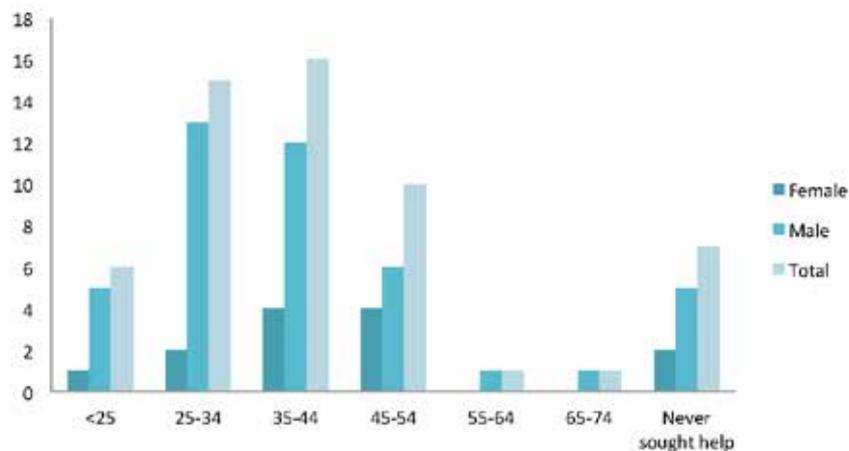
The average age when alcohol problems were first documented was 32 years within the age range of 12 to 75 years.

Focus on Under 25's

Individuals who begin problematic drinking under the age of 25 and continue to drink in problematic fashion are more likely to be long term chronic drinkers (NICE, 2010) For the Glasgow City Cohort it was found that:

- Almost all (94%, n=17) were male.
- 67% (n=12) were in contact with mental health services (addiction & non addiction).
- 78% (n=14) had alcohol dependence syndrome diagnosed by their GP and 50% (n=9) had a diagnosis of alcohol liver disease.
- The average units consumed was 280 per week compared to the overall cohort average of 230 units per week.
- Average age of death is 49, as opposed to the average for the overall cohort which is 54 years.

Figure 15 - Age when cohort first sought help for alcohol problem (Source: casenote analysis)



13% (n=7) of the cohort never sought help for an alcohol problem inclusive of the 2 individuals who did not have a known alcohol problem. 62% (n=8) of the female cohort sought help between 35 and 54 years whilst 30% (n=13) of the male cohort sought help between 25 and 34 years.

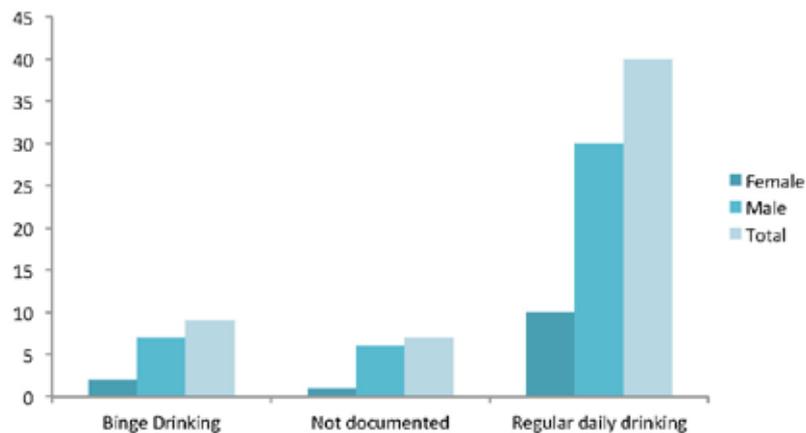
Table 9 – Average and Range of Age when help for alcohol problem first sought (Source: casenote analysis)

Age First Sought Help	No
Average Age	37
Oldest	69
Youngest	15
Mode	33

The average age that help was sought for an alcohol problem was 37 years within a range of 15 – 69 years. There is, on average, a 5 year difference between a problem being identified and the individual seeking or receiving help for the problem.

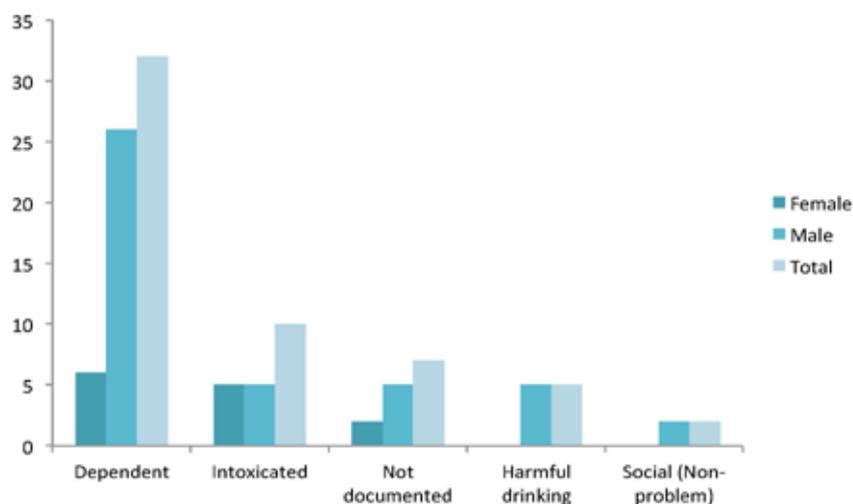
4.5.2 Drinking Behaviour

Figure 16 – Cohort Pattern of Drinking (Source: casenote analysis)



A majority (71%, n=40) of the cohort were recorded as 'Daily Drinkers' whilst 16% (n=9) of the cohort were recorded as 'Binge Drinkers'.

Figure 17 – Cohort Category of Drinking (Source: casenote analysis)



Over half (56%, n=32) of the cohort were recorded under the category of dependent drinking, with 18% (n=10) as intoxicated.

Research carried out by Graham et al (2007) found that drinking pattern is a strong predictor of poor mental health, in particular heavy episodic drinking, more so than measuring the total volume consumed. Further research from Askgaard et al. (2015) indicates that daily drinking is associated with an increased risk of alcoholic cirrhosis, particularly when this drinking pattern emerges in later life.

The pattern and frequency of alcohol consumption within the cohort was rarely consistent, particularly if the individual was attempting to abstain or reduce their drinking.

"Has relapsed to drinking vodka daily for the past three weeks"

– Id 2, Community Addiction Team Observation.

"Self referral made as client is drinking 3-6 litres of wine daily and 10-15 valium" – Id 3, Community Addiction Team referral.

"She tends to binge drink, drinking 2-3 bottles of wine and a bottle of vodka daily and then she can go off it for long periods" – Id 53, Old Age Psychiatry Assessment.

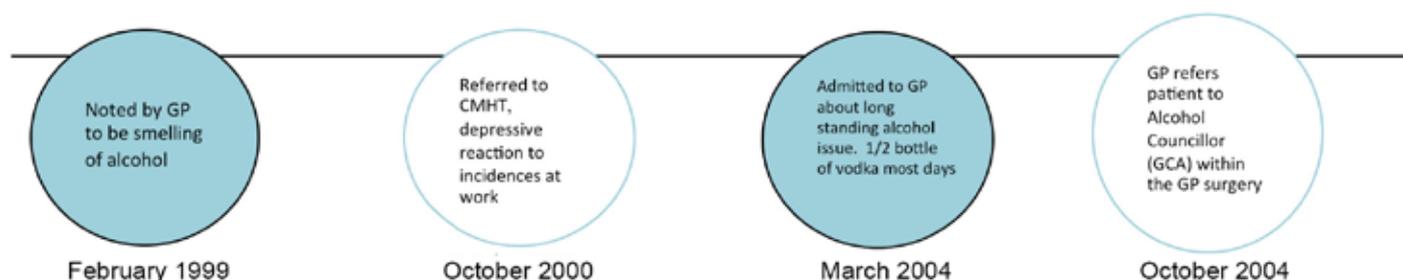
Table 10 Where alcohol problems first identified

Circumstances of Alcohol Use Coming to Light of total cohort	No	%
Presented to GP with alcohol issues	19	34%
Presented to EDS with alcohol related health issues	8	14%
First in contact with addiction services for drug use	6	11%
Attendance at hospital with alcohol related health issues	5	9%
On sick leave from work	5	9%
In contact with mental health service	3	5%
Never	2	4%
Criminal Justice contact	2	4%
Employer referral	2	4%
Investigations of other health issues	1	2%
Presented to Maternity services	1	2%
Not Known	3	5%
Total	56	100

(Source: casenote analysis)

Over a third (34%, n=19) of the cohort first presented to their GP with alcohol issues, followed by presentation to EDS for alcohol related health issues.

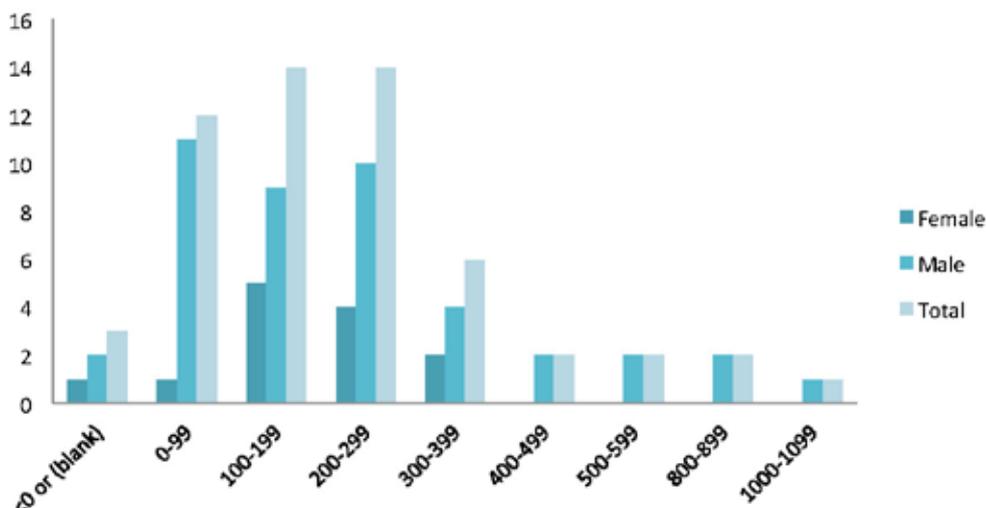
Figure 18 – Timeline of Alcohol Problem Identification (Id18)



Above is a representation of the time taken between a GP noting a possible alcohol problem and discussing this with the patient before making a referral to an alcohol service.

4.5.3 Alcohol Consumption

Figure 19 – Highest Level of Units Recorded (Source: casenote analysis)



Half (50%, n=28) of the cohort drank between 100 – 299 units of alcohol on a weekly basis.

Table 11 – Average Alcohol Units and Range

What was consumed	No
Average	233
Highest	1022
Lowest (except 0)	21

(Source: casenote analysis)

The cohort consumed an average of 233 units of alcohol per week which is higher than that recorded in the recent Alcohol Research UK study (Chick & Gill, 2015) on alcohol drinkers in the West of Scotland which indicated that the heavy drinkers within their cohort consumed on average 183 units of alcohol per week.

The highest number of units consumed per week was 1022 which is the equivalent to 4 bottles of vodka and 8 cans of strong lager on a daily basis.

“Moved onto hostel today, drinking 1.5 bottles of vodka straight, has had previous suicide attempts, client states that they are trying to kill themselves with alcohol” – Id 48, Community Addiction Team casenotes.

From the casenotes just under half of the cohort stated that they mostly drank vodka (n=25) followed by beer (n=23).

Figure 20 - What the cohort were drinking (Source: casenote analysis)



Often the type of drink purchased by the members of the cohort would depend on finances.

“He drinks till he can no longer drink or runs out of money” – Id13, GP statement on DWP Form.

“Drinking 4 cans of 4% lager 4-5 times a week because he has no money” – Id 37, Community Addiction Team Observation.

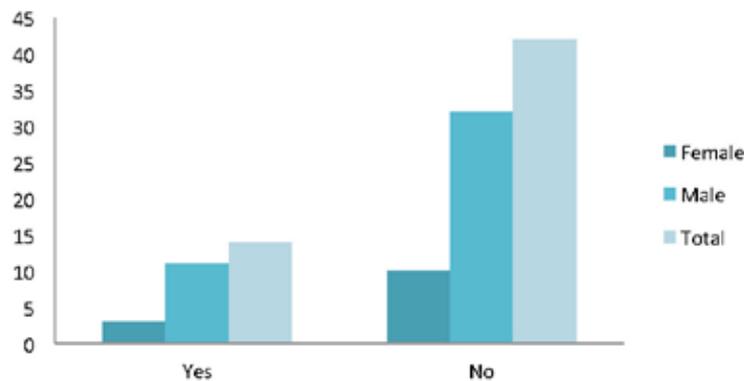
4.6 Alcohol Screening and Investigation

4.6.1 Alcohol Brief Interventions, Screening & Drink Diary

A quarter of the cohort (25%, n=14) had evidence of being offered a formal brief intervention. With over half of those individuals (57%, n=8) being offered this intervention only once.

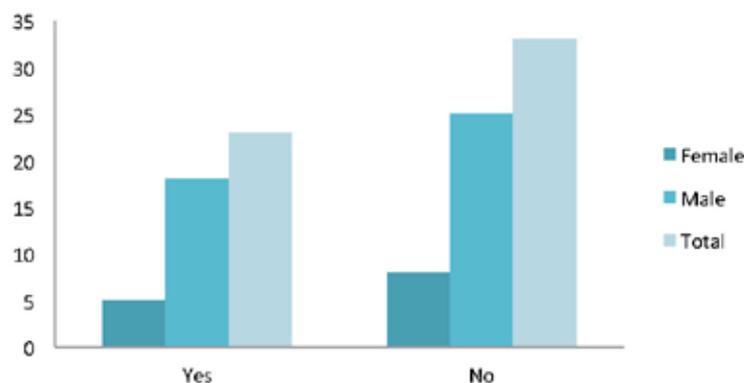
Alcohol Brief Interventions (ABI) are a key element of the Scottish Government’s Alcohol Strategy – ‘Changing Scotland’s Relationship with Alcohol: A Framework for Action’ (2009). An extensive body of research evidence shows that brief interventions are one of the most effective means of reducing hazardous and harmful alcohol use and consequently alcohol related harm (SHAAP, 2008).

Figure 21 – Alcohol Brief Interventions (Source: casenote analysis)



There was documented evidence in 41% (n=23) of the casenotes that an Alcohol Screening Questionnaire (ASQ) was carried out. Three quarters (74%, n=17) of these individuals had evidence of an ASQ being carried out only once.

