



**Alcohol-related harm in
Glasgow: a national, city
and neighbourhood
perspective**

KEY FINDINGS

Glasgow's health is influenced by local factors as well as those operating at a national and an international level. The improvement in Scotland's health has not kept pace with that of its western European neighbours, especially for all-cause mortality in the young working-age population and alcohol-related mortality.

Glasgow's poor health is compounded by the high levels of deprivation in the city. Since the 1980s, alcohol-related deaths in the most deprived areas have risen more than those in the least deprived areas, such that the gap between the two has widened.

Analysis of different birth cohorts (those born around the same time) has identified a worrying disproportionate increase in alcohol-related deaths in young working-age females in Glasgow and other UK cities.

Significant differences are seen in alcohol-related mortality across the 21 wards^a in Glasgow. Where considerable decreases in alcohol-related deaths have occurred within neighbourhoods these appear to be driven by population migration rather than a change in the static population.

NATIONAL PERSPECTIVE

Findings relevant to the national context include:

Health

Overall, Scotland's health is improving more slowly than comparable countries. Significant reductions in all-cause mortality rates in Scotland have occurred over the last 50 years. However, these improvements have not kept pace with health improvements in other western European countries – death rates in Scotland remain comparatively high.

Scotland's young working-age population

Concerning trends can be observed in the working-age population, especially the *young* working-age population (aged 15-44). For this group, the improvement in the all-cause mortality rate has halted, and at some points during the 1990s and 2000s the rate of all-cause mortality increased.

Alcohol mortality

The number of deaths caused by chronic liver disease and the percentage of the population dying from chronic liver disease in Scotland have both increased over the last five decades.

CITY PERSPECTIVE

Issues related to alcohol-related harm in Glasgow include:

High rates of alcohol-associated harm

In the 1980s, alcohol-related deaths in Glasgow were two to three times higher than in other large Scottish cities and other post-industrial UK cities.

Early 1990s

Alcohol-related deaths increased more sharply in Glasgow in the early 1990s than the other cities included in the analysis.

Modest falls

Since the 2000s alcohol-related death rates have decreased moderately across the UK; this decrease was also seen in Glasgow although not in the most recent years.

Women born in the 1970s

Analysis of young working-age women in Glasgow (by birth cohort) has identified a worrying trend; the alcohol-related death rate for women born in the 1970s has increased disproportionately compared with men. This is likely to be a separate phenomenon to the increase in alcohol-related deaths in the early 1990s.

Increasing inequalities

The gap between the alcohol-related death rates of the most and least deprived areas of Glasgow has increased since 1981. The alcohol-related death rate in the most deprived areas is currently five times that found in the least deprived areas; in 1981 the difference was twofold.

SMALL AREA PERSPECTIVE

Issues related to alcohol-related harm within Glasgow's neighborhoods include:

Substantial local inequality

There is substantial variation in the alcohol-related death rate across the 21 wards in Glasgow, providing evidence of enduring inequalities in alcohol-related harm across the city.

Effects of deprivation

Wards characterised by higher levels of deprivation have higher levels of alcohol-related deaths than less deprived wards. However, within this pattern, some wards have a higher alcohol-related death rate than would be predicted from their level of deprivation alone (e.g. Anderson/City and Calton).

Gender differences

In the majority of wards the trends in alcohol-related death rates are similar for men and women. However, in five wards (Calton; Maryhill and Kelvin; Partick West; Shettleston; and Southside Central) trends in alcohol-related deaths for men are falling but for women are increasing, suggesting different local influences on hazardous alcohol-related behaviour for men and women.

IMPLICATIONS FOR POLICY AND PRACTICE

A group of professionals working in public health, policy, practice and research came together to discuss the implications of the findings in this briefing paper for policy and practice, focusing particularly on local implications for Glasgow.

Discussions focused on:

- How can these research findings be used?
- What else does this relate to and what are the connections?
- How does this report move us forward?
- What are the implications for current and future policy?

A summary of these discussions can be found in Appendix 1 which accompanies this Briefing Paper online.

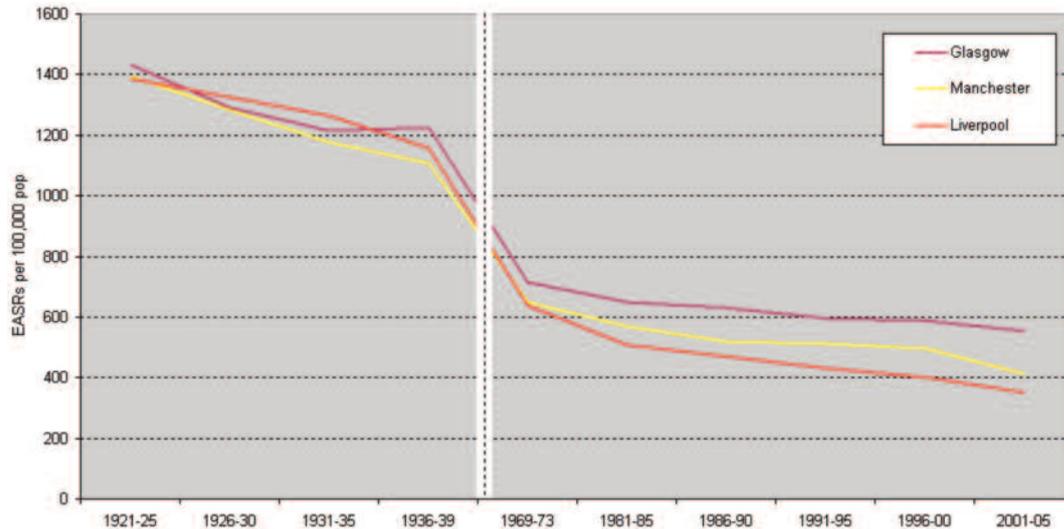
INTRODUCTION

This Briefing Paper summarises and discusses further the findings from a recent publication on alcohol-related mortality in deprived UK cities¹.

Scotland has poor health relative to other western European countries². This is a relatively new phenomenon: around the 1950s improvements in the health of comparable European countries outpaced those seen in Scotland³. The poor relative health in Scotland can in part be explained by the significant levels of deprivation experienced in the country, but there is also a portion of the poor health that remains unexplained even after accounting for deprivation. This excess poor health is more evident in Glasgow⁴. Comparisons between Glasgow, Manchester and Liverpool – cities with similar levels of poverty and histories of industrialisation and deindustrialisation – demonstrate that overall health in Glasgow began to deviate from these comparable UK cities towards the end of the 20th century (Figure 1)⁵.

Figure 1: Deaths <65, males: European age-standardised mortality rates (EASRs) per 100,000 population, 1921/25 – 2001/05, Glasgow, Liverpool and Manchester.

Source: calculated from SASI Research Group and Population Data, 1921-2005



[Taken from Investigating a “Glasgow Effect”: Why do equally deprived UK cities experience different health outcomes?⁵]

Initially excess mortality in Scotland was largely caused by deaths from chronic conditions such as cardiovascular and ischemic heart disease but by the 1990s the excess deaths were largely caused by deaths from alcohol, drugs and suicide⁶.

From at least the early 1990s, alcohol consumption has been higher in Scotland than in England and Wales (as measured by sales data, which was not available before that time); with the population in Scotland consuming considerably more spirits than in England and Wales. Increased affordability of alcohol since the mid 1990s⁷ together with a liberalisation of licensing hours, which led to greater accessibility of alcohol, has been accompanied by an increase in alcohol consumption (as measured by alcohol sales) in Scotland and in England and Wales. This increase in consumption was largely driven by wine – the increase in wine consumption in Scotland was similar to that in England and Wales. Since the mid-2000s alcohol consumption has been falling both in Scotland and in England and Wales⁷, possibly related to the recent economic downturn⁸.

AIMS AND PURPOSES

Given the central role played by alcohol as a driver of Glasgow's relatively poor health, the aim of this Briefing Paper is to place alcohol-related deaths in Glasgow in an international, city-level and local context. This Briefing Paper draws together work from several projects to provide a picture of the alcohol-related excess deaths in Glasgow relative to:

- Other European countries
- Other Scottish cities
- Other post-industrial cities.

Patterns of alcohol deaths across Glasgow's wards are also explored.

APPROACH AND METHODS

Scottish population (1981-2011) and death (1979-2011) data were obtained from the National Records of Scotland (formerly General Register Office for Scotland). Population and death data for Liverpool and Manchester were obtained from the Office for National Statistics (ONS). Population and mortality data for the European country-level analyses (1950-2010) were taken from the WHOSIS database (now incorporated within WHO's Global Health Observatory)⁹.

Current local authority boundaries were used to define cities. Birth cohort analysis explored differences across populations using birth year to define the cohort. Seven cohorts were examined: 1910-19; 1920-29; 1930-39; 1940-49; 1950-59; 1960-69; 1970-79.

Alcohol-related deaths were defined using the standard ONS definition^b. These conditions include only those that are wholly attributable or considered wholly attributable to alcohol. This definition is likely an underestimate of the total deaths caused by alcohol¹⁰.

The Scottish Index of Multiple Deprivation (version 2012) was used to define area deprivation from 2001 to 2012, and the Carstairs Index of Deprivation before 2001. Deprivation quintiles were based on the distribution in Glasgow rather than the distribution in Scotland. Postcode of residence (either permanent or temporary, such as a hostel) was used to determine the deprivation category.

Unless otherwise stated, all mortality rates were standardised to the European Standard Population. Single year data were used to generate the country and city-level death rates. In sub-city analyses five years of death data were used to generate mortality rates because of small numbers in some cells – five-year rolling averages are presented. Analysis was performed using SPSS (version 18).