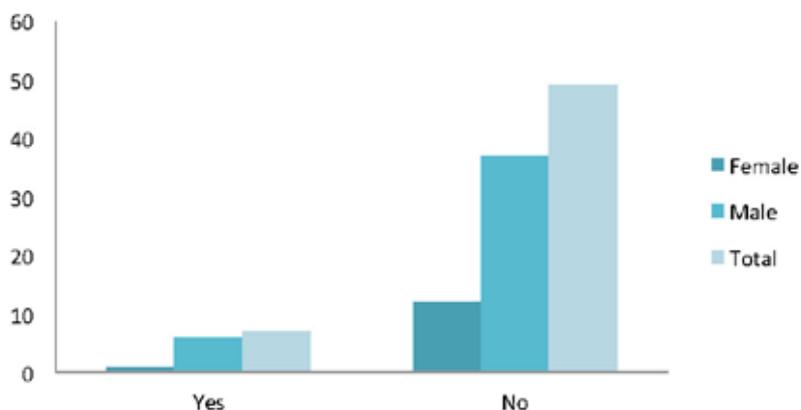
Figure 22 – Alcohol Screening Questionnaire (Source: casenote analysis)



Screening is an important part of delivering ABIs and this in itself may help the individual recognise that they have a problem and start the process of thinking about change, or provide the motivation to change.

A large majority of the cohort (88%, n=49) had no evidence of being asked to complete a ‘Drink Diary’ within their casenotes. All of the drink diaries had been given out by a community addiction team worker or nurse.

Figure 23 – Drink Diary (Source: casenote analysis)



“Client states he is currently drinking a bottle of vodka per day however wishes to stop, discussed the dangers of stopping suddenly. Writer advised patient to cut down gradually and provided client with a drinks diary and leaflets on safe drinking, stress and alcohol, etc” - Id 6, Community Addiction Team casenotes.

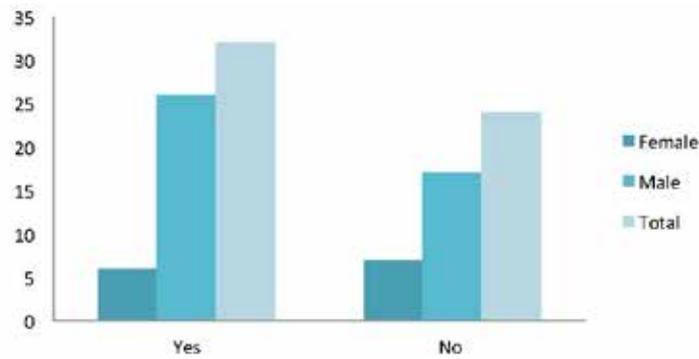
“Writer has issued patient with an alcohol diary to assist in calculating units he consumes and increasing his awareness. , Client appears to have very limited insight into his triggers beyond when he has a bit of extra money” – Id 19, Community Addiction Team casenotes.

A ‘drink diary’ is often used as a tool to help the individual realise the amount of alcohol they consume and take action but it can also help the professional understand more about a person’s drinking habits and behaviours and recognise any possible triggers.

4.6.2 Physical Signs of an Alcohol Problem

Over half (57%, n=32) of the cohort had a physical examination of dependence documented within the casenotes. In half of cases (50%, n=16) this was carried out by a GP.

Figure 24 – Physical Exam (Source: casenote analysis)



A physical examination can assist a medical professional in identifying when alcohol consumption is reaching a level where it is affecting health. During a physical exam, a health professional may check an individual's blood pressure and heart rate, they may check for physical signs of withdrawal such as a tremor or they may examine the abdomen for an enlarged or tender liver.

4.6.3 Biomarkers of Problem Alcohol Use

Table 12 – Biomarkers of Alcohol Use

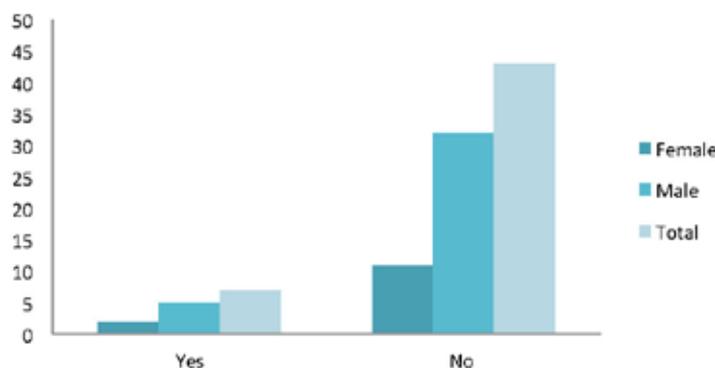
Alcohol Problem Use Biomarker	Female	% Female (n=13)	Male Yes	% male (n=43)	Total	Total %
Abnormal Liver Function Tests	13	100%	39	91%	52	93%
Abnormal Liver Spleen or ascites on US	3	23%	28	65%	31	55%
Elevated red cell MCV	7	54%	28	65%	35	63%
Reduced platelets	7	54%	31	72%	38	68%
Abnormal vitamin B12 level	5	38%	16	37%	21	38%

(Source: casenote / clinical portal analysis)

For the majority of the cohort abnormal Liver Function Test's were noted (93%, n=52) and elevated Mean Cell Volume (MCV) (63%, n=35) along with reduced platelets (68%, n=38). Half of the cohort had abnormal liver, spleen or ascites recorded and just over a third of the cohort were noted to have abnormal vitamin B12 levels (38%, n=21).

4.6.4 Alcohol Related Brain Damage (ARBD) (Source: casenote analysis)

Figure 25 – Evidence of ARBD



ARBD was noted in 13% (n=7) of the casenotes with cerebral atrophy found in a CT scan for 11% (n=6) of the cohort.

There was evidence of 3 members of the cohort being linked in with the ARBD team as part of their alcohol treatment care plan. None of those who were diagnosed were able to rehabilitate to any cognitive improvement. A report for the Scottish Executive expert group by McRae & Cox (2003) suggests that the early identification of ARBD is critical in ensuring the optimum opportunity for recovery.

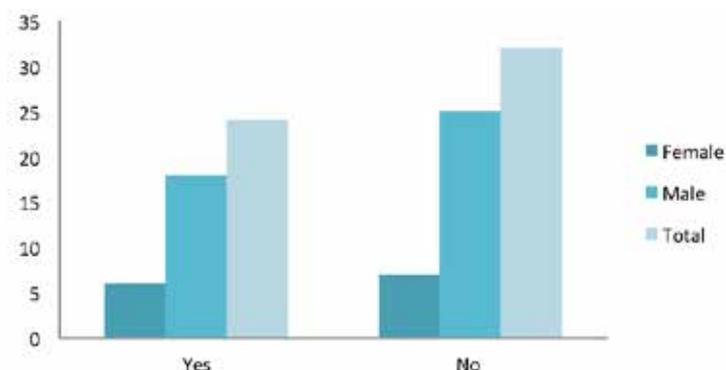
“Very little cognitive improvement, been abstinent from alcohol for a year and would expect all the improvement that could be expected, discharged” – Id 21, ARBD team discharge letter.

“At times the client has expressed a desire to remain abstinent and has demonstrated some insight into the effect alcohol has had on many areas of his life. In the future client may be able to sustain abstinence, but, as he is unable to do this at present, he is not able to engage effectively with the ARBD Team” - Id 37, Community Addiction Team observation.

4.6.5. Evidence of Self Neglect

43% (n=24) of the cohort had evidence of self neglect which includes the recording of unkempt appearance, malnutrition and poor hygiene practice.

Figure 26 – Evidence of Self Neglect (Source: casenote analysis)

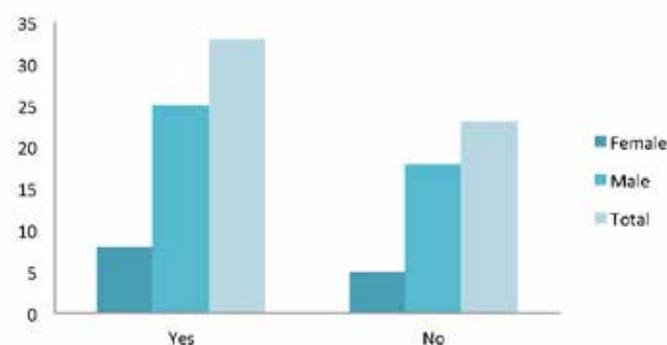


“Patient was admitted from EDS with recent poor oral intake, weight loss, self neglect, low mood and reduced mobility such that he had taken to bed.” – Id 70, General Medicine discharge letter.

“Admitted under Section 25 as he was not caring for himself or eating, presented as unkempt but a pleasant gentleman” – Id 21, Psychiatric Inpatient discharge letter.

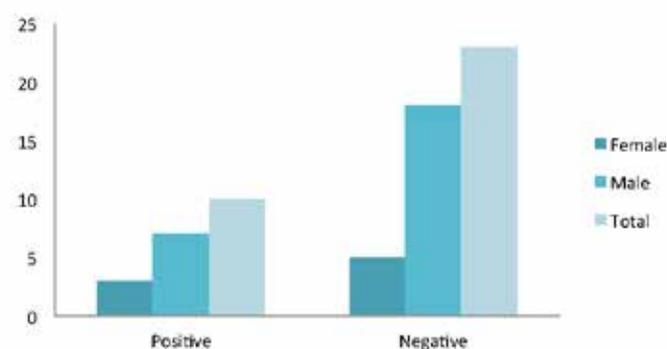
4.6.6. HCV Testing and Status

Figure 27 – HCV Testing (Source: HCV Lab Data)



Over half of the cohort were tested for Hepatitis C (59%, n=33).

Figure 28 – Hep C Status (Source: HCV Lab Data)



A large majority (82%, n=23) of those tested, tested negative for Hep C.

18% (n=10) individuals had a positive HCV result within the total cohort population.

6 of the 10 individuals were current or previous injecting drug users, 3 individuals had a history of other drug use and one individual had no history of drug use.

4.7 Primary Care

Primary care has a very clear role in the prevention, identification and treatment of alcohol use disorders through a variety of measures, including education around safe drinking, screening and brief interventions along with providing appropriate referrals, pharmacological therapy and the management of alcohol related co-morbidities where appropriate.

4.7.1 Alcohol Problem recognised in Primary Care

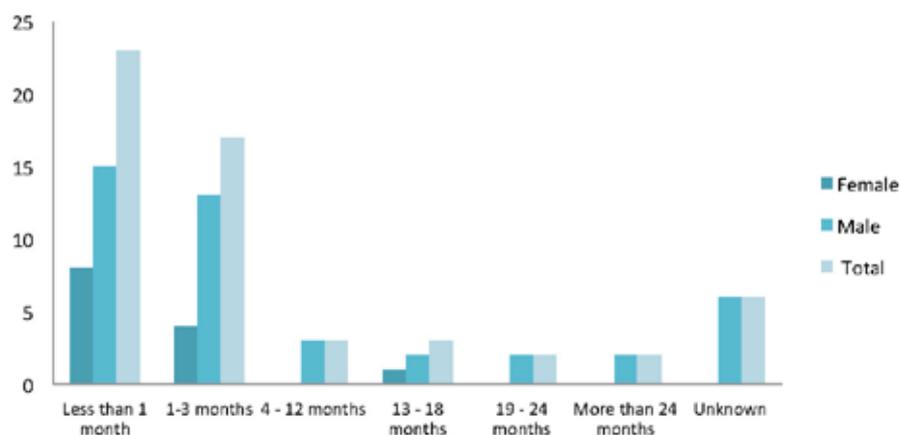
Table 13 – Alcohol Problem Noted by GP (Source: casenote analysis)

Was an alcohol problem noted by GP	Female	% of female (n=13)	Male	% of male (n=43)	Total	% of total
Yes	12	92%	41	95%	53	95%
No	1	8%	2	5%	3	5%
Total	13	100%	43	100%	56	100%

An alcohol problem was noted by the GP for almost all of the cohort (95%, n=53), including the individual from Section 4.5.1 who should not have been included in the overall analysis.

4.7.2 Contact with GP

Figure 29 - Last GP Appointment (Source: casenote analysis)



Just under half of the cohort (41%, n=23) attended their GP within a month of their death.

For half of the cohort (50%, n=28), their last appointment with their GP was an alcohol related appointment.

4.7.3 Alcohol Services in Primary Care

Table 14 – Alcohol Services provided by GP

Actions of GP	Female Yes	% Female Yes (n=13)	Male Yes	% Male Yes (n=43)
Alcohol advice given by GP ever	12	92%	38	88%
Referred to Alcohol Service (any Stat or Non Stat) by GP	10	77%	25	58%

(Source: casenote analysis)

63% (n=35) of the individuals within the cohort had been referred to an alcohol service (statutory or non statutory) at any time throughout the casenotes, however there was little evidence of follow up or discussion at subsequent consultations.

There were instances where members of the cohort were under reporting their alcohol use.

GP Consultation: *“Recorded as a trivial drinker, less than 1 unit per day”*

Social Work Observation: *“Sister was concerned that client was misusing alcohol whilst caring for her younger daughter”* Id 54, both comments within 1 month

“Minimised alcohol use but dependence noted. Son has mentioned Korsakoffs” – Id 30, GP Consultation
 However there was also evidence of candid conversations between the cohort and their GP and of advice regarding alcohol use given.

“Long discussion about alcohol use, stressed risk of liver failure.” – Id 2, GP Consultation.

“Advised patient that he will die soon if he doesn’t stop drinking - failed to make an impression on him” – Id 8, GP Consultation.

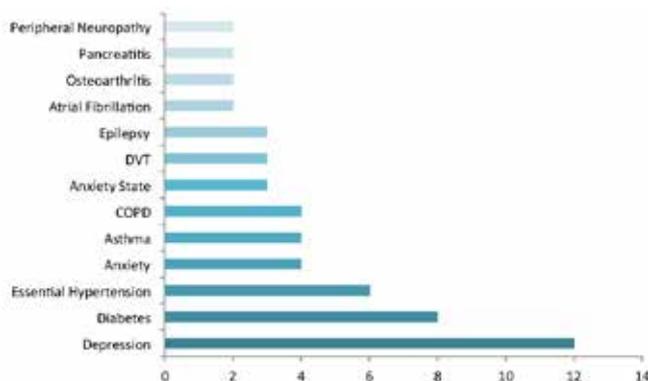
“Had a recent heavy binge, hasn’t done that for 3 years, had fight with girlfriend, upset and ashamed that he has worried his dad” – Id 38. GP Consultation.

“Encouraged patient to engage with alcohol treatment team” – Id 16, GP Consultation.

“Relapsed to binge drinking again, ended up with DT’s (delirium tremens) encouraged to self refer to CAT team” – Id 43, GP Consultation.

4.7.4 Co-morbid Conditions

Figure 30 – Co-morbid Conditions (Source: casenote analysis)



The most common recorded co-morbid condition recorded within the GP casenotes was depression at 21% (n=12) with diabetes at 14% (n=8). The average number of co-morbid conditions for the cohort is 2, the highest number conditions of any one individual was 6.

4.7.5 GP Local Enhanced Services Dataset

73% (n=43) of the cohort were included within the GP Local Enhanced Services dataset which records key health indicators in relation to eight long term health conditions under the categories of Alcohol, Chronic Heart Disease, COPD, diabetes, Keepwell and Stroke dating from 1997 to 2013.