^b (International Classification of Diseases (ICD)-10 codes: F10 (mental and behavioural disorders due to use of alcohol), G31.2 (degeneration of nervous system due to alcohol), G62.1 (alcoholic polyneuropathy), I42.6 (alcoholic cardiomyopathy), K29.2 (alcoholic gastritis), K70 (alcoholic liver disease), K73 (chronic hepatitis, not elsewhere classified), K74 excluding K74.3–K74.5 (fibrosis and cirrhosis of liver, excluding biliary cirrhosis), K86.0 (alcohol-induced chronic pancreatitis), X45 (accidental poisoning by and exposure to alcohol), X65 (intentional self-poisoning by and exposure to alcohol) and Y15 (poisoning by and exposure to alcohol, undetermined intent). ICD-9 codes: Alcohol-related deaths are defined using the ICD-9 codes: 291 (alcoholic psychoses), 303 (alcohol dependence syndrome), 305.0 (non-dependent abuse of alcohol), 425.5 (alcoholic cardiomyopathy), 571.0 (alcoholic fatty liver), 571.1 (acute alcoholic hepatitis), 571.2 (alcoholic cirrhosis of liver), 571.3 (alcoholic liver damage, unspecified), 571.4 (chronic hepatitis), 571.5 (cirrhosis of liver without mention of alcohol), 571.8 (other chronic non-alcoholic liver disease), 571.9 (unspecified chronic liver disease without mention of alcohol) and E860 (accidental poisoning by alcohol).

FINDINGS AND CONCLUSIONS

National comparisons

Scotland has seen a significant decrease in all-cause mortality rates over the last 60 years; however, these reductions have not kept pace with the health improvements in other western European countries. This is most striking in the young working-age population (15-44 year olds) – from the 1950s onwards all-cause mortality rates significantly reduced in this age group but the decline stalled from 1984 onwards. There has been no net reduction in the all-cause mortality rate of the young working-age population since that time for either men or women (Figures 2-3) – in fact, in men the mortality rate rose 19% between 1991 and 2000.

Figure 2: Scotland: all-cause mortality, age standardised rates among men aged 15-44 years.

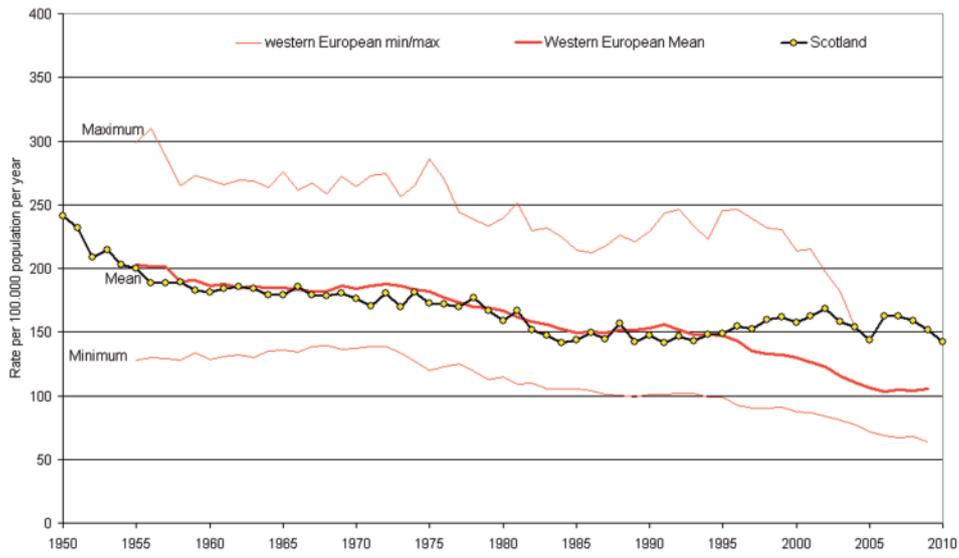
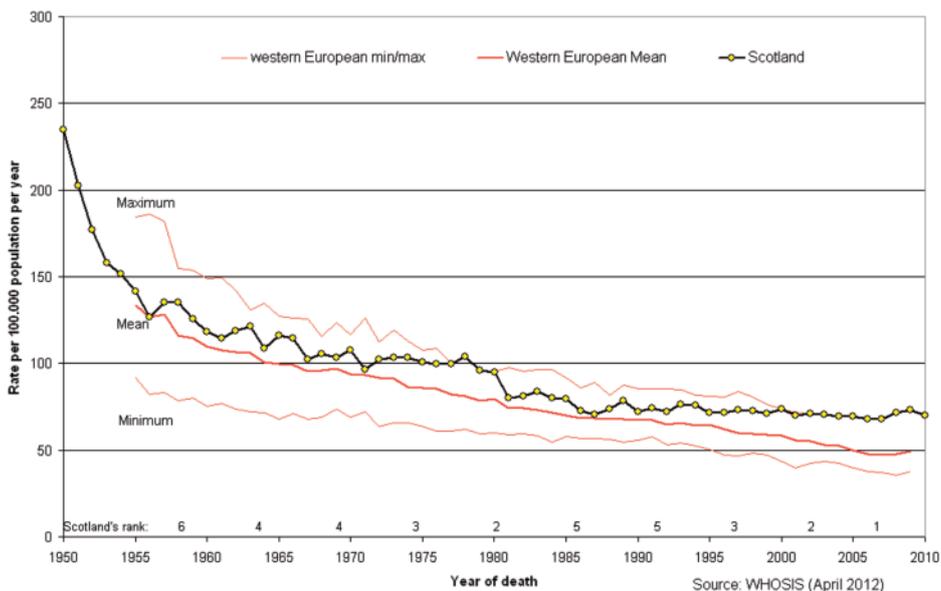
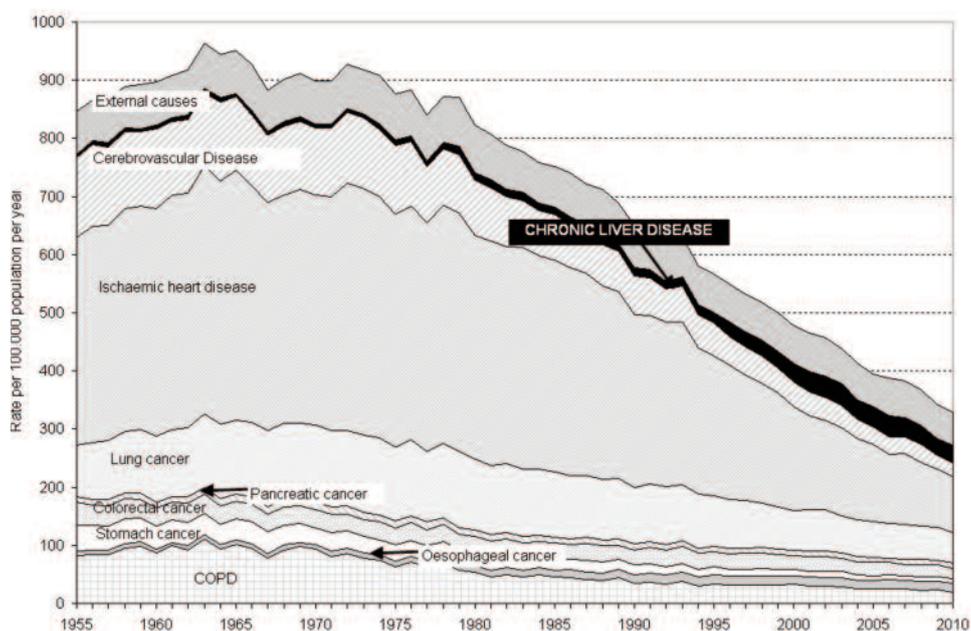


Figure 3: Scotland: all-cause mortality, age standardised rates among women aged 15-44 years



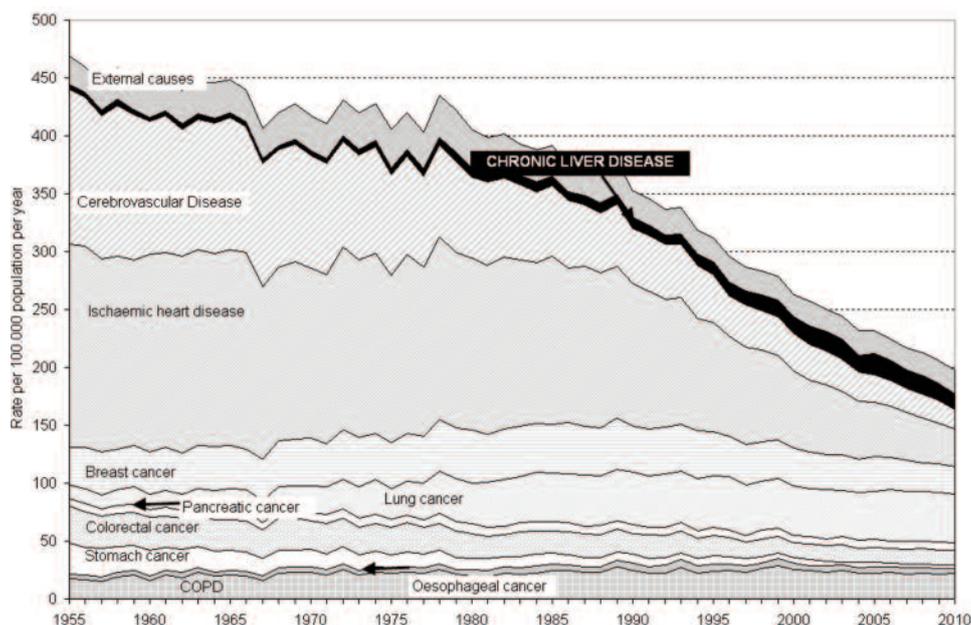
Against an overall picture of reductions in mortality among Scottish men and women of working age, the number and proportion of deaths caused by chronic liver disease have increased over the last five decades. In 1955 chronic liver disease accounted for 1% of adult deaths (15-74 years) but by 2010 this figure had risen to 9% for men and 7% for women (Figures 4-5).