Over half of the cohort (55%, n=31) had a health indicator from within the Keepwell category. 14% (n=8) had an indicator recorded against diabetes. Through the SCI diabetes dataset it was determined that 14% (n=8) of the cohort were diagnosed with Type 2 diabetes.

Table 15 - GP LES Categories (Source: GP LES Dataset)

Indicators Recorded Under	No	% of the cohort
Keepwell	31	55%
Diabetes	8	14%
Stroke	4	7%
COPD	2	4%
Chronic Heart Disease	2	4%
Alcohol	1	2%

4 individuals (7%) had a recording within the Stroke category, 2 (4%) within Chronic Heart Disease and COPD respectively. Only one individual had indicators recorded in the alcohol category although almost all of the cohort would have been eligible to be monitored under the alcohol category.

4.8 Contact with Services

Almost all of the cohort (95%, n=53) had been in contact with an acute service 3 years prior to death.

Table 16 - Contact with services 3 years before death (Source: casenote analysis)

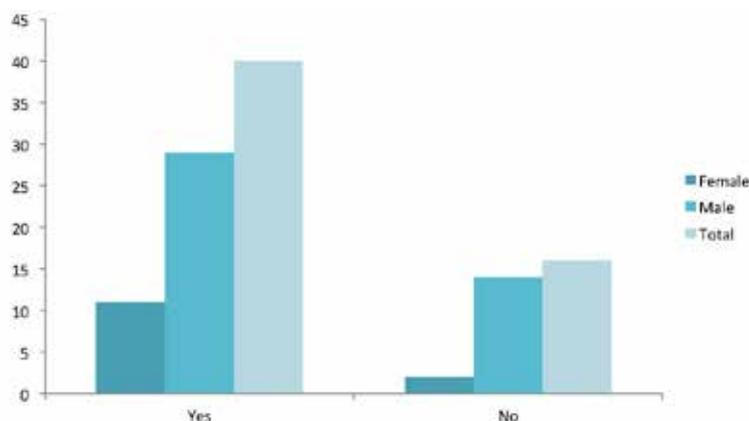
In Contact in the 3 years before death	Female	% of total female (n=13)	Male	% of total male (n=43)	Total	% of total (n=56)
Acute Services	13	100%	40	93%	53	95%
Addiction Services	9	69%	21	49%	30	54%
Other (e.g. Social Work)	3	23%	11	26%	14	25%
Mental Health Services	1	8%	10	23%	11	20%

A quarter of the cohort (25%, n=14) were in contact with other services such as social work, whilst 20% (n=11) of the cohort were in contact with mental health services.

A majority (83%, n=30) of those who were in contact (n=53) were in contact with two or more services.

4.8.1 Contact with Alcohol Services

Figure 31 – Contact with Alcohol Services (Source: casenote analysis)



Almost 3 quarters of the cohort (71%, n=40) had been in contact at some point with an alcohol specific service (statutory or non statutory).

4.8.2 Contact with Addiction Services & Social Work Services

A large majority of the cohort (82%, n=46) were in contact with social work services at some point in their lifetime.

Table 17 - Contact with Social Work Services (Source: casenote analysis – multiple contacts)

Contact with Social Work Services	No	%
CAT	33	59%
Homelessness	15	27%
Com Care	12	21%
Criminal Justice	10	18%
Adult Support & Protection	9	16%
Mental Health	3	5%
Hospital SW	3	5%
Children and Families	2	4%
Physical Disability	1	2%

Over half of the cohort (59%, n=33) had been in contact with a Community Addiction Team. In a few instances there was evidence of a planned discharge.

“Client has been doing exceedingly well since and is on Disulfiram, back to full time employment and now planned discharge” – Id 56, Community Addiction Team Observations.

“Client’s care plan objectives have been met client no longer sees his alcohol use as an issue” – Id 6, Community Addiction Team Observation.

Most of the discharges from the community addiction team were unplanned due to non engagement. There were few examples of planned discharges for the cohort. In these instances there was little evidence of any onward referral to support services to continue to support the individual within the community and there was no evidence of any follow up from the CAT in terms of after care.

For those who disengaged from service and in some cases home visits were completed but most were given three further appointments and then discharged with no further follow up.

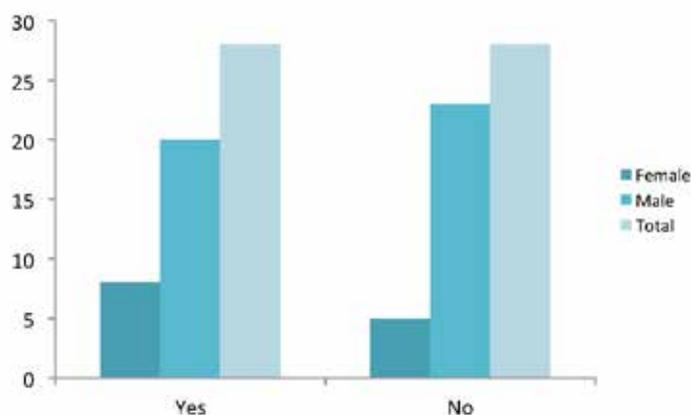
“Offered 4 appointments and 3 home visits but has failed to attend. Still attending his GP regularly. Case to be closed. Letter sent to client and his GP informing them of case closure and advising that he can re-refer if required” - Id 6, Community Addiction Team Observation.

21% (n=12) of the cohort were in contact with community care, 13% of those individuals (n=7) had never been in contact with a community addiction team. 16% (n=9) of the cohort had an Adult Support and Protection referral documented within their casenotes, 7% (n=4) of whom had never been in contact with a Community Addiction Team.

“Client is currently linked with the Community Addiction Team and four other support services. Has ongoing physical health needs and regularly meets with his GP. Clients physical health has recently deteriorated and had a recent hospital admission, upon discharge was referred to homecare services for physical health support, occupational therapy and the fracture clinic” – Id 19, Older People and Physical Disability Observation.

4.8.3 Acute Addiction Liaison Service Contact

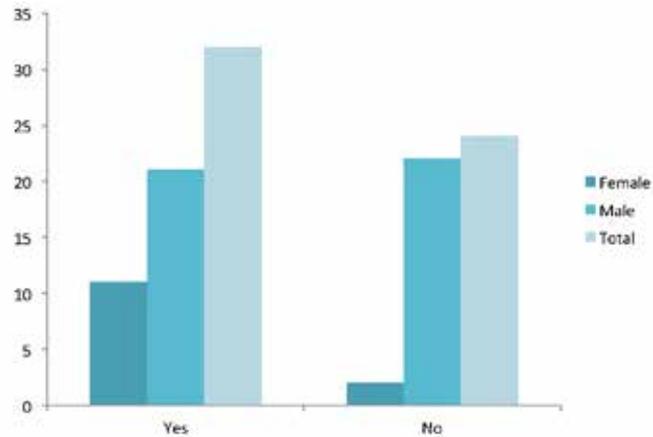
Figure 32 – Contact with Addiction Acute Addiction Liaison (Source: PiMS/casenote analysis)



Half of the total cohort (50%, n=28) had previous contact with the Acute Addiction Liaison Service in their lifetime. A total of 127 contacts were recorded amongst those 28 individuals, averaging at 4.5 contacts per person.

4.8.4 Non Statutory Alcohol Services

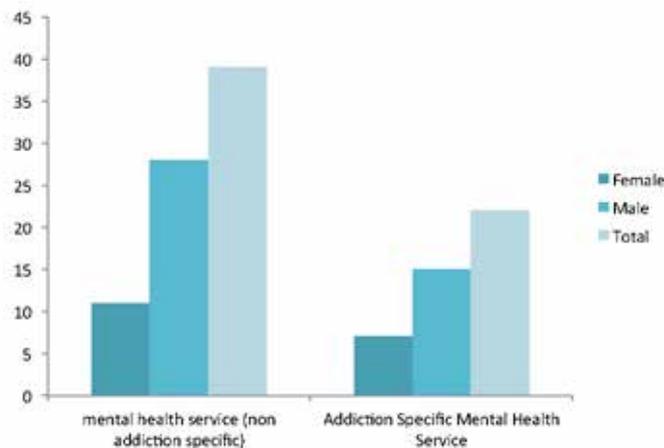
Figure 33 – Contact with non statutory alcohol services (Source: casenote analysis)



Just over half (57%, n=32) of the cohort had been referred to non statutory alcohol services for assistance with alcohol related issues within their lifetime. Services included organisations such as Alcoholics Anonymous (AA), Community Alcohol Support Services (CASS), Glasgow Council on Alcohol (GCA), Milestone, Phoenix Futures, South East Alternatives (SEA), Addaction and New Horizons. There was little in the way of information within the casenotes relating to the service received or the outcomes of contact with these services.

4.8.5 Contact with Mental Health Services

Figure 34 – Contact with Mental Health Services (Source: PiMS/ casenote analysis)



A majority of the cohort (70%, n=39) had been in contact with a non addiction specific mental health service.

“Currently receives counselling from mental health project (is reluctant to engage with psychiatric services)” – Id 15, Mental Health Observation.

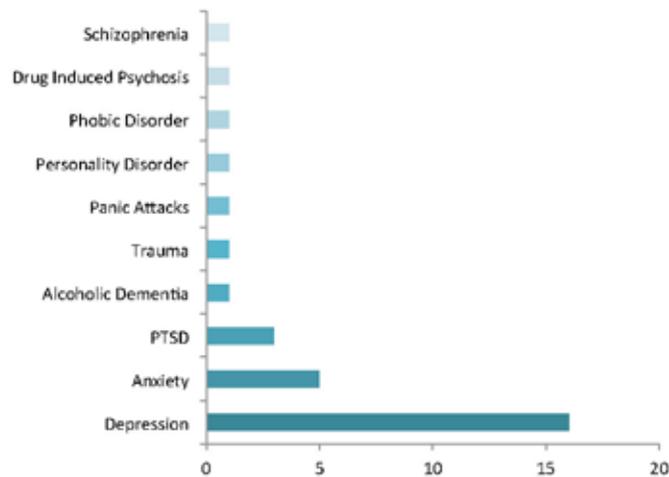
“Patient advised that she has been struggling with low mood/depression discussed getting one of team CPN’s to conduct assessment and liaising with GP for referral to a Community Mental Health Team”

- Id 32, Community Addiction Team observation.

Over a third of the cohort (39%, n=22) had been in contact with an addiction specific mental health service. Of the total cohort 23% (n=13) were in contact with a mental health service within 6 months of death.

A quarter (25%, n=14) of the cohort had contact with Addiction Psychiatry recorded within their casenotes. 18% (n=10) of cohort had received a referral to clinical psychology. 7 of the 10 individuals attended at least the first appointment with clinical psychology.

Figure 35 Mental Health Conditions (Source: casenote analysis)



The most common mental health condition recorded across all of the casenotes was depression with just under a third of the cohort (29%, n=16) recorded as experiencing this as opposed to n=12 in the GP notes which indicates that 4 individuals did not have a diagnosis of depression in their GP notes. Anxiety and Post Traumatic Stress Disorder was also experienced by some members of the cohort.

“Suffers from low mood and depression his physical health is not good he has been told his liver is not going to get any better, he would need a liver transplant but needs to be sober for at least 2 years”. – Id 5, Community Addiction Team observation.

“Still very frustrated about not having contact with his daughters, he presented as depressed and admitted he has been drinking again” – Id 34, Criminal Justice observation

39% (n=22) of the cohort had previously overdosed. Half of those who had overdosed did so once. There were 42 incidences of overdose.

“Unkempt, confused, possibly took a full bottle of Librium” – Id 21, EDS discharge letter

“He has been drinking a bottle of vodka a day. He has a history of deliberate self harm, he tried to stab and hang himself and took a paracetamol overdose. He states he has been trying to self harm through drinking the past year” – Id 48, Addiction Psychiatry

21% (n=12) of the cohort had previous incidents of self harm recorded. Under half of the cohort (41%, n=23) had recorded incidences of suicidal ideation.

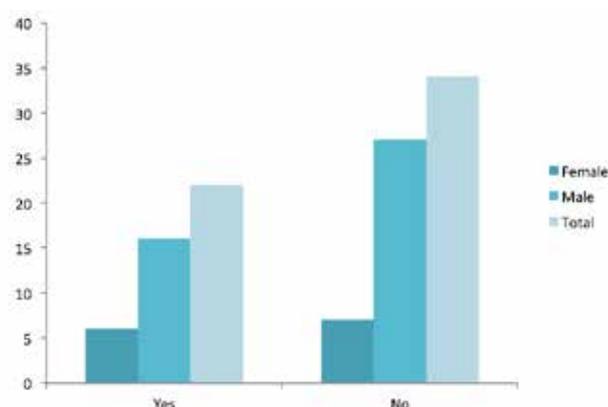
Over a third (39%, n=22) of the cohort had self discharged more than once from an acute hospital setting.

4.8.6 Contact with Other Services

Just under a fifth (18%, n=10) of the cohort were in contact with criminal justice.

14% (n=8) of the cohort had a prison stay documented within their casenotes.

Figure 36 - Contact with Police (Source: casenote analysis)



Just under a third (32%, n=18) of the cohort had contact with the police documented in their case notes.

9% (n=5) of the cohort have had contact with the fire service as result of a fire whilst the individual was under the influence of alcohol.

“Police advised that they had attended a fire at the client’s house. The fire had started due to client leaving food cooking on the cooker unattended. The fire was attended to satisfactorily, although they noted that the client was verbally abusive to the fire crew. Further discussion with the Chief Fire officer, confirmed that the Fire Service put their own vulnerable adult procedures in place”

– Id 34, Community Addiction Team Observation.

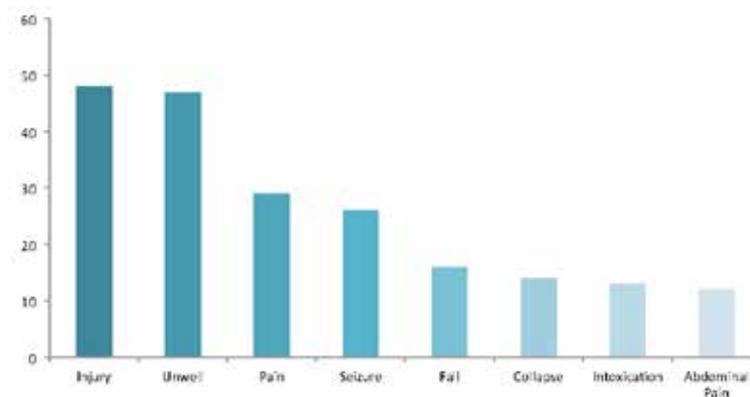
4.9 Contact with Acute Services

4.9.1 Emergency Department Services Contact

A total of 382 EDS episodes were recorded from 2007 to 2013 for the 56 individual in the cohort.