Figure 4: Age standardised mortality rates for major causes of death among Scottish men aged 15-74 years, 1955-2010.



Source: WHOSIS (April 2012). For more information on national comparisons see Whyte and Ajetunmobi (2012)².

Figure 5: Age standardised mortality rates for major causes of death among Scottish women aged 15-74 years, 1955-2010.



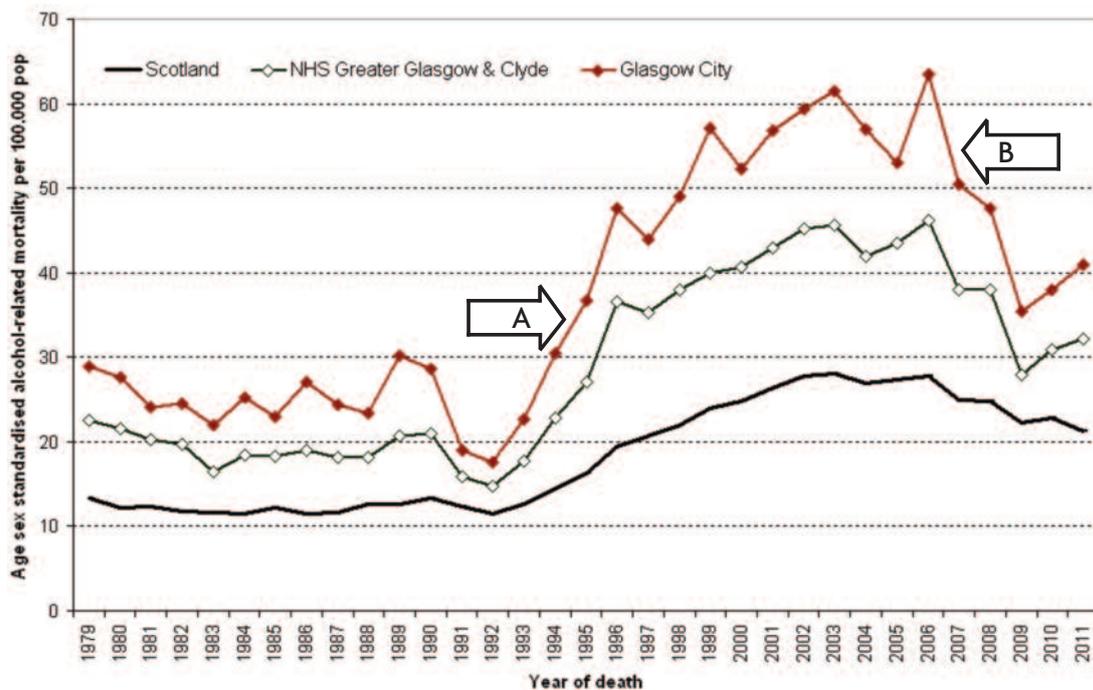
Source: WHOSIS (April 2012). For more information on national comparisons see Whyte and Ajetunmobi (2012)².

City comparisons

In 2011, the rate of alcohol-related deaths in Glasgow was approximately twice that in Scotland as a whole (Figure 6). Two distinct changes in death rates had taken place in Glasgow over the three previous decades:

- A steep rise in alcohol-related deaths in the early 1990s (labelled as arrow 'A' in Figure 6).
- A more modest, but significant, fall in alcohol-related deaths in the late-2000s (labelled as arrow 'B' in Figure 6).

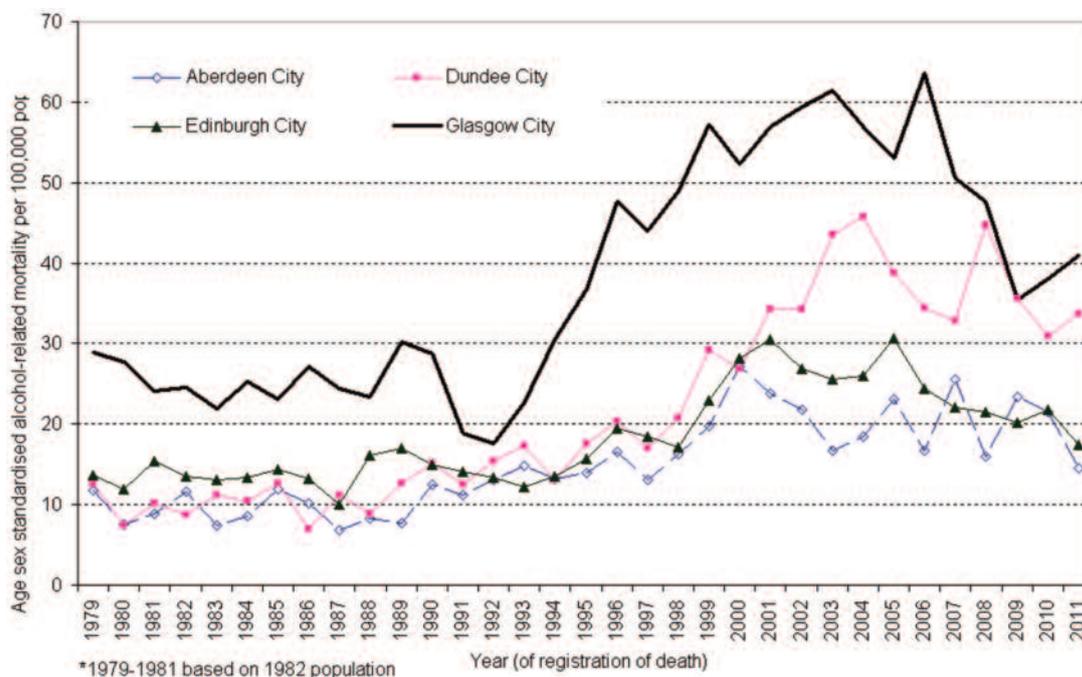
Figure 6: Alcohol-related mortality, 1979 to 2011 (16+ years, age and sex standardised).



Although the patterns of alcohol-related death rates across the Scottish cities examined are different (Figure 7), all cities experienced notable rises in alcohol-related deaths in the 1990s, with the rise in Glasgow preceding that in the other cities.

From the mid-2000s, alcohol-related deaths fell moderately in all Scottish cities, although in Glasgow and Dundee the rates have begun to rise again.

Figure 7: Alcohol-related mortality, by selected Scottish city, 1979-2011 (16+ years, age and sex standardised).

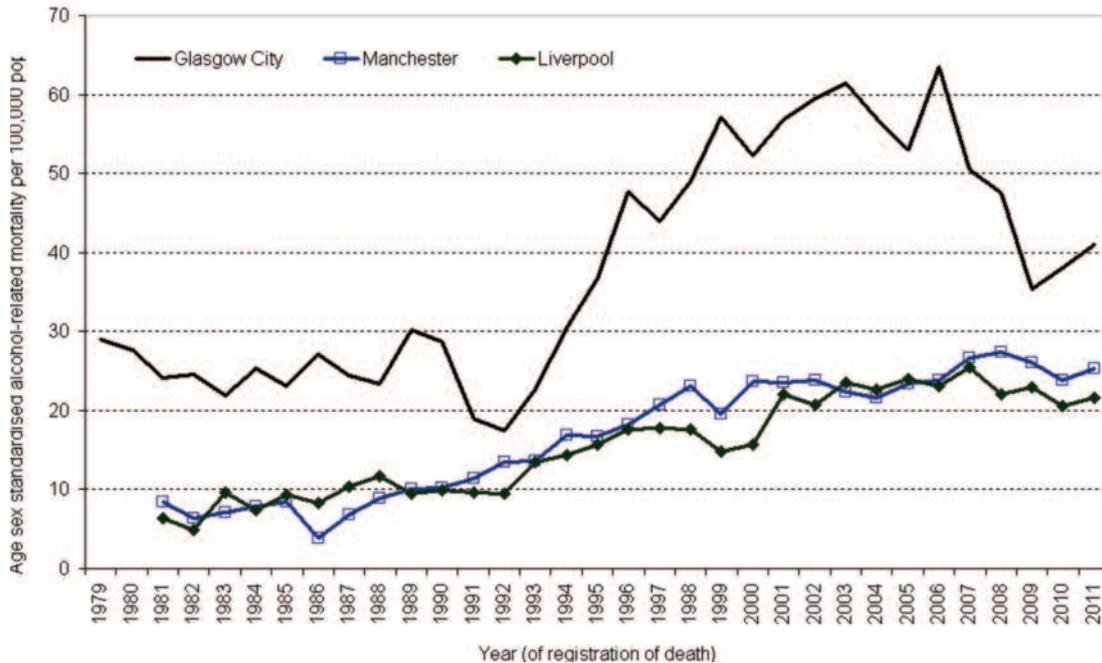


UK comparisons

Liverpool and Manchester are useful cities to compare with Glasgow due to the similar levels of deprivation, and the post-industrial decline seen in all three cities. Although over the last three decades alcohol-related deaths also increased in Liverpool and Manchester, the trends in Glasgow were different (Figure 8). In Manchester and Liverpool alcohol-related deaths increased more linearly over the time period, with no obvious early 1990s rise. Despite the distinct Glasgow trend, the relative increases across the three cities were of a similar magnitude: between 1981 and the peak in the mid-2000s there was a two- to fourfold increase in alcohol-related deaths in all three cities.

The UK-wide reductions in alcohol-related deaths in the mid- to late-2000s were also seen in Liverpool and Manchester. In all three cities alcohol deaths have increased in the most recent years.

Figure 8: Alcohol-related mortality in Glasgow, Liverpool and Manchester, 1979-2011 (16+ years, age and sex standardised).



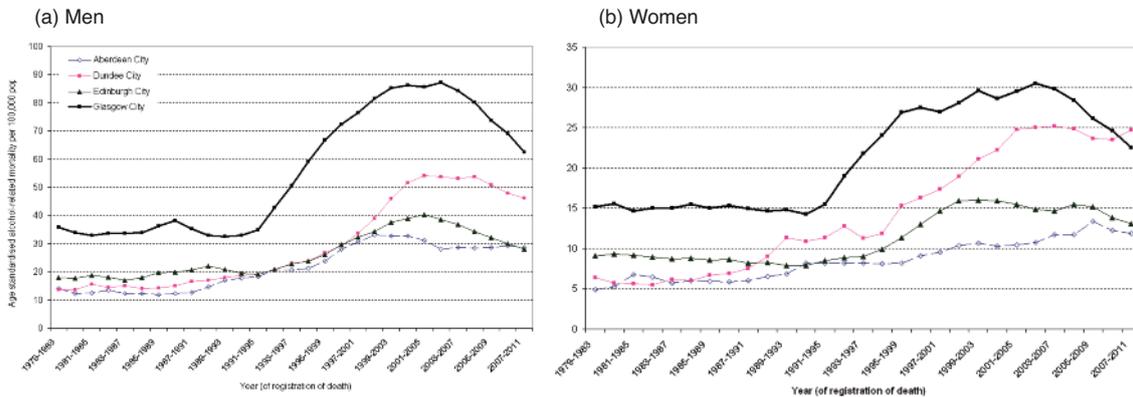
GENDER INFLUENCES ON ALCOHOL-RELATED MORTALITY

Across all the Scottish cities examined in this analysis, alcohol-related deaths in men were significantly higher than in women (approximately twice as high) throughout the 1980s, 1990s and 2000s (Figure 9, note the different scales for men and women). Alcohol-related deaths rose significantly for both men and women during the 1990s and early 2000s; but there were city-specific differences between men and women in the patterns observed, suggesting different gender-related influences on alcohol-related deaths by city:

- In Dundee, death rates in females began to increase approximately five years before they did in the other Scottish cities, and the recent fall in deaths observed in other cities has not occurred among females in Dundee. Alcohol-related death rates for Dundee women are now at a similar level to those for women in Glasgow.
- In Aberdeen, the alcohol-related death rate began to fall in men while it was still rising in women.

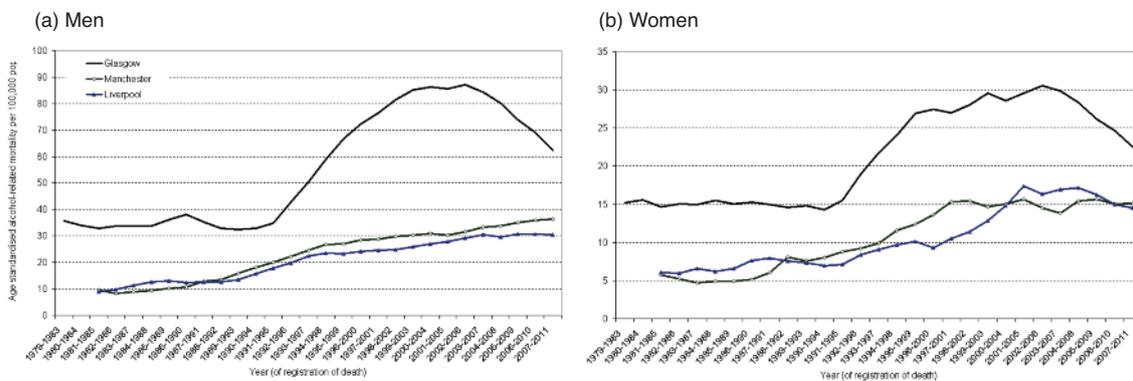
Figure 9: Alcohol-related mortality in Scottish cities for men and women, 1979-2011 (16+ years, age standardised five-year rolling averages).

NOTE: Figures 9 and 10 show men and women on different scales to allow the trends across the sexes to be compared.



In Manchester and Liverpool, alcohol-related deaths rose more steadily for both men and women over the three decades (Figure 10).

Figure 10: Alcohol-related mortality in Glasgow, Liverpool and Manchester for men and women, 1981-2011 (16+ years, age standardised five-year rolling averages).

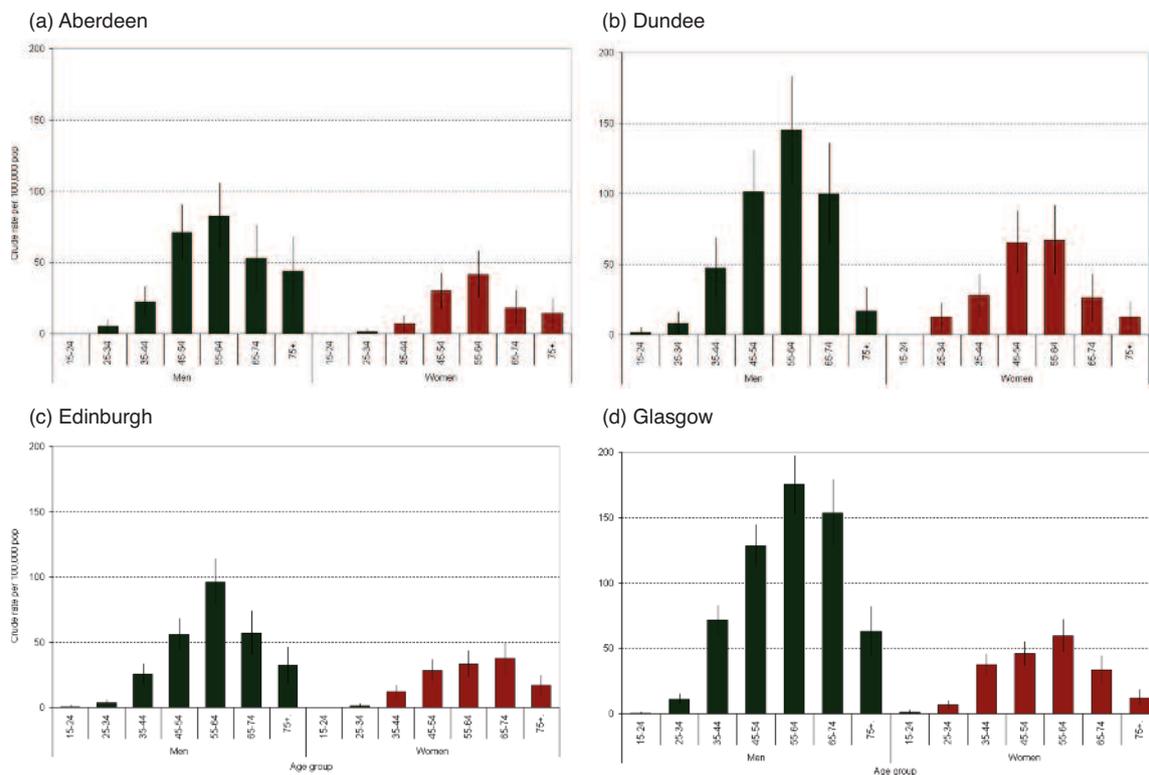


1979-1981 rates based on 1981 population data.

ALCOHOL-RELATED MORTALITY PATTERNS BY AGE

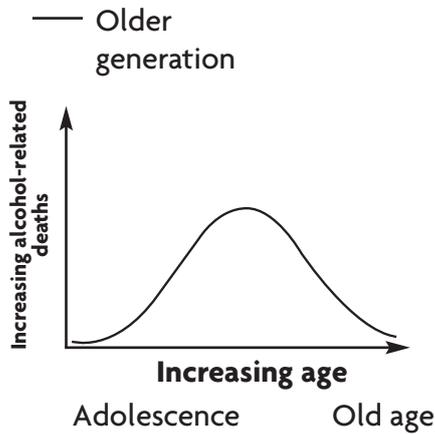
The age patterning of alcohol-related deaths is consistent across the Scottish cities examined (Figure 11) – the alcohol-related death rate is highest in those in their 40s and 50s, and lower in the older population. Although this could reflect reduced alcohol consumption and harm with age, the rapid rise in alcohol consumption over recent decades means that those now in their 30s and 40s have a very different drinking profile and history to those now in their 50s and 60s. This may significantly alter the future age profile of alcohol-related deaths. Cohort analysis, shown in Figure 12, begins to separate out the influences of cohort and age on trends in alcohol-related deaths.

Figure 11: Alcohol-related deaths by Scottish city, 2007-2011 (16+ years, five-year average, crude rates).



Box 1. Explanation of cohort analysis graphs.

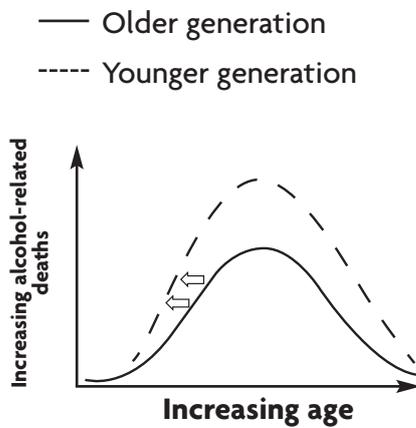
Figure a: Alcohol-related deaths from adolescence to old age for one cohort.



This figure shows the alcohol-related death rate that you might expect if you had followed a generation for 70 years through time – based on the age profiles shown in Figure 10.

We can do this for different generations of individuals.