The average number of episodes from 2007-2013 was 8 with 1 being the minimum episode recorded and 37 being the maximum. 28% (n=105) of all presentation to EDS had alcohol recorded as part of the casenote.

Figure 37 - EDS Presenting Complaint (Source: Trakcare)



The most commonly recorded presenting complaint was “Injury” (13%, n=48) followed by “Unwell” at 12% (n=47).

Glasgow Royal Infirmary EDS was the most attended hospital, with over half of all EDS episodes occurring there (53%, n=204), followed by the Western Infirmary General EDS department with 16% (n=60) of episodes.

Figure 38 - Emergency Hospital Attended (Source: Trakcare)

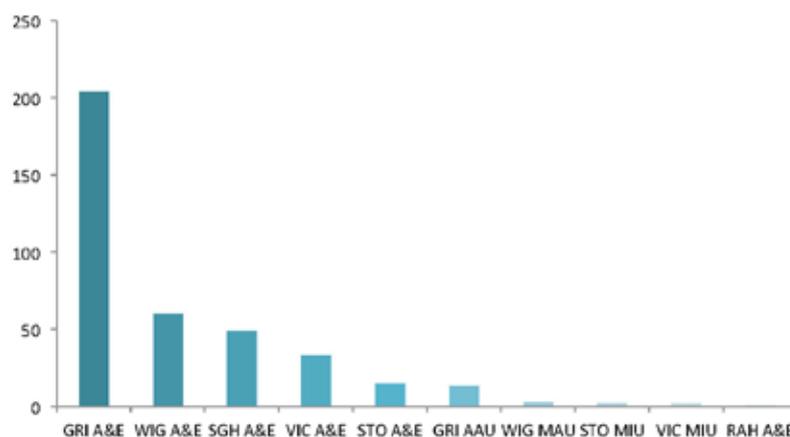
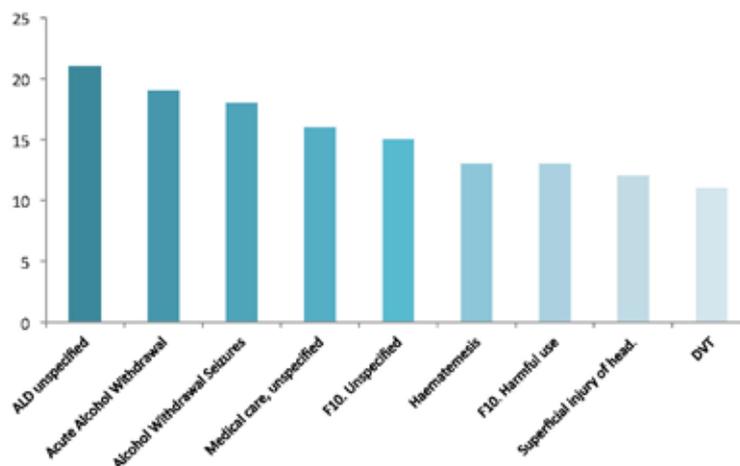
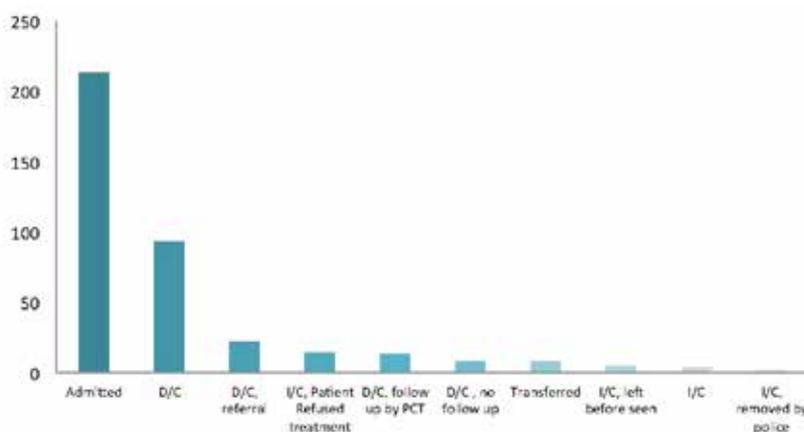


Figure 39 - EDS Primary Diagnosis on discharge (Source: Trakcare)



The most commonly recorded diagnosis on discharge from EDS was Alcoholic Liver Disease (5.5%, n=21), followed by Acute Alcohol Withdrawal (5%, n=19). 15% (n=58) of all episodes had no primary diagnosis recorded.

Figure 40 - Discharge Information. d/c = discharge, I/C = incomplete (Source: Trakcare)



Over half (56%, n=213) of all discharges from EDS resulted in an acute inpatient admission. Just under a quarter (24%, n=93) were discharged with no further information. 6% (n=22) of episodes resulted in a discharge with a further referral.

4.9.2 Outpatient Appointments – SMR00

An SMR00 is generated for outpatients receiving care within a specialty and records when they attend a medical consultant, nurse or allied health professional outpatient clinic.

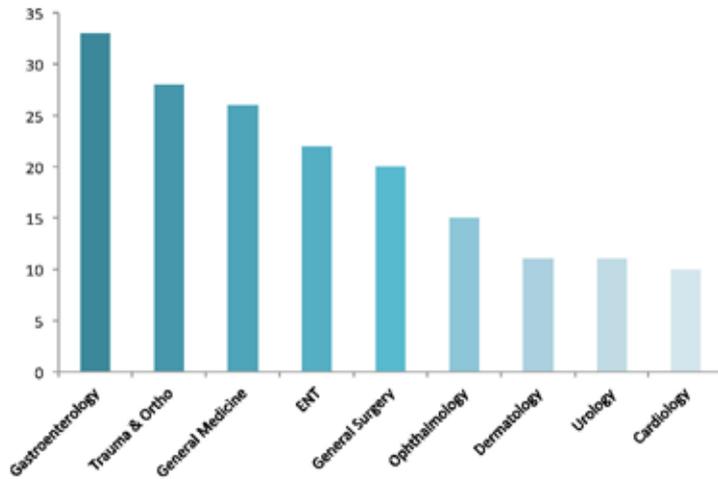
There were 926 outpatients recorded for 51 individuals within the cohort between the reporting period of 1998 and 2013.

Table 18 - SMR00 Outpatient Descriptive Statistics (Source: SMR00)

	Number of Appointment	No
Average		17
Median		15
Mode		6
Min		1
Max		63

On average the cohort attended 17 outpatient appointments between the reporting period with the minimum number of appointments for an individual being 1 and the maximum being 63.

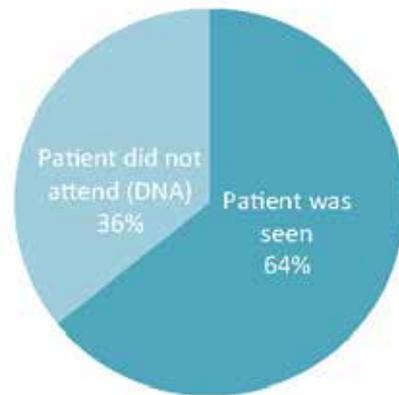
Figure 41 - Referred to Outpatient Speciality (Source: SMR00)



A majority of the cohort (65%, n=33) had been given an outpatient appointment for Gastroenterology. Over half of the cohort (55%, n=28) had been given an outpatient appointment for Trauma and Orthopaedic surgery and General Medicine (51%, n=26).

The cohort attended a majority of the outpatient appointments given to them (64%, n=618).

Figure 42 - SMR00 Attendance Rate



For a majority of appointments no discharge code was attributed (87%, n=835).

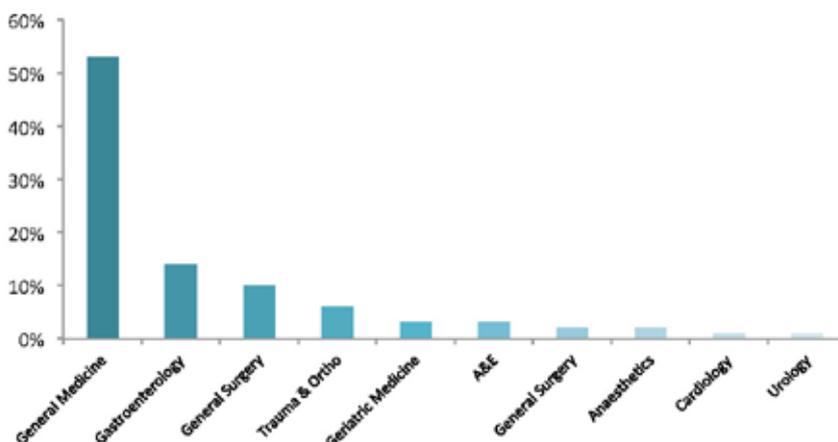
Where a discharge code was applied the most common was a further outpatient appointment with same consultant in the same speciality (7%, n=65).

4.9.3 Inpatient and Day Cases – SMR01

A SMR01 is generated for patients receiving care in the General/ Acute specialties as inpatient or day case.

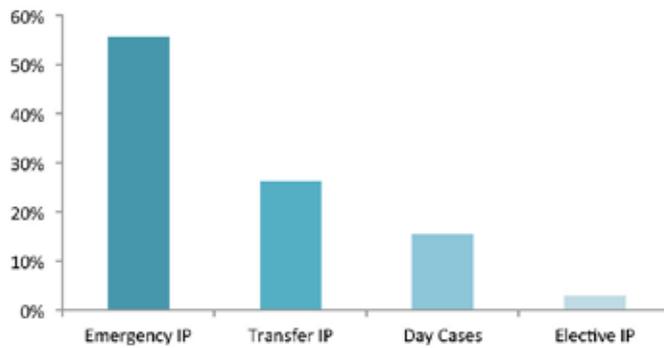
51 individuals from the cohort had at least 1 inpatient/day case episode between the reporting period of 1997 – 2013.

Figure 43 - SMR01 Speciality Referred To (Source: SMR01)



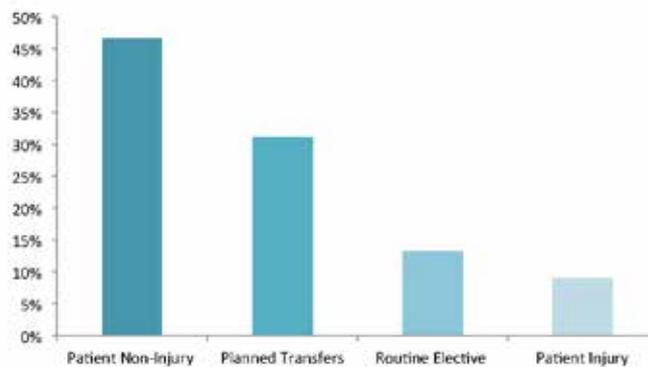
Over half of all inpatient episodes/day cases referrals were within the General Medicine speciality.

Figure 44 - SMR01 Admission Category (Source: SMR01)



Over half of all acute admissions were on an emergency basis (56%, n=405). Just over a quarter of acute admissions (26%, n=190) were transfers from other NHS facilities or specialities.

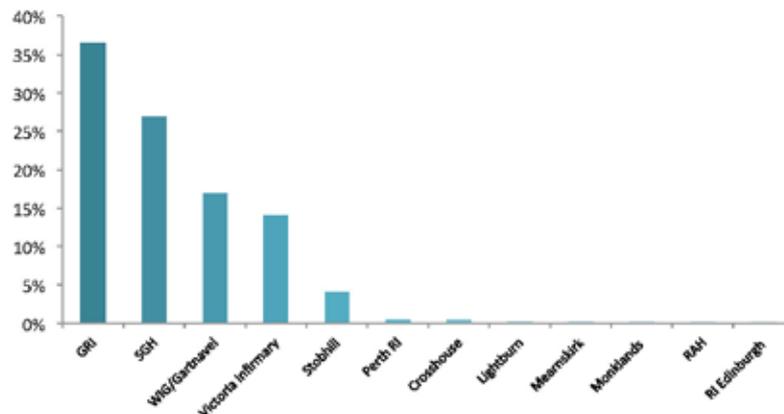
Figure 45 - SMR01 Admission Type (Source: SMR01)



Almost half (45%, n=326) of patient admissions were non injury based admissions, a further 30% (n=217) were planned transfers.

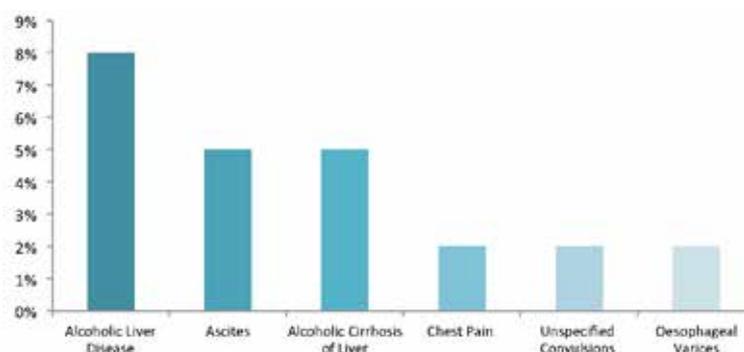
Almost half (46%, n=334) of the admissions were for the purpose of treatment. 6% (n=42) of the admissions were for the investigation of a health problem.

Figure 46 - SMR01 Hospital Of Admission (Source: SMR01)



Over a third of all admissions were to the Glasgow Royal Infirmary (37%, n=266), followed by over a quarter of admissions (27%, n=196) to the Southern General Hospital (now known as the Queen Elizabeth University Hospital).

Figure 47 - SMR01 Primary Diagnosis (Source: SMR01)



The most commonly recorded primary diagnosis was Alcoholic Liver Disease (8%, n=59)

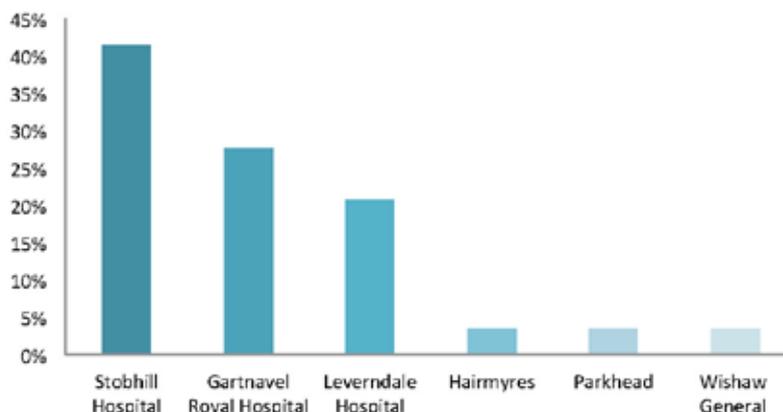
Further analysis suggests that a third of the primary diagnosis (33%, n=239) fell under the ICD 10 hierarchy of K00 – K93 Disease of the Digestive System with 60% (n=143) of those within the K70 – K77 category of Disease of the Liver.

4.9.4 Psychiatric Inpatient Episodes – SMR04

An SMR04 is generated for patients receiving care in Mental Health Specialties.