Figure b: Alcohol-related deaths from adolescence to old age for two cohorts.

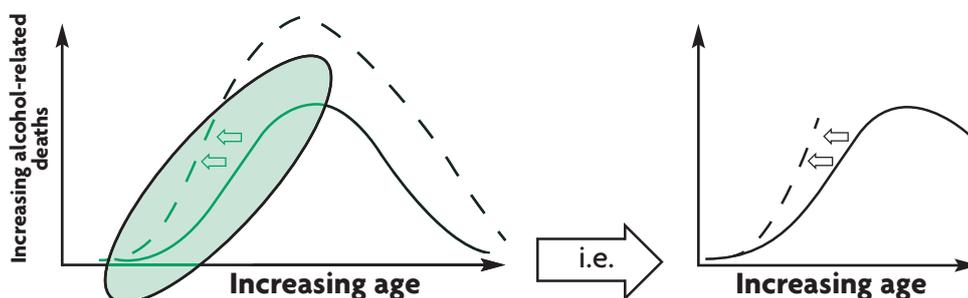


This figure shows what you would see if the alcohol-related mortality in a younger generation is a greater problem than in the previous generation.

In this hypothetical example the alcohol-related deaths begin to increase in the younger generation earlier than in the older generation, i.e. the younger generation are younger when they begin to suffer alcohol-related deaths. The result is significantly more alcohol-related deaths across the lifetime of this cohort.

Figure c: Alcohol-related deaths over a shorter period of time for two cohorts.

If we want to look at the alcohol-related death rate over the first 40 years of a generation, we would only have data for the green shaded area. We do not know, of course, what form the curve will take after this point in time.

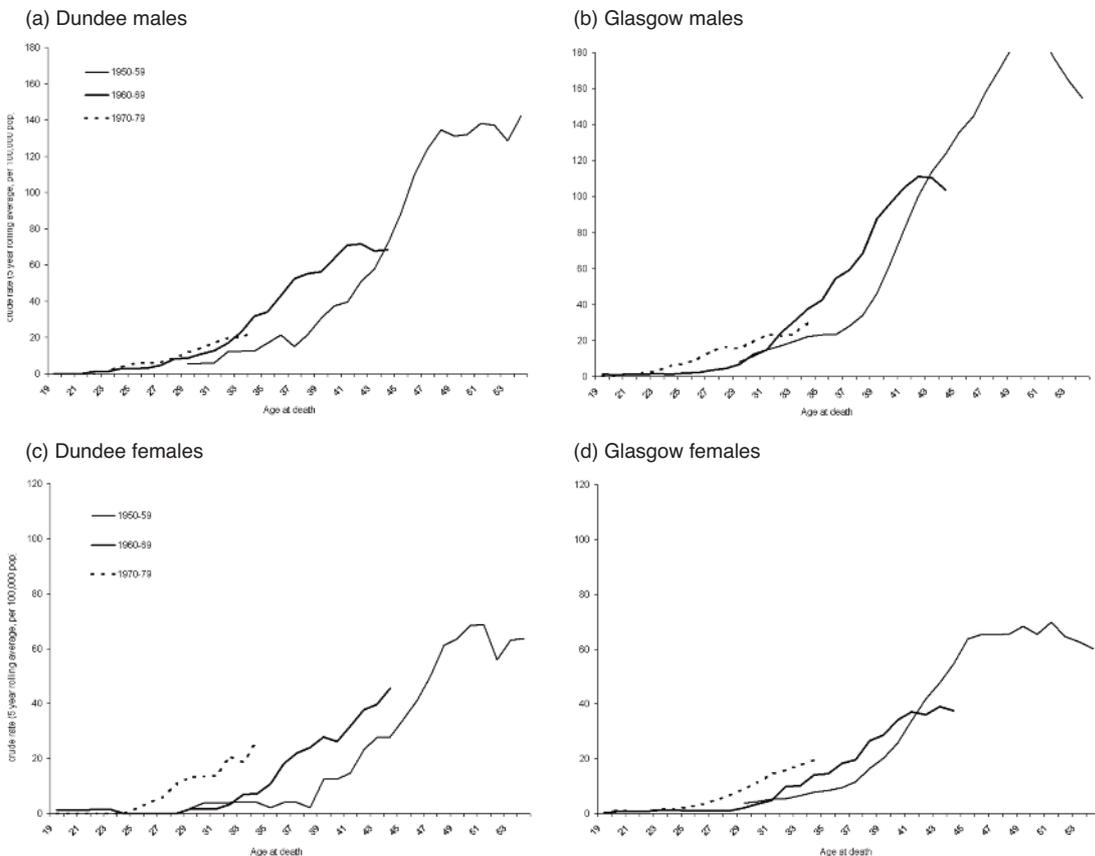


COHORT INFLUENCES ON ALCOHOL-RELATED MORTALITY

The following graphs examine groups of individuals who are born around the same time (birth cohorts).

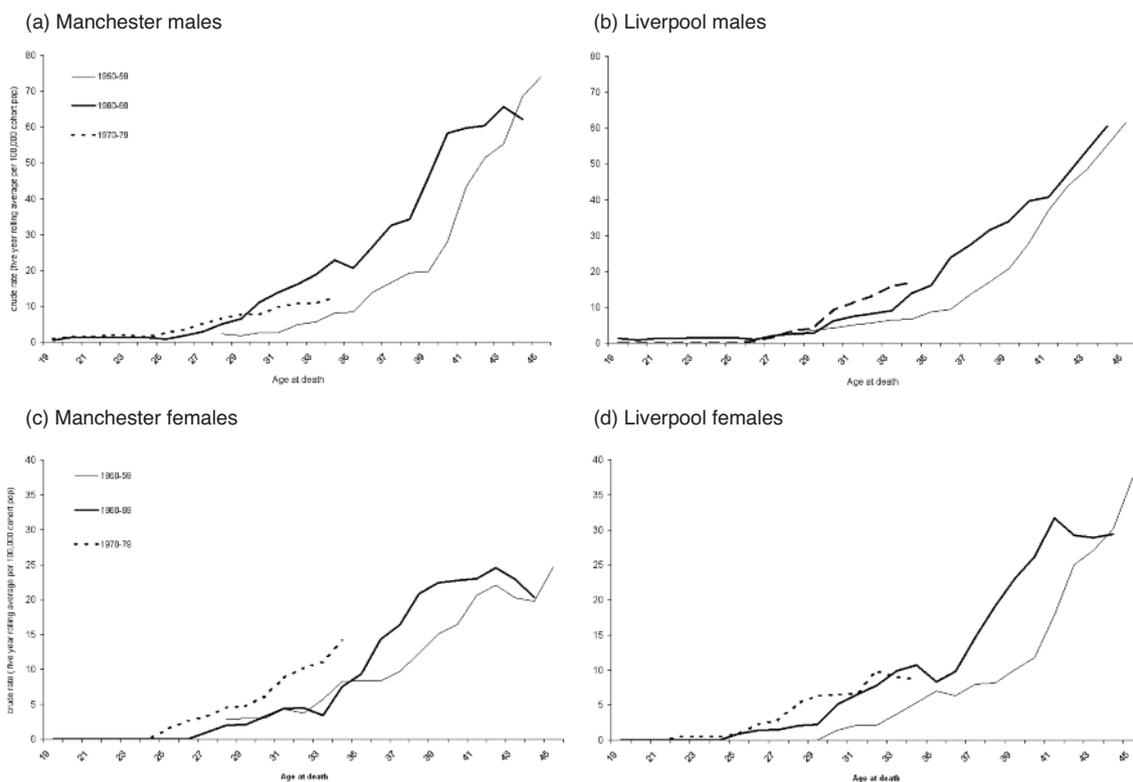
Looking at the different generations in Glasgow and Dundee by birth cohort, a worrying trend in alcohol-related deaths in young working-age women is evident. Figure 12 shows the alcohol-related deaths for those born in the 1970s (who would now be 30-40 years old) compared with those born in previous decades. For men, the alcohol-related deaths in the 1970s cohort broadly follow the pattern of the previous generation – for example, the alcohol-related death rate for men in Glasgow in their early 30s was similar across all three cohorts. However, this was not the case for women from Glasgow and Dundee, where alcohol-related deaths began to occur in significant numbers in this youngest cohort at earlier ages and show no sign of following a similar trajectory to the previous cohorts. For example, at 32 years of age the alcohol-related death rate in Glasgow females from the 1970 cohort was 16 per 100,000, compared with 10 per 100,000 for the 1960s birth cohort and five per 100,000 for the 1950s birth cohort.

Figure 12: Alcohol-related deaths by selected Scottish cities by sex and birth cohort, 1981-2011 (16+ years, crude rate).



Cohort analysis undertaken for Manchester and Liverpool suggests that this is not a Scottish phenomenon but is also seen in at least some other post-industrial cities in the UK (Figure 13).

Figure 13: Alcohol-related deaths: two English post-industrial cities by sex and birth cohort, 1981-2011, (16+ years, crude rate).

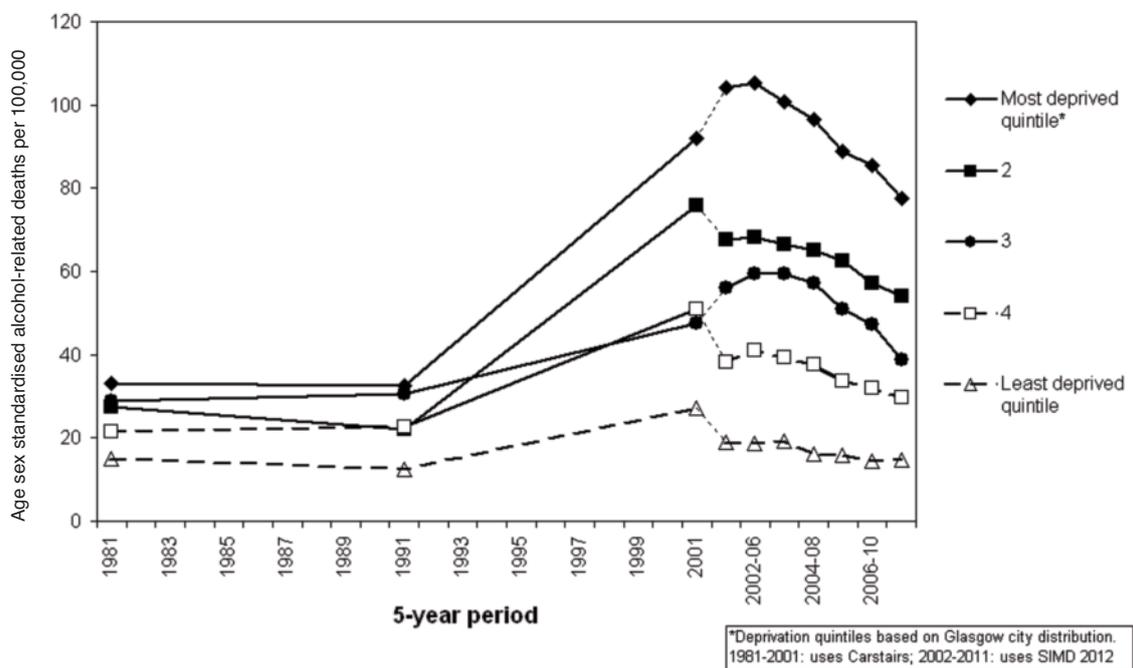


DEPRIVATION INFLUENCES ON ALCOHOL-RELATED MORTALITY

The increase in alcohol-related deaths in the early 1990s in Glasgow was seen in all types of area, but the increases were largest in the most deprived areas. Between 1981 and 2001 alcohol-related deaths increased by 177% in the most deprived quintile (rising from 33 to 92 deaths per 100,000) compared with an 81% increase in the least deprived quintile (rising from 15 to 27 deaths per 100,000).

The downward trend in alcohol-related deaths in Glasgow from the mid-2000s was similar across all deprivation quintiles: although the absolute decrease was larger in the most deprived areas, in relative terms the decreases were comparable across deprivation quintiles. In the most deprived quintile, alcohol-related deaths fell by 27% (from 105 to 77 deaths per 100,000) and in the least deprived quintile they fell by 22% (from 19 to 15 deaths per 100,000) in the same period. Similarly, in Scotland although the absolute reduction in alcohol-related death rates between 2001 and 2011 was greater for the most deprived areas, the relative reductions were similar across the deprivation quintiles (data not shown).

Figure 14: Alcohol-related deaths in Glasgow by deprivation, 1981-86 to 2007-11 (16+ years, five-year rolling averages, age and sex standardised).



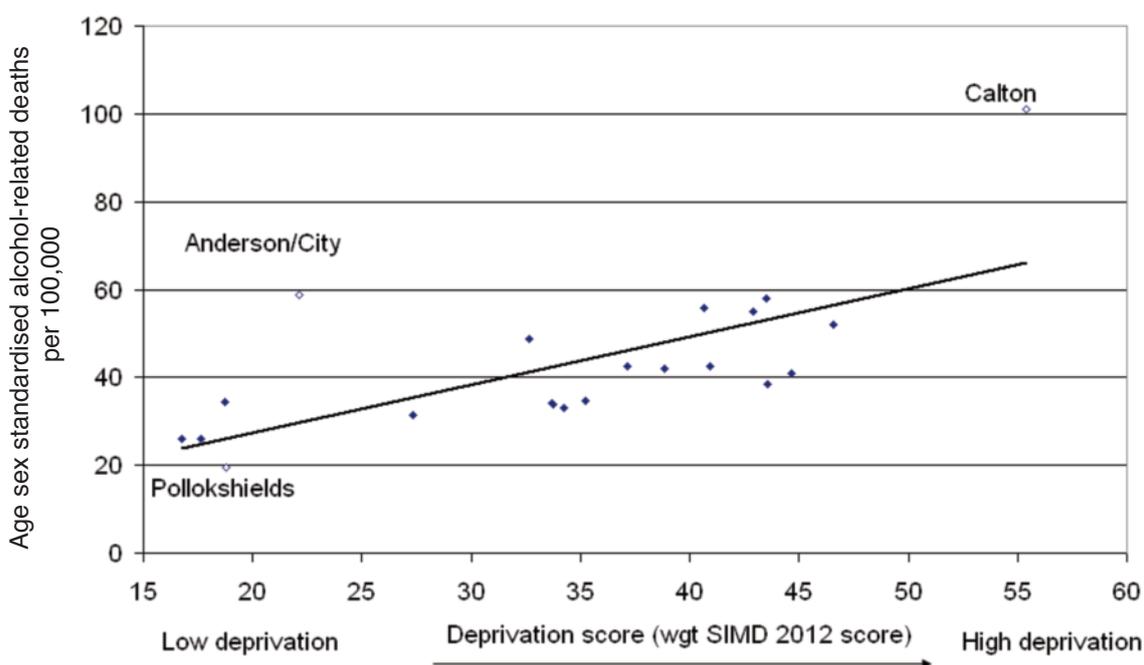
SMALL AREA COMPARISONS

For the comparisons between smaller areas within Glasgow, the multi-member wards introduced for the 2007 council elections were used. There are 21 wards in Glasgow with populations of between 20,000 and 30,000 residents. Ward-level data are only available from 1996.

Across Glasgow's electoral wards there were large differences in alcohol-related death rates; in 2007/11 the highest alcohol-related death rate in the city was 101 deaths per 100,000^c (in Calton) compared with the lowest of 19 per 100,000^c (in Pollokshields) (Figure 15).

The more deprived wards generally had higher levels of alcohol-related deaths among their residents. There were a few wards, such as Anderson/City and Calton, where the alcohol-related death rate was higher than would be predicted from deprivation alone. Further exploration of the demographic context in these two wards can be found later in this report.

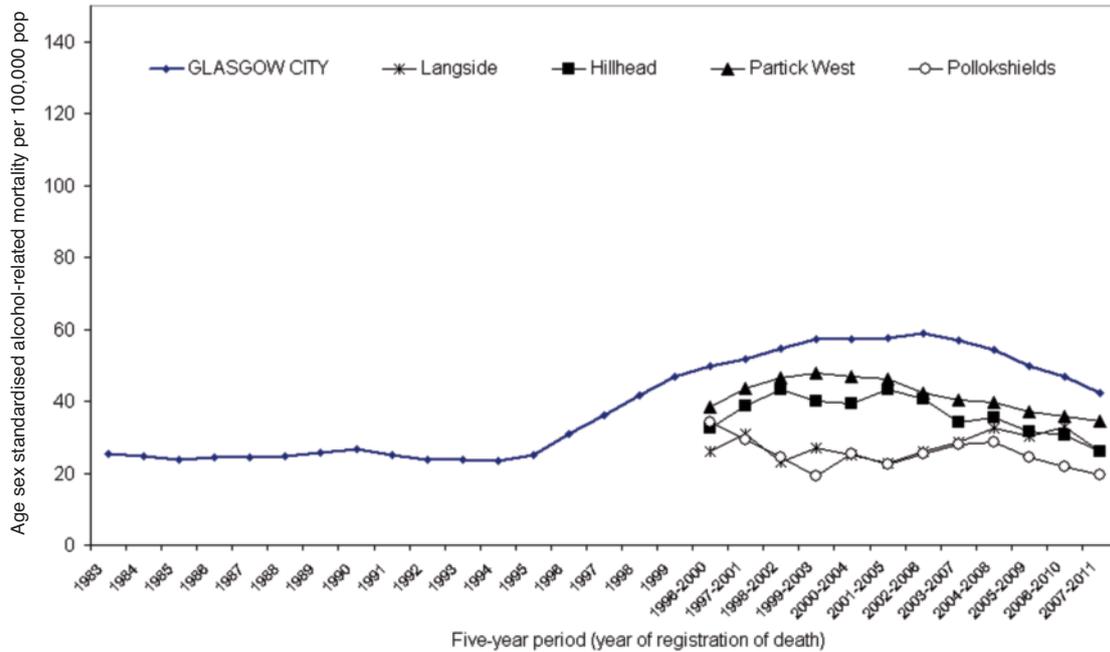
Figure 15: Glasgow wards: alcohol-related deaths by deprivation score, 2007/2011 (16+ years, five-year average).



^cFive-year rolling average, i.e. an annual rate averaged over the five-year period.

The city-level trends – showing a continuing increase in alcohol-related deaths until the mid-2000s when rates then decreased – are also seen at the local level (Figure 16a-e)^d.

Figure 16a (least deprived wards): Alcohol-related mortality by Glasgow ward (five-year rolling averages from 1996-2000 to 2007-2011).



^d Data for the 21 wards in Glasgow are shown over five graphs for clarity. The wards have been grouped according to their deprivation score (using SIMD 2012) with Figure 16a showing the least deprived wards and Figure 16e showing the most deprived wards.

Figure 16b: Alcohol-related mortality by Glasgow ward (five-year rolling averages from 1996-2000 to 2007-2011).