Just under a quarter of the cohort (21%, n=12) had a previous psychiatric inpatient episode between the period of 1997 and 2008. There were a total of 29 psychiatric inpatient episodes.

Figure 48 - SMR04 Hospital of Admission (Source: SMR04)



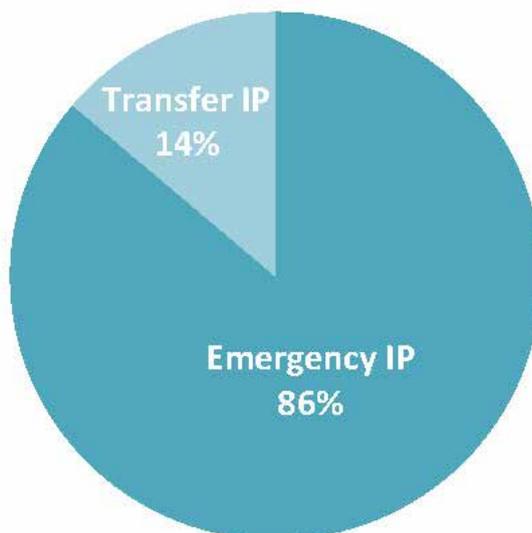
41% (n=12) of all psychiatric admissions were to Stobhill Hospital followed by Gartnavel at 28% (n=8) and Leverndale (21%, n=6).

Table 19 - Main Condition on Admission (Source: SMR04)

Admission Main Condition	No	% of total episodes
Observation for suspected Mental and Behavioural Disorders	7	24%
Bipolar Affective Disorder - Unspecified	4	14%
Mental and Behavioural Disorder due to Alcohol Dependence Syndrome	4	14%
Mental and Behavioural Disorder due to Withdrawal of Alcohol	3	10%
Depressive Episode- Unspecified	2	7%
Mental and Behavioural Disorder due to Harmful Use of Alcohol	2	7%
Mild Depressive Episode	2	7%
Manic Episode- Unspecified	1	3%
Paranoid Schizophrenia	1	3%
Personal History of Self Harm	1	3%
Psychotic Disorder Due to Alcohol	1	3%
Unspecified Nonorganic Psychosis	1	3%
Total	29	100%

Just under a quarter of all admissions (24% (n=7) were for the observation of suspected mental and behavioural disorders. Just over a third (34%, n=10) of all admissions main conditions mentioned alcohol.

Figure 49 - SMR04 Admission Category (Source: SMR04)



A large majority of the psychiatric inpatient admissions were on an emergency basis (86%, n=25).

Table 20 - SMR04 Primary Diagnosis (Source: SMR01)

Main Diagnosis	No	% total Episodes
Mental and behavioural disorders due to alcohol dependence syndrome	10	34%
Bipolar affective disorder - current episode hypomanic	6	21%
Alcohol dependence syndrome - continuous use	2	7%
Bipolar affective disorder- unspecified	2	7%
Mental and behavioural disorders due to harmful use of alcohol	2	7%
Mental and behavioural disorders due to withdrawal of alcohol	2	7%
Acute and transient psychotic disorder- unspecified	1	3%
Depressive episode- unspecified	1	3%
Mild depressive episode	1	3%
Personal history of self-harm	1	3%
Unspecified nonorganic psychosis	1	3%
Total	29	100%

34% (n=10) of all admissions resulted in a diagnosis of mental and behavioural disorders due to alcohol dependence syndrome.

Alcohol rehabilitation was the most commonly recorded secondary diagnosis (10%, n=3)

4.9.5 Liver Transplant

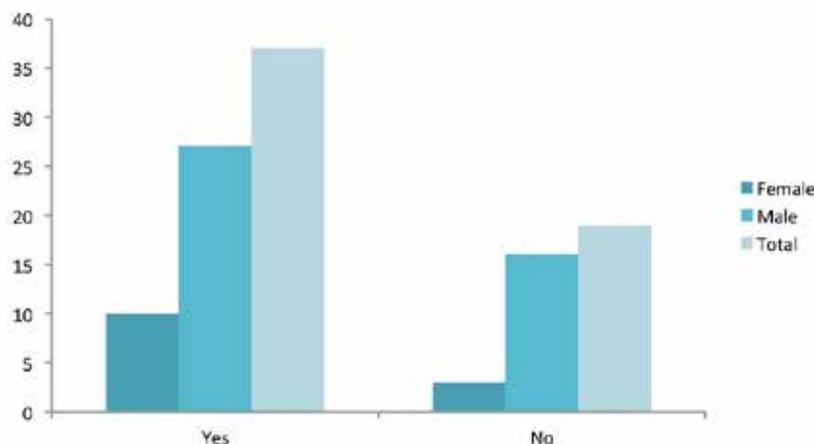
9% (n=3) of the cohort were referred to the Edinburgh Liver Transplant Unit for Assessment however 2 of the individuals were assessed as not suitable. One individual died before attending the appointment. None of the cohort had previously received a liver transplant.

4.10 Pharmacotherapy

There were a total of 9344 prescriptions issued between the reporting period of 2008 and 2013. 97.8% (n=9139) of all the prescriptions recorded were provided by GPs or medical officers across primary and secondary care. 2.1% (n=194) of prescriptions were provided by community pharmacists under the Minor Ailments Scheme and 0.1% of all prescriptions were provided by a nurse, based within primary care or nursing home care.

4.10.1 Medically Assisted Detoxifications

Figure 50 - Medical Detoxification (Source: Casenote analysis)



Over two thirds (66%, n=37) of the cohort had previously undergone a medication assisted detox or received medication to minimise alcohol withdrawal.

Table 21 - Medically Assisted Detoxification, Type

Detox Type	Female	Male	Total
GP (unsupported)	6	19	25
CAT (supported)	3	15	18
Addiction Inpatient	4	11	15
Acute Inpatient	6	8	12
Other*	1	4	5
Addiction Day Hospital	0	4	4
Outpatient (unsupported)	0	1	1

(Source: Casenote analysis)

The most commonly experienced prescribing amongst the cohort was a GP prescription of chlordiazepoxide (unsupported by specialist service) which just under half (45%, n=25) of the cohort had experienced. Doses, when documented, were low compared to guidelines and directions to reduce doses were lacking.

(*The other category includes residential rehab (Link Up, Redtower & Castle Craig).

2 individuals obtained illicit chlordiazepoxide for the purpose of self administration to manage withdrawal.

“Reports that he is drinking approx 6 cans lager per day, requesting that a referral be made for an in-house detox. In the mean time he says he has obtained some Librium and plans on doing a self home detox as he wants to be alcohol free and a period of stability before his holiday in September”

–Id 4, Community Addiction Team observation

Prescription medication for the treatment of alcohol withdrawal was higher than any medication assisted detox with just over a third of the cohort (38%, n=21) having at least 1 chlordiazepoxide prescription dispensed since 2008, however through an analysis of the casenotes a further 4 individuals had evidence of a historical chlordiazepoxide prescription.

There were 119 chlordiazepoxide prescriptions over the reporting period. Almost all of the prescriptions were supplied from GPs within primary care with 1 prescription supplied by GEMS.

“Chlordiazepoxide requested by patient just off a binge” – Id 36, GP Consultation

“Chlordiazepoxide requested by partner, bad binge at weekend” Id 36, GP Telephone Consultation.

“Nerves shattered after break up of marriage, drinking to excess, given Chlordiazepoxide”

– Id 44, GP Consultation.

“He remains fixated on being prescribed Librium and dismissed other treatment options; gradual reduction of alcohol intake within safe and appropriate amounts and timescale; consideration of disulfiram therapy; residential rehabilitation”

– Id 2, Community Addiction Team observation

8 of the 21 individuals prescribed chlordiazepoxide had also received a CAT supported detox. The highest number of chlordiazepoxide prescription received by one individual was 27. This individual was noted in previous analysis to have received 20 separate episodes of GP unsupported detox and 4 CAT supported detox.

4.10.2 Relapse Prevention Medication

There were very few prescriptions dispensed for drugs relevant to alcohol dependence, particularly in reference to relapse prevention in patients with alcohol dependence, despite 66% of the cohort having previously undergone a medication assisted detox or prescription to reduce alcohol withdrawal symptoms with just under half of those being a community addiction supported detox and 41% being addiction inpatient detox.

A small minority (5%, n=3) had been prescribed acamprosate and one individual had been prescribed disulfiram, however from the casenote analysis a further two individuals were noted to have been prescribed acamprosate historically and a further individual had been prescribed disulfiram.

No members of the cohort had been prescribed naltrexone. All prescriptions were supplied by GPs within primary care.

It is important to note that there are some inconsistencies with practice and formulary status for the protective medicines; as per the formulary disulfiram is Restricted to specialist use only and acamprosate is Restricted to specialist initiation only, use is subject to shared care protocol.

Table 22 – Drugs Used in Alcohol Dependence

Alcohol Dependence Drugs	No	% of cohort
Acamprosate	5	9%
Disulfiram	2	4%
Naltrexone	0	0%

(Source: PIS Dataset)

“Advised writer today that he had lapsed a couple of weeks ago. He advised that he had bought a bottle of whiskey a couple of weeks ago as a present for a family member, however, ended up drinking it over 3 days. He stated that he went to his GP after this and his GP had prescribed acamprosate for him to deal with cravings. He stated he has been abstinent since” – Id 6, Community Addiction Team observation

“In treatment since Nov, she has been doing exceedingly well since and is on Disulfiram, back to full time employment and now planned discharge” – Id 56, (Non Glasgow) Community Addiction Team discharge letter.

4.10.3 Vitamin Supplementation

Table 23 – Number of Cohort Prescribed Vitamins

Vitamins	No of cohort	% of cohort
Thiamine	49	88%
Vit B Compound	28	50%
Folic Acid	15	27%

(Source: PIS Dataset)

The majority of the cohort were prescribed thiamine (88%, n=49) and half (50%, n=28) were prescribed vitamin B compound (over the period of 2008-2010, after which it was removed from the formulary). Under a third of the cohort (27%, n=15) were prescribed folic acid.

4.10.4 Other Medications

Just over half of the cohort (55%, n=31) had been prescribed an antidepressant between 2008 and 2013. 55% (n=17) of all those prescribed antidepressants were prescribed citalopram.

Table 24 - Other medication prescribed to the cohort

Other Medications	No	% of cohort
Antidepressants	31	55%
Other hypnotic and anxiolytics	18	32%
Diazepam	15	27%
Methadone	6	11%

(Source: PIS Dataset)

Just under a third of the cohort (32%, n=18) were prescribed hypnotic and anxiolytic medication (excluding chlordiazepoxide and diazepam) 72% (n=13) of those prescribed hypnotics and anxiolytics were prescribed Zopiclone.

Just over a quarter of the cohort (27%, n=15) were prescribed diazepam with most prescriptions being intermittent and no individual within the cohort being prescribed consecutively for more than 6 months.

“Chronic alcohol abuse, hoping for inpatient detox but was drinking less than 12 hours ago and is not obviously in severe withdrawal. Contact made with community addiction team from department, patient open to them - discharged from department with small amount of diazepam - to seek community detox from CAT” – Id 2 EDS discharge letter

11% (n=6) of the cohort were prescribed methadone with just under half of all (n=33) dispensed methadone prescriptions (46%, n=152) coming from GPs in primary care. Just under a third were prescribed from a ‘Methadone Treatment Clinic’ and 19% (n=63) from a Community Addiction Team.

4.10.5 All Medications

The most prescribed medication was thiamine with a majority of the cohort being prescribed this at 88% (n=49) followed by omeprazole at 71% (n=40) and cocodamol 50%, n=28).

Table 25 - Medications Prescribed to Cohort

Medication	Total Count	% of cohort
Thiamine	49	88%
Omeprazole	40	71%
Cocodamol	28	50%
Vitamin b compound	28	50%
Amoxicillin	27	48%
Spironolactone	23	41%
Ibuprofen	22	39%
Lactulose	22	39%
Chlordiazepoxide	21	38%
Paracetamol	20	36%
Emollients	19	34%
Flucloxacillin	19	34%
Citalopram	17	30%
Furosemide	17	30%
Tramadol hydrochloride	17	30%
Diazepam	15	27%
Folic acid	15	27%
Piroxicam	15	27%
Diclofenac	14	25%
Enteral nutrition	14	25%

(Source: PIS Dataset)

It is also interesting to note that a quarter of the cohort were prescribed nutritional meal supplements (25%, n=14).

4.11 Cause of Death

Using a combination of the acute casenotes, the clinical portal, a database based at the Forensic Medicine Department, Glasgow University and the data provided by NHSGGC Public Health, the original cause of death was recorded for all the individuals within the cohort.

4.11.1 Death Certificate & ICD 10 Code

Table 26 - Listed Cause of Death

Listed Cause as per Death Certificate	No	% of cause
Alcoholic Liver Disease	10	18%
Cirrhosis of the Liver	6	11%
Chronic Alcohol Abuse	5	9%
Alcoholic Hepatitis	4	7%
Decompensated Liver Disease	4	7%
Alcohol Ketoacidosis	4	7%
Alcohol Excess	3	5%
Aspiration pneumonia	3	5%
Bronchopneumonia	3	5%
Decompensated Alcoholic Liver Disease	3	5%
Gastro Intestinal Haemorrhage	3	5%
Hepato Renal Syndrome	3	5%
Sepsis	3	5%
Complications of chronic alcohol abuse	2	4%
Hepatitis C	2	4%
Acute Kidney Injury	2	4%
Fatty Degeneration of the Liver	2	4%
Hepatic Encephalopathy	2	4%
Liver Failure	2	4%
Pneumonia	2	4%

(Source: casenote analysis)

Across the causes listed the most common was Alcoholic Liver Disease, 18% (n=10)

Table 27 - ICD 10 Cause of Death

ICD 10 Code & Cause of Death	No	% of total cohort
Total K70 Classification	39	70%
K709 - Alcoholic liver disease unspecified	12	21%
K703 - Alcoholic cirrhosis of liver	9	16%
K704 - Alcoholic hepatic failure	8	14%
K700 - Alcoholic fatty liver	5	9%
K746 - Other and unspecified cirrhosis of liver	3	5%
K701 - Alcoholic hepatitis	2	4%
Total F10 Classification	12	21%
F102 - Mental and behavioural disorders due to alcohol dependence syndrome	6	11%
F109 - Mental and behavioural disorders due to use of alcohol unspecified	4	7%
F103 - Mental and behavioural disorders due to withdrawal of alcohol	1	2%
F106 - Amnesic syndrome due to use of alcohol	1	2%
Other Classifications	5	9%
X45 - Accidental poisoning by and exposure to alcohol	2	4%
G621 - Alcoholic polyneuropathy	1	2%
I426 - Alcoholic cardiomyopathy	1	2%
K292 - Alcoholic gastritis	1	2%
Total	56	100%

(Source: NRS)

Just under 3 quarters (70%, n=39) of those within the cohort died under the ICD 10 Code of K70 which relates to the liver and a further 21% (n=12) under the ICD10 code of F10 which relates to mental and behavioural disorders.