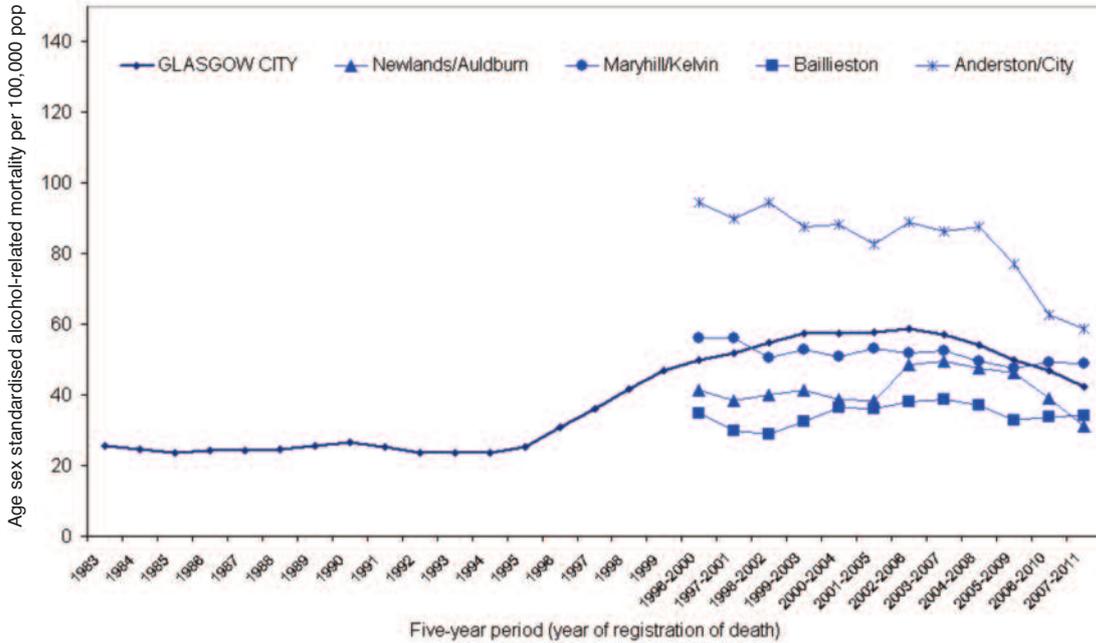


Figure 16c: Alcohol-related mortality by Glasgow ward (five-year rolling averages from 1996-2000 to 2007-2011).

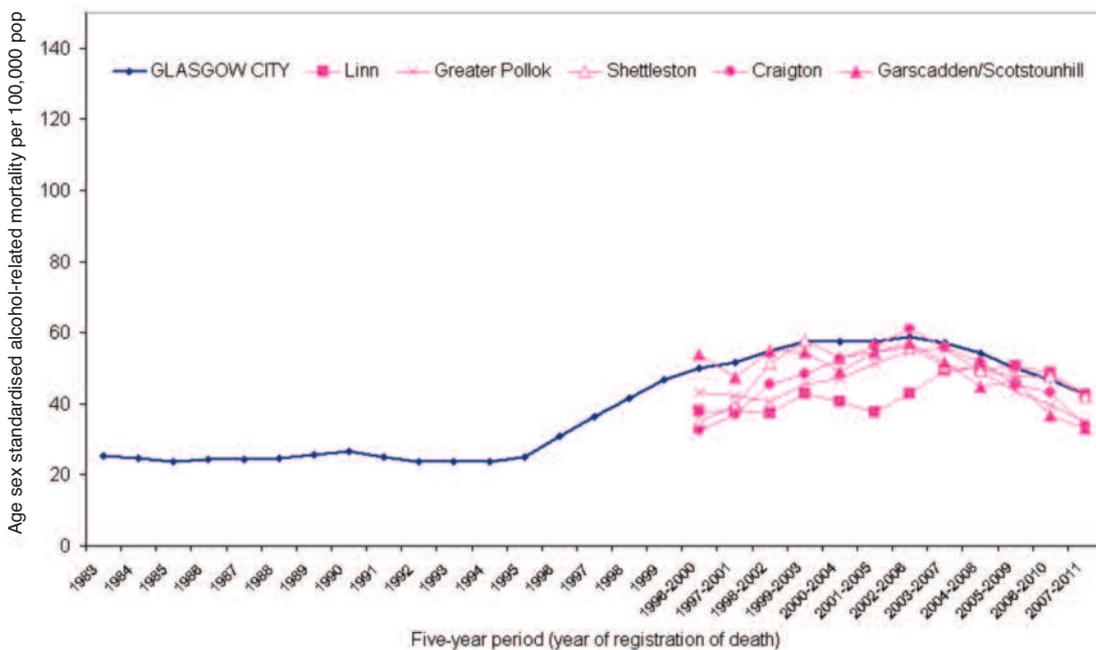


Figure 16d: Alcohol-related mortality by Glasgow ward (five-year rolling averages from 1996-2000 to 2007-2011).

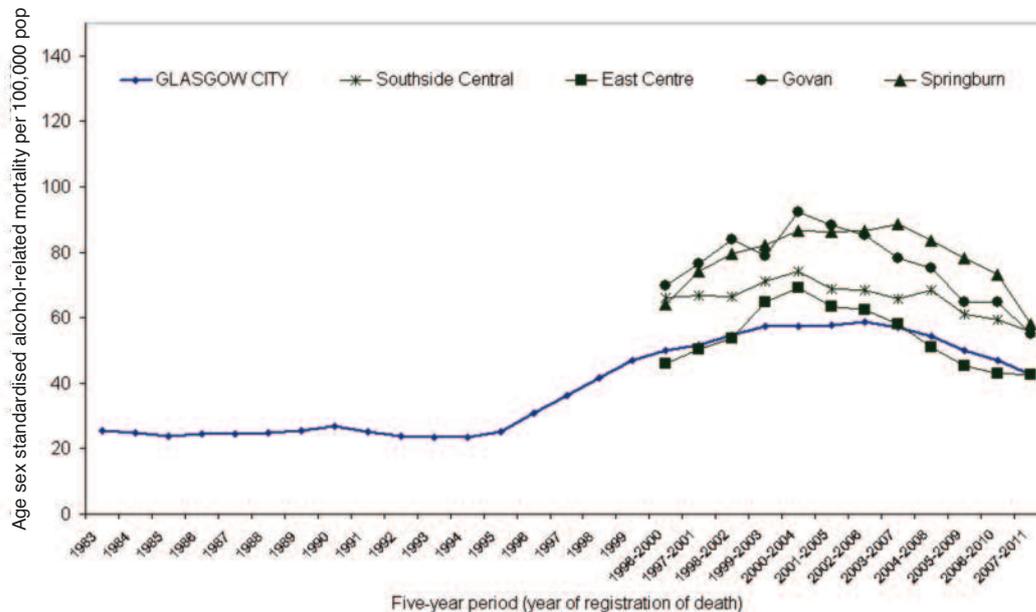
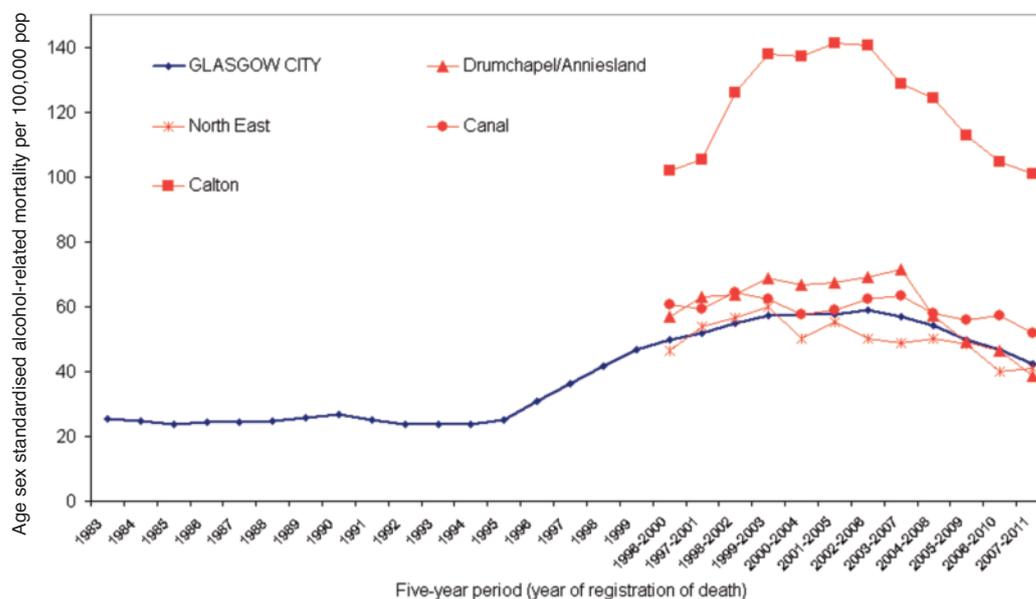


Figure 16e (most deprived wards): Alcohol-related mortality by Glasgow ward (five-year rolling averages from 1996-2000 to 2007-2011).



Notes:

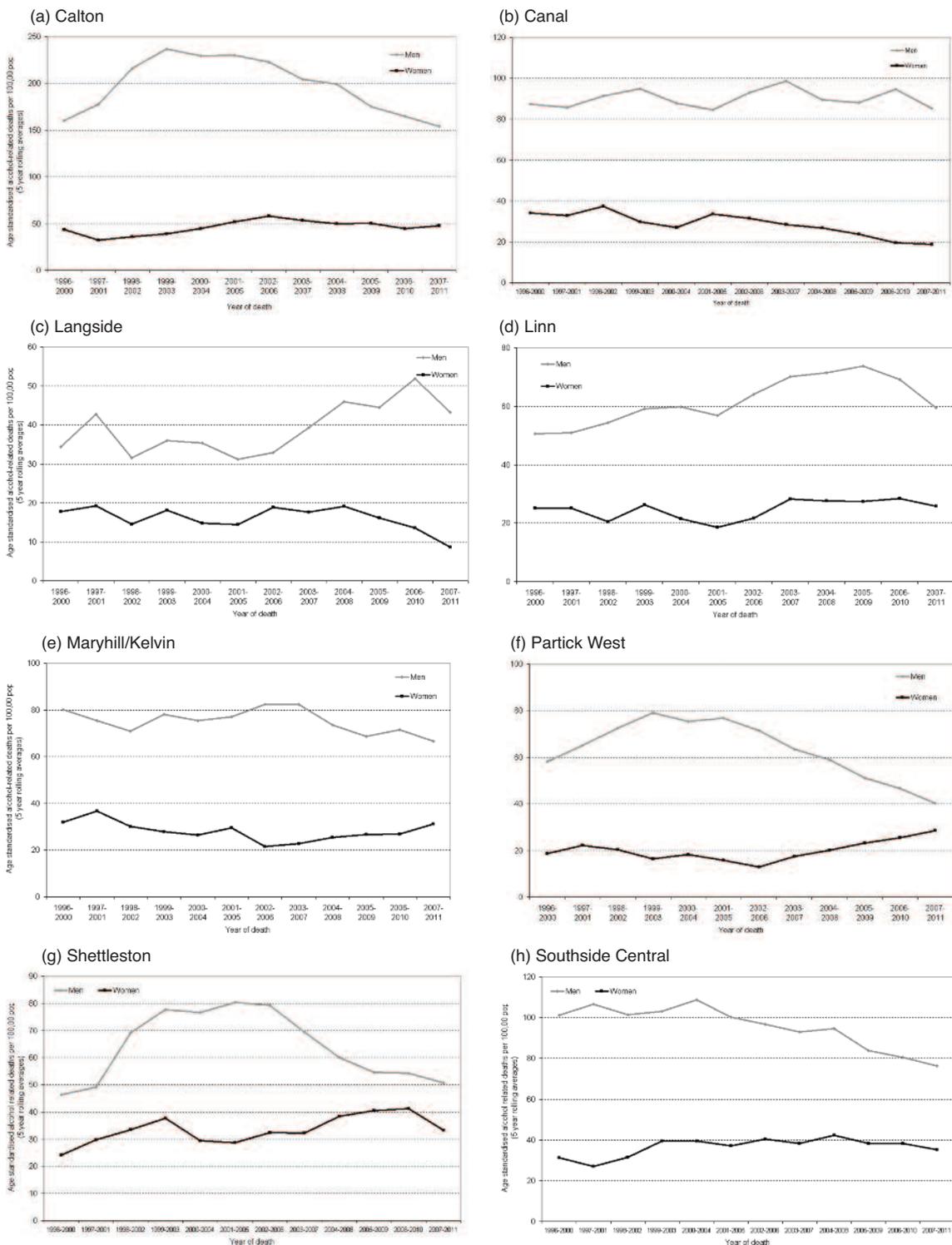
Deprivation was based on the SIMD 2012 deprivation score.
Population estimates are based on SAPE estimates (i.e. pre-Census 2011).

Ward-level data grouped by CHP can be found in Appendix 2, which accompanies this report.

WARD LEVEL DEATH RATES BY SEX

The trends for women largely reflect those seen for men, although for some wards the trends differed significantly by sex. For example, in Partick West the alcohol-related death rate in men has been decreasing throughout the 2000s, whereas for women the rate has been increasing.

Figure 17: Alcohol-related death rates for selected Glasgow wards, by sex (1996/2000 to 2007/2011, 16+ years, five-year rolling averages).



CHANGES IN ANDERSTON/CITY AND CALTON

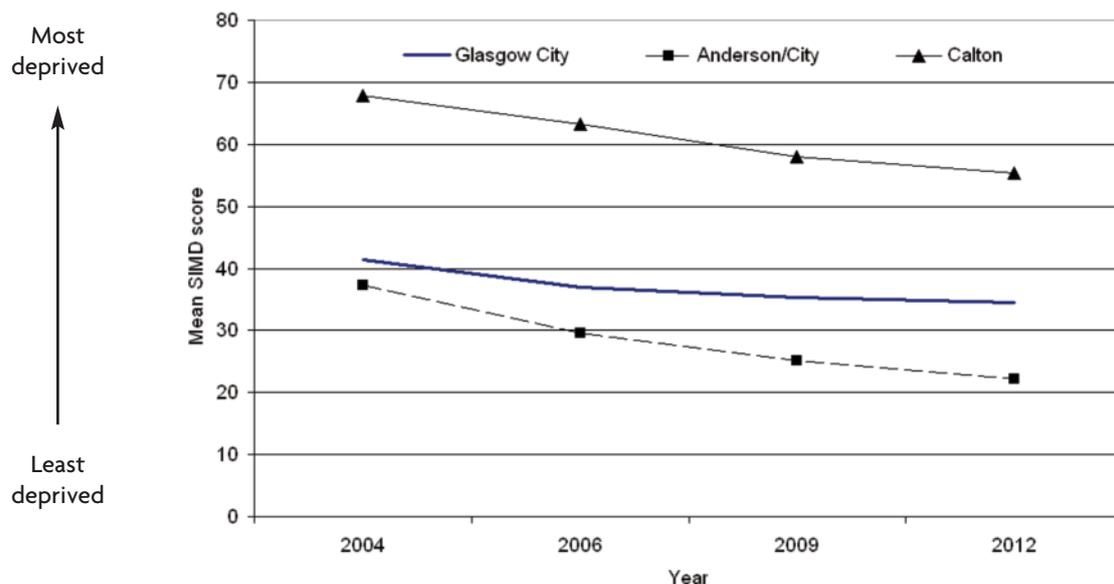
Anderston/City

By 2000, alcohol-related deaths in the Anderston/City ward were markedly higher than in wards with similar deprivation profiles. However, they fell consistently throughout the 2000s (Figure 16b) and by the end of the period, alcohol-related deaths were only slightly higher than in other similar wards.

This ward has had significant capital investment since 2000 aimed at improving the physical environment in the area; historic buildings were restored, vacant shops refurbished, and attention and resources given to developing the community, culturally, economically and physically^e. During this time the area became less deprived relative to elsewhere in the city (Figure 18) and the population increased. Together this suggests significant changes in the composition of the resident population of the area.

The shift to lower deprivation in Anderston/City, driven by change in the population composition, coincides with the reduction in alcohol-related deaths in the area over the same time period. However, the decline in the alcohol-related death rate has not kept pace with the decline in deprivation – in that the alcohol-related deaths in Anderston/City are still higher than would be predicted from its current area deprivation profile. It is unclear at this stage if this represents a lag in alcohol-related deaths or if this reflects issues within the ward that are maintaining the higher than expected alcohol-related death rate.

Figure 18: Mean SIMD* score for Glasgow City and selected wards.



*SIMD: Scottish Index of Multiple Deprivation; Low score = less deprived datazone; Mean score was weighted by the datazone population.

^eThe Merchant City Action Plan ran from 2003-2012, with the Merchant City Initiative aimed at its implementation.

Calton

By 2000, alcohol-related deaths in Calton were markedly higher than other wards with similar deprivation profiles, and alcohol-related mortality continued to rise sharply in the early 2000s before peaking in the mid-2000s. This trend was largely driven by deaths in men (Figure 17a). More recently the levels of alcohol-related deaths in Calton fell back to those seen at the beginning of 2000s (Figure 16e).

The ward of Calton, which includes Calton, Bridgeton, Parkhead and Dalmarnock, is situated a couple of miles east of the city. It has consistently ranked among the most deprived areas within Glasgow and has had some of the worst health statistics in the city. The ward as a whole has benefited from recent regeneration activity, although the smaller Calton area has arguably benefited less than the other areas within the ward. Although undoubtedly an area with high levels of deprivation, some have argued that the stark statistics are driven by a large number of (largely male) homeless hostels, and do not reflect the health status of the broader population in the area. It is difficult to determine what, if any, effect the presence of such hostels has had on the overall figures for the ward; however, a number of hostels closed between 2005 and 2008 possibly explaining the decline in alcohol-related death rates in males around this time.

More recently Calton has become the focus of investment: Calton sits within the Glasgow Equally Well test site area. Equally Well is a national programme that aims to facilitate initiatives to address health inequalities in specific sites across Scotland. In addition, Glasgow City has announced the Calton Area Development Framework¹¹ focused on improving the local facilities, physical environment, employment opportunities and public transport in the area.

 CONCLUSIONS

Health in Glasgow is influenced by factors operating at the Scottish level and beyond. At the national level, all-cause mortality rates in Scotland have been falling more slowly than for other western European countries. Young working-age adults show particular health vulnerability – highlighted in the high levels of alcohol-related deaths in this age group. Poor health in Glasgow is further compounded by the levels of deprivation in the city. Those in the most deprived areas experience the highest alcohol-related death rates, and the gap in alcohol-related mortality rates between the most and least deprived areas has increased significantly since the 1980s.

After a dramatic increase in alcohol-related deaths in the early 1990s, a modest decrease in deaths since the mid-2000s suggests that the situation is improving nationally and city-wide. This decrease is possibly a result of the recent economic downturn⁸ and legislation restricting multiple-buy offers¹². However, analyses focusing on birth cohorts (those born around the same time) have identified worrying trends (disproportionate increases in alcohol-related deaths) in young working-age females.

Large variations in alcohol-related deaths across Glasgow neighbourhoods illustrate significant geographical inequalities within the city. Markedly different patterns for men and women in certain wards suggest local influences on hazardous alcohol-related behaviour for men and women that warrant further attention. Different local trends also emphasise the important influence of social, physical and demographic changes at a neighbourhood level.

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ACKNOWLEDGEMENTS

Thanks to the Office for National Statistics and National Records Scotland for supplying the death data.

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