4.11.2 Place of Death

Table 28 - Place of Death

Place of Death	No	%
Home	22	39%
Glasgow Royal Infirmary	9	16%
Southern General Hospital	9	16%
Gartnavel General Hospital	5	9%
Western Infirmary	5	9%
Victoria Infirmary	3	5%
Hairmyres Hospital	1	2%
Mearnskirk Hospital	1	2%
Royal Alexandra Hospital	1	2%
Total	56	100%

(Source: casenote analysis)

61% (n=34) of the cohort died within a hospital setting. 21 individuals (38%) of the cohort had a Post Mortem carried out whilst a further 2 individuals had their death certificate issued by their GP.

4.11.3 Palliative Care & Treatment

Table 29 – Do Not Attempt CPR

DNA CPR	No	% of total cohort
Yes	23	41%
No	26	46%
Total	56	100%

(Acute casenotes)

Do not attempt CPR certificates/notifications were also found in 41% (n=23) of the cohort's acute casenotes.

Table 30 - Palliative Care

Entered into Palliative Care	No	% of total cohort
Yes	17	30%
No	39	70%
Total	56	100%

(Casenote analysis)

30% (n=17) individuals within the cohort had evidence of being given Palliative Care.

“The hospital palliative care team were asked to review the patient with regards to symptom control for end of life. She had been readmitted with worsening liver dysfunction. Unfortunately her condition continued to decline despite supportive measures and she entered the terminal phase of her illness.” – Id 53, Inpatient discharge letter

“[Visited client in hospital], he had advised that his prognosis was not good and was very emotional regarding this. He advised writer that he has had many visits from his family which has overwhelmed him” – Id 3, Community Addiction Team observation

CONCLUSION

This report was commissioned by the Glasgow City Alcohol and Drugs Partnership in order to address three questions. The analysis of all the data sources established key risk factors which may be a predictor of the outcome of an alcohol related death. Problematic drinking from an early age and familial alcohol use were identified in an individual’s early life. We identified adverse key life events, for example the breakdown of a marriage or long term relationship or the death of a parent or close family member. In some cases the adverse life events were caused by alcohol problem drinking, in other cases alcohol contributed to the acceleration in the amount and the frequency of alcohol use. Finally, we also identified that social isolation was a common experience for individuals at risk of alcohol related harms.

Through the exploration of the data sources it was recognised that the primary care GP was aware of alcohol problems for most of the cohort with the majority of the cohort referred on to specialist services, however the experience of alcohol treatment within primary care varied across the city as did the pharmacological support. We also identified that the acute services e.g. EDS, Acute inpatient services and outpatients experienced a high level of contact with those who suffered with problematic alcohol misuse.

The majority of the cohort had been in contact with an alcohol treatment service, however the level of engagement varied and very few maintained treatment long enough to achieve their goals in terms of a recovery plan. The majority of the cohort had undertaken a medication assisted detox. Just under half of the cohort had been prescribed medication to reduce withdrawals by their GP, whilst a third had undertaken a community addiction team supported home detox and a quarter had an addiction inpatient detox. In all cases the individual relapsed to alcohol use post detox however there was little evidence of post detox support, particularly when the individuals did not attend follow up appointments, however further exploration of the role of voluntary services may shed some further light on this.

Overall there appeared to be a disconnect between the services that were best served to assist these individuals. Individuals who require treatment for their alcohol problem will often have their own personal barriers to seeking help and engaging with services, therefore it is vitally important that all services that have a role in the identification and management of alcohol problems break down any possible organisational barriers that may impact in access to appropriate level of care that individual requires.

RECOMMENDATIONS

5.1 Education and Prevention Services

5.1.1 Alcohol and Young People

Our data indicated that 32% (n=18) of the cohort developed problem drinking behaviour before the age of 25 years. Where the information was available, most members of the cohort had their first drink under the age of 14. According to the Global status report on alcohol and health (WHO, 2014) the most important risk factor for young people in relation premature death is alcohol consumption. Young people who begin to drink problematically, such as the under 25 group within this cohort, are at risk of the long term chronic effects of alcohol use later in life (WHO, Global status report on alcohol and health, 2014).

The Scottish Schools Adolescent Lifestyle and Substance Use Survey (SALSUS) 2013 indicated that by the age of 13 years, 32% of young people have had their first drink, rising to 70% by the age of 15 years. Many young people, coming out of their early twenties will curb their drinking as employment and relationships opportunities develop. However, there is a subgroup of young people that will continue with a chronic pattern of drinking through adulthood and as discussed earlier, this group will drink more and die sooner (NICE, 2010).

In addition, there is a growing body of evidence which has found that early onset drinking can be a predictor for later health related harms and a higher risk for alcohol dependency when the first drink is 14 years of age (Grant & Dawson, 1997; Grant, 1998) Further research suggests that those having a first drink at the age of 11 or 12 were nearly 10 times more likely to become alcohol dependent than those who begin drinking at the age of 19 or older. The findings from the cohort would therefore support the need for more research on factors which lead to early age problem drinking in Glasgow and support the WHO Global alcohol policy that the first alcoholic drink should be delayed.

- **Recommendation 1: Consideration to be given to prevention strategies that reduce children's exposure to alcohol and the availability of alcohol in their local community, in particular the findings of this report should be shared with the City Alcohol Licensing and Drug Group.**
- **Recommendation 2: Further research into the impact of increasing the legal drinking age, considering other models which delay the onset of drinking alcohol such as the American Model of 21 years.**
- **Recommendation 3: Consider further research into factors that lead to early age problem drinking, exploring factors raised in other well established research, such as the role of parents as the source for pre-adolescent alcohol and encouragement its consumption.**
- **Recommendation 4: Explore the vulnerabilities behind the sub-populations of young people as identified in this report, in particular drawing out any risk factors which could be an indicator for future alcohol problems.**

5.1.2 Alcohol in the Workplace

Almost all of the cohort (94%) were in employment at some point in their lifetime and several members of the cohort had spoke of losing their employment as a result of their alcohol use. Several members of the cohort reported an increase in their alcohol consumption following the loss of employment.

For the cohort, drinking at work was usually the first recognition of an alcohol problem and subsequently attending the GP due to days lost at work or occupational health input.

Another feature of the findings was that there was no evidence of individuals being involved with employability services when in contact with the Community Addiction Team, even for those who were a planned discharge.

For those who had lost employment due to their alcohol use there was no evidence in the casenotes that there was support offered from agencies in getting the individual back into employment. Agencies such as the department of work and pensions or Jobcentre Plus could work with specialist alcohol treatment services to provide support to those whose barrier to employment is their alcohol use.

- **Recommendation 5: Work with employers to support staff that may have an alcohol problem and at risk of losing their employment. Consider the development of guidelines & resources on managing alcohol problems in the workplace.**

- **Recommendation 6: Consideration should be given to developing the role of employment and employability with partners in DWP within specialist alcohol treatment services as part of a recovery plan for an individual with an alcohol problem where appropriate.**

5.2 Engaging Hard to Reach & Hidden Populations

5.2.1 Building the Relationship between Acute and Addiction services

It is striking that almost all of the cohort were in contact with general acute services within 3 years of their death, therefore acute services and EDS in particular present an opportunity to engage with those with an alcohol problem.

Addiction Acute Addiction Liaison staff are already embedded within the acute sector and currently provide a range of services across EDS, minor injury units and inpatient services and further initiatives have been developed since 2013, which we will reference where appropriate.

5.2.1 EDS Services

Within the acute and EDS casenotes there was no evidence of alcohol screening, alcohol brief interventions, or signposting to alcohol services having taken place. However there is separate manual recording of ABI's therefore this may not have been captured within patient casenotes.

- **Recommendation 7: The findings should be shared with partners in acute services for consideration of further awareness and education sessions for EDS staff on alcohol screening and referral pathways.**

Consideration to be given to how we share data on alcohol screenings and brief interventions being carried out, and the outcome of this, with others involved in an individual's treatment or care with assertive follow up where required.

It is also important to note that ABIs are not targeted for dependent drinkers which many of the cohort would have been before ABIs were embedded into NHS core business however alcohol screening would be appropriate for this cohort.

Evidence suggests that an assertive outreach model can reduce the number of EDS attendances (Millward, 2016). In this study, alcohol frequent attendees were flagged up to a specialist assertive outreach team who would follow up the individual within the community.

An initiative that has been developed since 2013 is the agreed referral pathway between acute addiction liaison and EDS whereby consultants can refer patients who present with an alcohol issue during office hours, Monday to Friday and liaison staff will attend EDS and see the patient whilst they are in the department or Out Of Hours (OOH) where a referral form is completed by EDS staff and kept within the department, liaison staff attend each day to pick up referrals and link patients into appropriate CATs in their area of residence. This initiative is about to roll out to Glasgow Royal Infirmary with a similar model rolling out in a hospital in Renfrewshire with Inverclyde exploring the introduction of the same system.

- **Recommendation 8: Acute and alcohol services should review existing pathways for maximising the opportunities to engage problem drinkers presenting to Emergency Departments. This should include ESD raising awareness of the Acute Addiction Liaison Service currently delivered in EDs during office hours and measuring effectiveness of out of hours services Consideration should be given to the model of an assertive outreach which would engage with those who frequently attend EDS or MIU.**

5.2.2 Outpatient Services

From the evidence within the study we know that many of the cohort overall attended acute outpatient appointments with a relatively high attendance rate of 64%. Acute addiction liaison had previously delivered an alcohol clinic with limited success within outpatients however evidence from this study would suggest that joint working should be revisited. Currently Acute Addiction Liaison has been delivering ABI clinics in oral maxillofacial outpatient clinics which has been successful in engaging a young male population who are drinking at hazardous levels.

- **Recommendation 9: Develop a model of joint working between outpatient clinics in acute services and specialist services, focusing on delivery of alcohol treatment and care outpatient clinics such as gastroenterology and maxillofacial, ensuring a multidisciplinary and person centred approach.**

5.2.3 Strengthening the Link between Mental Health and Addiction Services

The findings from this study revealed that a majority of the cohort were in contact with non addiction specific mental health services in their lifetime.

There were examples throughout the cohort of those who did not wish to be referred to alcohol treatment services but engaged well with mental health teams.

- **Recommendation 10: Consideration should be given to how we can improve the effectiveness of alcohol interventions for those engaging with mental health services and the interface between mental health and alcohol services.**

5.2.4 Addiction and Social Work Services

There were several members of the cohort, particularly adult and older people services who provide homecare or home assistance/adaptation services. In many of these cases, it was documented within their casenotes that the individual had a problem with alcohol but there was no indication of a discussion around their drinking or a referral to a specialist alcohol service. This identified the need to review the training and learning needs for those in social work services and referral pathways. Homecare in particular had daily contact with some of the cohort; therefore alcohol awareness training may be beneficial to staff for this particularly vulnerable group within society. There was good evidence of discussions by criminal justice workers regarding alcohol use in the context of offending behaviour and social problems which arose as a result of their alcohol use.

- **Recommendation 11: Review the training and learning needs for those in social work services, ensuring awareness of the referral pathways. Special attention should be paid towards developing alcohol awareness training for social work support staff that have regular contact with this vulnerable group.**

5.2.5 Strengthening the Role of Primary Care

There was evidence the recognition of an alcohol problem was first identified with the GP. Conclusions from a qualitative study into service provision for alcohol related health issues in mid to later life by Haighton et al (2016) found similarly, the GP was the first point of contact for help with an alcohol problem. They also found, consistent with our study, the care they experienced was not uniform and that referral and treatment pathways used were dependent on the GP. The study concluded that training in the detection and treatment of alcohol problems was required for primary care professionals.

Although not specifically addressed in this study, research carried out by Lock et al (2016) into nurses' attitudes and practice around the delivery of ABI's in primary care also found that there were several barriers in asking patients about their alcohol use, namely negative reactions from patients, lack of consistent advice/public information about safe drinking limits, confusion over media advice and having not received specific training for alcohol focused work in primary care.

- **Recommendation 12: Guidance around the early detection of alcohol problems through the use of alcohol screening and ABIs for primary care professionals should be further promoted. Further research would also be beneficial to identify potential barriers to the detection or treatment of alcohol problems in primary care, from a patient and professional perspective.**

Another important finding was primary care prescribing of chlordiazepoxide which just under half (45%, n=25) of the cohort had received. The maximum number of prescriptions for any one individual being 27 within a 5 year period. There was no evidence in the casenotes of any dose reduction advice or follow up during subsequent consultations.

- **Recommendation 13: Tier 1 and 2 alcohol treatment and care guidance and training should be developed and promoted to ensure best practice in prescribing for alcohol problems and supported alcohol detox in primary care as there was evidence of a lack of consistency of approach, particularly in terms of Chlordiazepoxide prescribing.**

At the time of this report, there is also a pilot ongoing within primary care which seeks to target those individuals identified by the GP who have an alcohol problem but find it difficult to engage with specialist alcohol treatment services. As part of the Deep End recommendations (Annex C) specialist alcohol nursing staffs have been linked to several GP practices based within the areas of highest deprivation in Glasgow. The findings of this study would support the requirement for such a project in order to prevent future alcohol related deaths.

5.2.6 Social Isolation and Agencies within the Community

Social isolation was a recurring theme throughout the study with most individuals in the cohort experiencing this throughout their drinking career, but most notably in the period before their death. An Alcohol Research UK study (Wadd et al, 2011) which examined the experience of older drinkers in service, found that alcohol treatment practitioners observed that social isolation appeared to be both a cause and symptom of problematic drinking in some of their clients. They also found that their vulnerability left them open to exploitation, for example 'paying' a neighbour to buy alcohol. This was a finding that was identified within our cohort as there were 8 individuals who were referred to social work under adult support and protection legislation.

There is an opportunity for community based support networks in tackling the problem of social isolation and a role for housing associations in particular, as many of the cohort lived in council rented accommodation.

- **Recommendation 14: Liaise with housing associations to identify strategies to tackle loneliness and social opportunities within local communities with an emphasis on reducing the risk of exploitation for this vulnerable group.**
- **Recommendation 15: Consideration should also be given to establishing a peer support and befriending framework to those isolated in the community with an alcohol problem, both recovery based support and community based support.**

5.3 Specialist Alcohol Treatment & Care Services

5.3.1 The Role of Alcohol Treatment and Care Services

The results show that over half (59%) of the cohort were in contact with a community addiction team (CAT) however 85% (n=46) of all discharges were unplanned. In most cases the individuals in the cohort were offered 3 appointments and were formally discharged if they did not engage with the service, in a few cases there was evidence of home visits carried out. This finding suggests a requirement to review the support for these individuals to reengage with services and further investigation into potential barriers to accessing treatment.

- **Recommendation 16: Consider further strengthening the assertive outreach model and risk assessment of those who do not attend appointments/engage.**

Just under a quarter (24%, n=8) of those who were in contact with the CAT did not engage because they did not want to change their current alcohol use or see their alcohol use as a problem. Keeping in mind that many of the individuals within the cohort were socially isolated and may not have family or friends to support them alcohol services have a role in to support these individuals to link with any appropriate services which will provide them with the appropriate level of support within the community.

- **Recommendation 17: Consider the development of a long term harm reduction pathway and service provision for those not motivated to abstinence.**

66% (n=37) of the cohort had previously undergone a medication assisted detox or a prescription to reduce alcohol withdrawal symptoms. A third (32%, n=18) of those were supported by the community addiction team whilst 27% (n=15) of the cohort received an addiction inpatient detox, however, very few of the cohort (13%, n=7) were prescribed relapse prevention medication and there was little evidence recorded in the casenotes of recovery orientated work or referral to an employability service.

- **Recommendation 18: Review of after-care post discharge including provision of relapse prevention medication and emphasis on recovery orientated post detox care planning with employability.**

It was identified that the assessment process fails to identify some of the key risk factors found in the profile of an alcohol related death such as social isolation which was experienced by 66% (n=37) of the cohort and other risk indicators such as familial alcohol use and age consumed alcoholic drink.

- **Recommendation 19: Assessment to include questions around social isolation, familial alcohol use and onset of alcohol drinking.**

The community addiction teams should also consider strengthening their visibility and linkage to the places where people most frequently attend.

- **Recommendation 20: Alcohol treatment services to build stronger links to services where those at risk of an alcohol related death frequently attend with regards to engagement and follow up.**

5.3.2 The Role of Pharmacy

There was very little information regarding pharmacy contact as very few were prescribed alcohol relapse prevention medications. However, the majority of the cohort had received a thiamine prescription (88%) and will have had regular contact with their local pharmacy. Some prominent papers have highlighted the need to utilise pharmacies, such as The Wilson review (2013), which recommended that the evidence for the contribution of pharmacists should be considered further within the Scotland wide strategy for tackling alcohol misuse. Furthermore the Prescription for Excellence Action Plan contains a 5 year timescale to develop an innovative national Alcohol and Substance Misuse Pharmaceutical care and public health service.

Recommendation 21: Glasgow ADP should consider the role of the pharmacy both in the prevention of problem alcohol use and in the management of treatment and care within the community.

5.4 Information, Performance & Research

5.4.1 Linking the Data in Real Time

An emerging theme during the interrogation of all the various different casenotes and recording systems used by services was that there were difficulties in sharing information for those involved in an individual's care. Often the major barrier to sharing information efficiently is IT systems related. A focus is required on how services can address the existing barriers within services and particularly between health and social care. The roll out of the NHS portal will allow the sharing of pertinent information visible to those involved in the care and treatment of an individual with an alcohol problem in a secure IT environment.

- **Recommendation 22: Review the main IT systems and the current process for how information is shared internally and externally, involving colleagues within IT and stakeholders from the relevant partnership organisations an services, ensuring that the roll out of EMIS & the NHS portal is a priority within addiction services.**

5.4.2 Exploring the Non Statutory Alcohol Services Role

57% of the cohort had been in contact with a non statutory alcohol services however from the analysis of the casenotes it was often difficult to get an overall picture of the role of the non statutory alcohol service on the treatment and care pathways of the individuals. It would be beneficial to explore this area with an alcohol related death cohort to look in more detail at the various models across the different services and the interface between statutory and non statutory services.

- **Recommendation 23: Review the interface between commissioned services and statutory organisations. Review how ongoing work taking place within voluntary organisations is acknowledged and reflected within statutory recording systems.**

5.4.3 Strengthening the Evidence on the Impact of Alcohol Related Deaths

According to MESAS, the most reliable and robust indicators of alcohol related harm are alcohol-related mortality and hospitalisation rates. The ADP should develop a routine reporting framework around alcohol related deaths for a year on year comparison to identify trends, patterns and gaps, which can assist the ADP and services in meeting the needs of those most at risk from an alcohol related death, incorporating monitoring the risk areas highlighted, with particular reference to social isolation and unemployment and deprivation.

- **Recommendation 24: Develop a routine and robust ADP reporting framework on alcohol and alcohol related harms, with a particular focus on alcohol related morbidity and mortality.**

5.5 Glasgow Alcohol Related Deaths and the National Strategy

The findings of this report did not provide any quantitative evidence toward the national strategy of Minimum Unit Pricing (MUP) or alcohol availability within communities. However, there were observations around a narrowing alcohol repertoire which was economically driven. When the financial circumstances of the cohort were at their strongest, the cohort could purchase their drink of choice, most commonly vodka (68%). However, as their finances became more restricted, often as a result of problem alcohol use, evidence from records suggests the cohort switched to cheaper alternative drinks. before, in most cases, going in to alcohol withdrawal and attending at EDS or requesting Chlordiazepoxide from the GP. MUP may address this dynamic, particularly within the prevention workstream and an evaluation of the impact of MUP on an alcohol related death cohort would be an area for further research.

- **Recommendation 25: Monitor the impact of national strategies, such as MUP on Glasgow City alcohol related death figures.**

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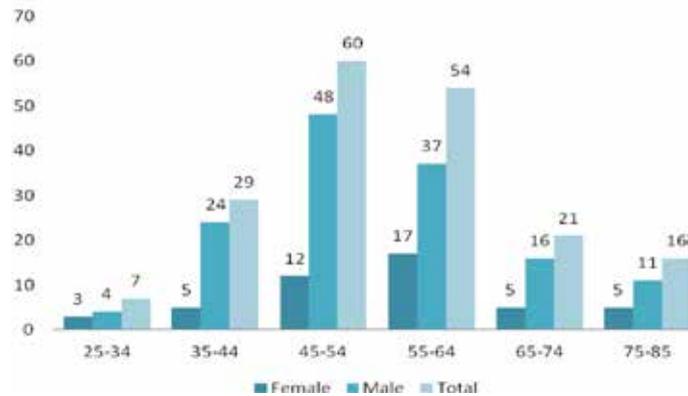
Appendix 1 – All Glasgow City Deaths 2013

Who Died of an Alcohol Related Death?

In total there were 189 Alcohol Related Deaths in Glasgow City. For the purpose of this report 2 cases were excluded due to the individuals residing outside Scotland (n=187).

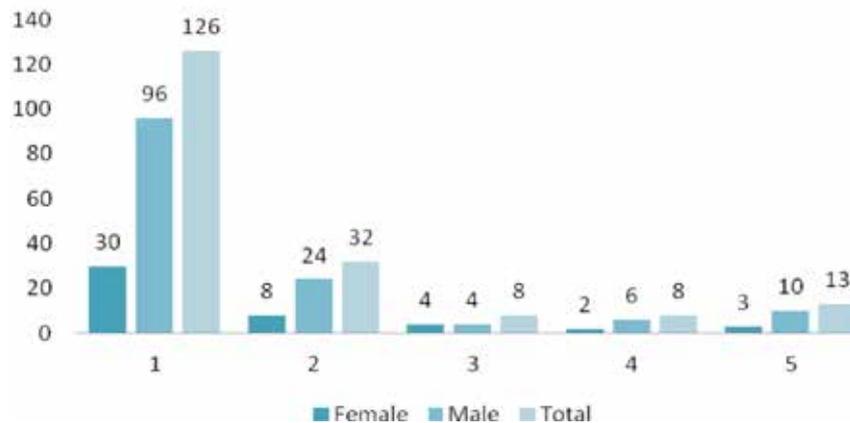
Gender and Age

Three quarters of those who died were male (75%, n=140) with 25% (n=47) female.



A quarter of the all males (25%, n=48) were aged 45 - 54 years at the time of death. The average age at death for males was 54 years. The highest number of deaths occurred in the 55-64 year age range for females with the average age for females being 56 years. Overall the average age at death was 55 years.

Deprivation Levels



(SIMD Quintiles – 1 =most deprived, 5=least deprived)

A majority of those who died (67%, n=126) lived in the most deprived areas of Glasgow (Quintile 1) in Scotland in accordance with the Scottish Index of Multiple Deprivation (SIMD)

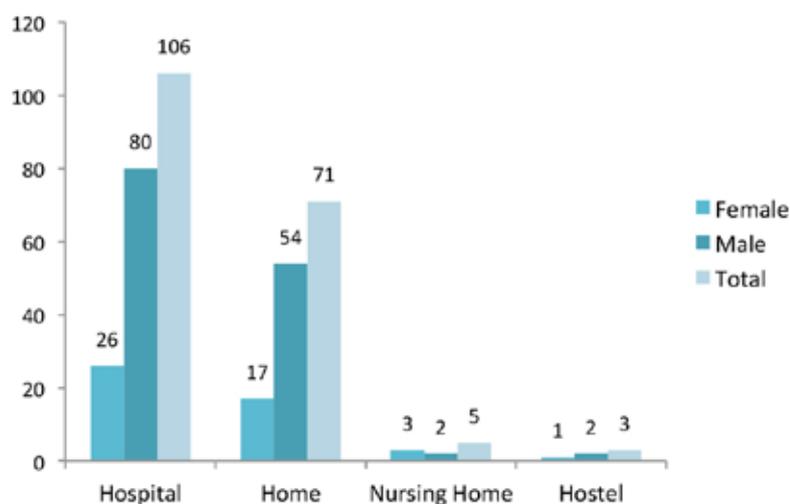
Cause of Death

The cause of death for an individual who died of an alcohol death would most likely be related to the liver which accounted for 72% (n=134) of the cause of death, with Alcoholic Liver Disease at 22% (n=42) as the most common cause listed.

Table 33 – Cause of Death by Gender

ICD 10 Code	ICD 10 Description	Female Deaths	Male Deaths	Total
Hierarchy K70				
K709	Alcoholic liver disease unspecified	7	35	42
K704	Alcoholic hepatic failure	9	24	33
K703	Alcoholic cirrhosis of liver	6	18	24
K700	Alcoholic fatty liver	6	7	13
K746	Other and unspecified cirrhosis of liver	4	9	13
K701	Alcoholic hepatitis	3	6	9
K292	Alcoholic gastritis	-	1	1
		28	100	135
Hierarchy F10				
F102	Mental & behavioural disorders due to alcohol dependence syndrome	4	13	17
F109	Mental & behavioural disorders due to use of alcohol unspecified	1	10	11
F106	Amnesiac syndrome due to use of alcohol	3	1	4
F103	Mental & behavioural disorders due to withdrawal of alcohol	-	2	2
F107	Residual and late-onset psychotic disorder due to alcohol	-	1	1
		8	27	35
Hierarchy General				
X45	Acc poisoning by/exposure to alcohol at home	4	10	14
I426	Alcoholic cardiomyopathy	-	2	2
G621	Alcoholic polyneuropathy	-	1	1
		4	13	17
Total		47	140	187

Place of Death



Over half of those who died, died in a hospital setting (57%, n=106) A further 38% (n=71) died at a home address. A further 5% (n=10) died within another location.

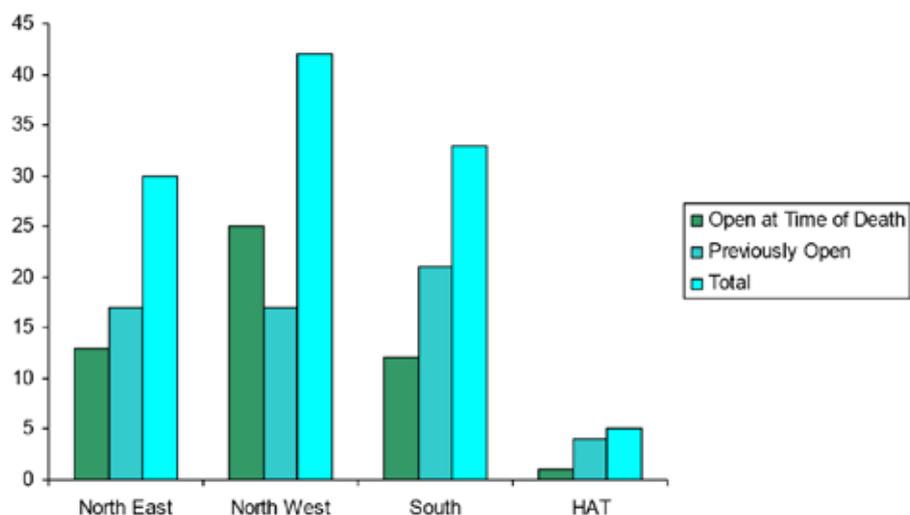
Place of Death	No	Percent
Glasgow Royal Infirmary	32	17%
Southern General Hospital	21	11%
Gartnavel General Hospital	19	10%
Victoria Infirmary	17	9%
Western Infirmary	12	6%
Hairmyres Hospital	2	1%
Royal Alexandra Hospital	2	1%
Mearns Kirk Hospital	1	1%
Total	106	56%

17% (n=32) of those who died in hospital were located within the Glasgow Royal Infirmary.

Contact with Social Work Services

Almost all (89%, n=166) of those who died had been in contact at one time or another with Social Work Services, indicated by the presence of a record on the main social work recording system, careFirst

Further to this 67% (n=111) of those known to Social Work were open to an Addiction Service either at the time of their death (31% n=51) or they had a history of being open to an Addiction Service prior to death and were subsequently closed (36%, n=60).



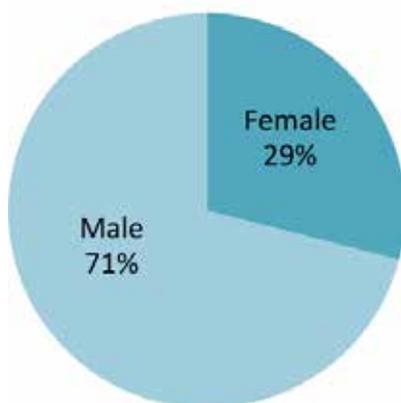
Individuals within the cohort may have been in contact with addictions services outwith the Glasgow City area and have not been included in the above figure.

Background

In 2014, there were 1,152 alcohol-related deaths; an increase of 52 (5%) compared with 1,100 in 2013, and the third lowest annual total since 1997.

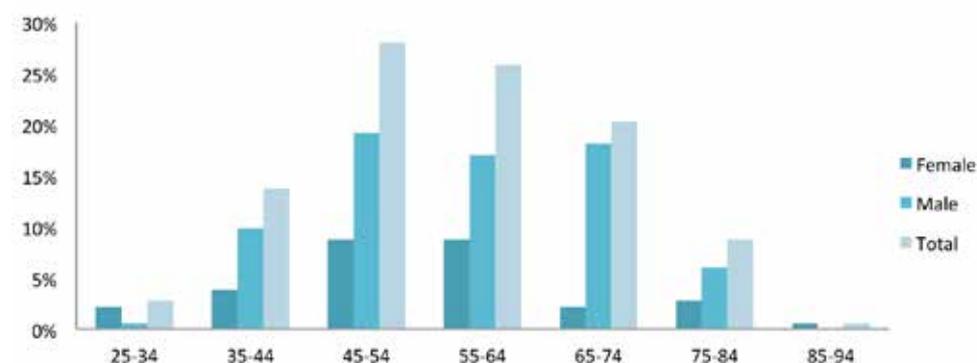
In Glasgow City there were 182 deaths in 2014. This figure is down from 189 in 2013.

Who Died of an Alcohol Related Death?



Three quarters of those who died were male (71%, n=129) with 29% (n=53) female, this is a 12.8% (n=3) increase in female deaths within the alcohol cohort and a 7.9% (n=11) decrease in male deaths.

Age by Gender

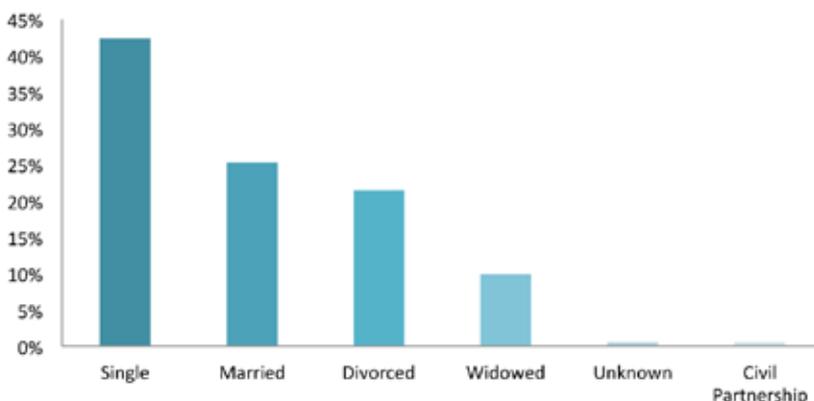


28% (n=51) of those who died in 2013 were aged 45-54 years of age.

There was a general increase within the female cohort across all age ranges, however within the male cohort there appeared to be a decrease in the number of men under 35 years of age dying in 2014, from 4 individuals in 2013 to 1 in 2014.

There was a marked decrease in the number of men under the age of 65 within the male cohort (28.8% decrease) however an increase of 106% (n=17) was found within the 65-74 age range.

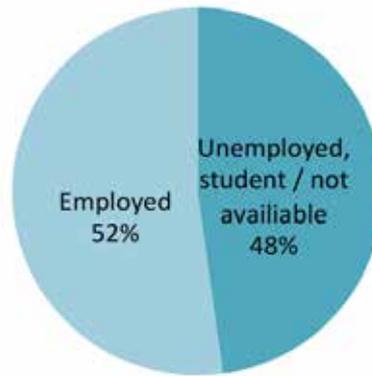
Marital Status



Under half (42%, n=77) of those who died were single, a 6.5% (n=5) increase on the previous year's figures, a further 25% (n=46) were married (a 6.1% decrease)

The remaining individuals were Divorced (21%, n=39) Widowed (10%, n=18) or in a Civil Partnership (1%, n=1) Information was unknown for one individual.

Employment Status



Just over half (52%, n=87) were recorded as being in employment when the death was registered. 48% (n=95) were not in employment (information provided by relative registering death)

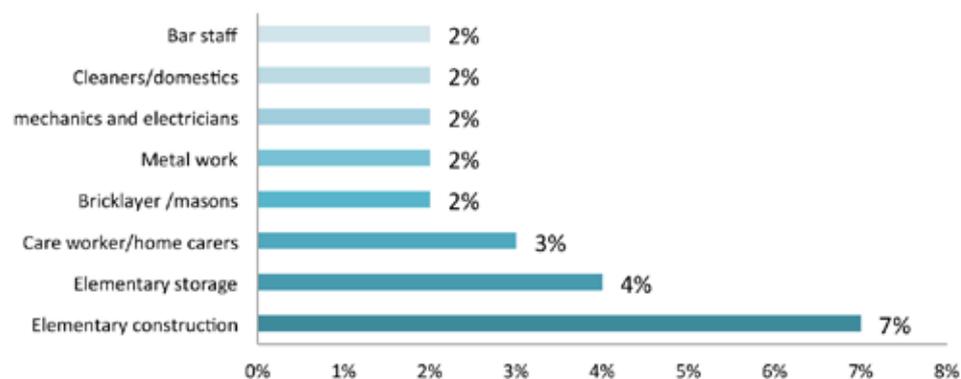
It should be noted that in more in depth analysis over 70% of a representative sample were noted to be unemployed at the time of their death (Glasgow City ADP Alcohol Related Death Scoping Exercise – Cohort Analysis 2013)

Socio Economic Group

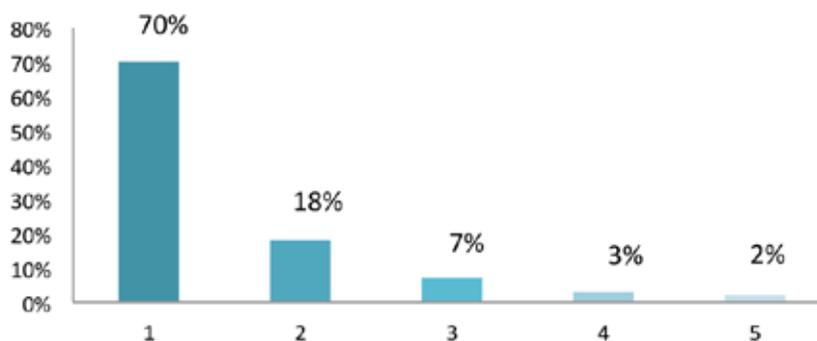


In terms of the socio economic classification a quarter of those who died (26%, n= 48) were classified as routine with a further 14% classified as semi-routine (n=25)

Occupations



7% (n=12) of those who were recorded as employed at the time of death were noted to work within the construction industry. Just under a third (29%, n=53) did not have an occupation recorded.



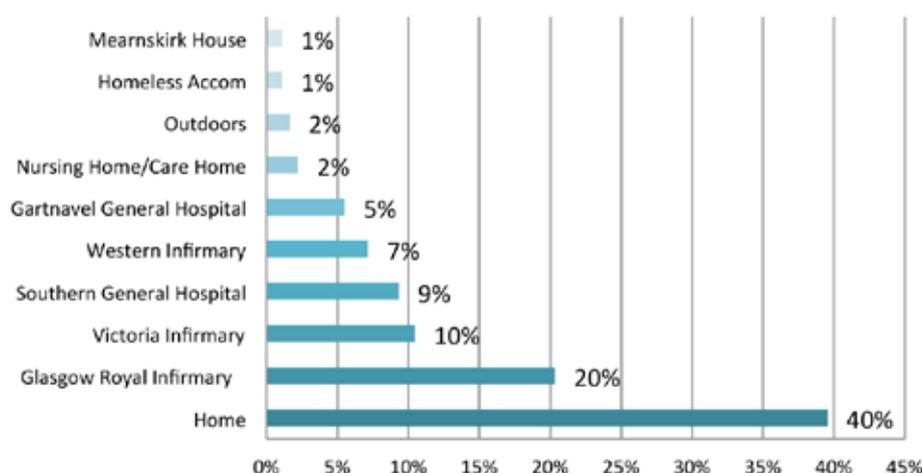
A large majority of those who died (70%, n=124) of those who died lived in the most deprived areas (Quintile 1) in Scotland in accordance to the Scottish Index of Multiple Deprivation (SIMD)

Cause of Death

The cause of death for an individual who died of an alcohol death would most likely be related to the liver which was recorded as the cause of death for 69% (n=125) of the cohort, with Alcoholic Liver Disease (24%, n=43) as the most common cause listed.

Underlying Cause of Death	No	%
Alcoholic liver disease unspecified	43	24%
Alcoholic hepatic failure	29	16%
Mental and behavioural disorders due to alcohol dependence syndrome	28	15%
Alcoholic cirrhosis of liver	22	12%
Other and unspecified cirrhosis of liver	17	9%
Mental and behavioural disorders due to use of alcohol unspecified	11	6%
Accidental poisoning by and exposure to alcohol	10	5%
Alcoholic hepatitis	9	5%
Residual and late-onset psychotic disorder due to alcohol	5	3%
Alcoholic fatty liver	5	3%
Mental and behavioural disorders due to withdrawal of alcohol	1	1%
Alcoholic cardiomyopathy	1	1%
Alcohol-induced chronic pancreatitis	1	1%
Total	182	100%

Place of Death

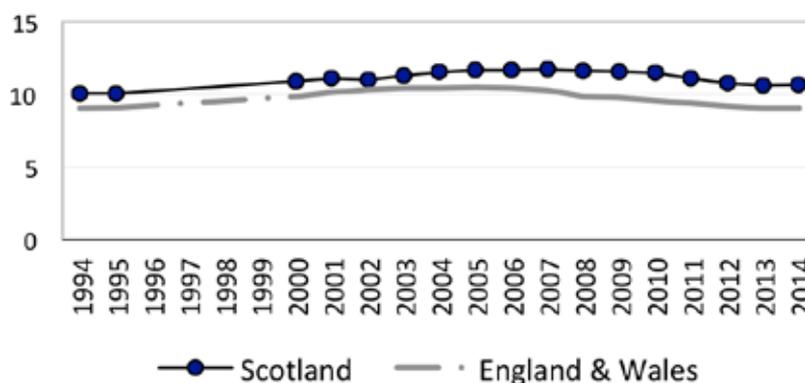


Over half of those who died, died in a hospital setting (55%, n=100) A further 40% (n=72) died at a home address.

Appendix 3 - Setting the Scene – Measuring Alcohol Related Harm

Alcohol consumption overall has been decreasing in Scotland however off trade alcohol has steadily increased, year on year since 1994 from 21,235 litres sold to 33,472 in 2013. On-trade sales however have been falling since 1994 which indicates a declining social drinking and points to the rise of people buying and consuming their alcohol at home.

Overall Alcohol Sales Comparison of Scotland and England and Wales; 1994 -2014 (Taken from MESAS alcohol sales and price update 2015)



In comparison with England and Wales, individuals in Scotland were sold 15% more alcohol per individual than in England & Wales in 2013. In 2014 Scotland drank almost a fifth more than individuals in England and Wales.

According to the Scottish Health Survey 2014 the level of consumption between the most and least deprived is almost similar, unlike other health related co morbidities such as smoking, individuals in more deprived areas are more likely to be admitted to hospital with an alcohol related condition or die and alcohol related death, this is what is referred to in an Alcohol Research UK report as the 'Alcohol Harm Paradox, however a caveat to this is that figures regarding consumption which come from a self reported survey can under represent heavy drinkers by anywhere between 10 - 50% (Ely et al, 2001) reasons for this could be a result of heavy drinkers being more likely to refuse to take part in surveys or less likely to be contacted because they change address more frequently, or are homeless (Lemmens et al., 1988).

Weekly drinking category of adults in Scotland by SIMD quintiles 2014 (age-standardised - Mesas, The Final Annual Report, 2016)

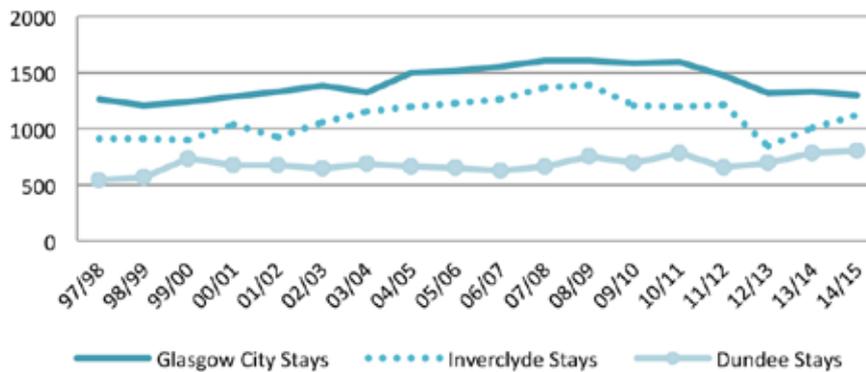
	Most deprived	2	3	4	Least deprived
Non-drinker	20	17	14	15	14
Moderate	62	64	66	65	64
Hazardous/harmful	17	19	20	20	22

*Moderate (men up to and including 21 units /women up to and including 14 units)
Hazardous/Harmful (men over 21 units/women over 14 units)

Alcohol in a Health Setting

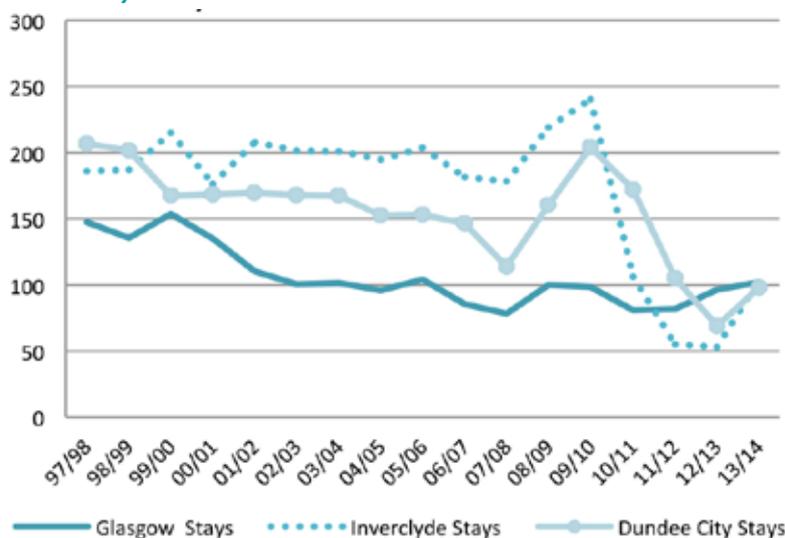
To give the overall picture of alcohol related harms in Scotland and in Glasgow City it is important to look at Alcohol related hospital discharges. The following chart indicates the trend of alcohol related discharges under ICD 10 discharge codes of Liver Disease, Mental and behavioural disorders due to the use of alcohol and Toxic Effect of Alcohol and compares the totals of these indicators with two local authority areas which are similar deprivation levels. Glasgow City has consistently made up over 60 % of all alcohol related general acute discharges since 1997.

*Alcohol-related hospital statistics
General Acute Alcohol Related Conditions*



In 2013/14, using the discharge codes listed above there were 1328 alcohol related stays per 100,000 in general acute settings, this is a 17.4% decrease from its peak of 1608 per 100,000 in 2007/08.

*Alcohol-related hospital statistics
Psychiatric Alcohol Related Conditions*



The chart above displays the overall total for four discharge codes for acute intoxication, Harmful use, Alcohol dependence, Alcohol psychosis used within the psychiatric setting across the health board and its constituent local authorities. The trend as decreased overall however the above chart indicates a rise in psychiatric related admissions under these categories with Glasgow City discharges slightly increasing from 579 discharges in 2012/13 to 596 discharges in 2013/14 equating to a 2.9% (n=17) increase which equates to 102 psychiatric stays per 100,000 of the population.

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