

# Scottish mental health profiles for adults: summary report

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November 2015

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Published by NHS Health Scotland

1 South Gyle Crescent  
Edinburgh EH12 9EB

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# Scottish mental health profiles for adults: summary report

10/10/2015

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Cite as Millard AD, McCartney G. Scottish mental health profiles for adults: summary report. Edinburgh: NHS Health Scotland; 2015.

## 1. Summary

Mental wellbeing was higher, and our negative survey measure (common mental health problems) was lower, among men than women and was worst for those aged 40–59 years. Life satisfaction was the same for men and women but was also lowest for those aged 40–59 years. There was a linear gradient across deprivation quintiles for all of these measures with better mental health and life satisfaction, and lower prevalence of common mental health problems, in the least deprived groups.

The prevalence of both alcohol dependence (as measured by the Cut down, Annoyed, Guilty, Eye opener [CAGE] score) and drug misuse was higher in men than in women, and highest among young adults. Alcohol- and drug-related deaths were both higher among men than women and peaked at age 60–69 years and 30–39 years respectively. Suicides were also more common among men and peaked at age 40–49 years. There were marked inequalities across deprivation quintiles in the prevalence of alcohol dependence, drug misuse and deaths from alcohol, drugs and suicide.

We conclude that there are inequalities in mental health outcomes by age, sex and deprivation. Young adults and those living in the most deprived communities are at greatest risk of worse mental health. Women report worse mental health and lower wellbeing than men on survey measures, but men are more likely to be alcohol dependent, misuse drugs and die from alcohol-

and drug-related conditions, and from suicide. Further work to identify effective policies and service responses to reduce these inequalities is important if we are to achieve the aspiration of a mentally flourishing Scotland.

## 2. Introduction

This report supports the publication of the Scottish Public Health Observatory (ScotPHO) mental health profiles for adults, available on the ScotPHO website.<sup>1</sup>

Mental health and wellbeing is an important component of population health and displays the same inequalities as physical ill-health. The following equality analyses summarise the available data on mental health and wellbeing at Scotland level. The analyses reveal health inequalities for each indicator by age group, sex and quintiles of the Scottish Index of Multiple Deprivation (SIMD). They also provide a benchmark for Health and Social Care Partnerships (HSCPs).

Health and social care providers need a particularly close working relationship to tackle mental health issues. Changes to the law require health boards and local authorities to integrate adult health and social care.<sup>a</sup> The local profiles provided alongside this report describe the available data in their areas in comparison with all other areas for local authorities and HSCPs.<sup>b</sup>

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a The Public Bodies (Joint Working) (Scotland) Act was granted royal assent on 1 April 2014.

b HSCPs are co-terminous with local authorities in Scotland, with the exception of the merged HSCP of Stirling and Clackmannanshire local authority areas.

### **3. Methods**

The analyses were carried out using SPSS version 19 and Microsoft Excel 1997–2003. Multiple years of data were combined to give sufficient cases for analysis by HSCP, as shown on the online spine and trend charts. For indicators based on the comparison of means for age group, sex and SIMD quintile, we derived 95% confidence intervals from the standard error of the mean.

We obtained our data from the Scottish Drug Misuse database for drug problems (2012–13),<sup>2</sup> National Records Scotland (NRS) for deaths<sup>3</sup> (averages over 2009–13) and, for the majority of indicators, the aggregated Scottish Health Survey for 2008–11.<sup>4</sup> SIMD 2012 was used for the mortality-based indicators and SIMD 2006 for the others.

We calculated the slope index of inequality (SII) by ranking the outcome measure by SIMD deprivation quintile and then regressing the outcomes against those relative ranks. The relative index of inequality (RII) (and its 95% CIs) were calculated as SII (or 95% CI) divided by the population mean/percentage/rate as appropriate for the measure. We used the complete SIMD, not only its income–employment subscale.

### **Indicators**

Wellbeing was assessed using the mean score on the Warwick–Edinburgh Mental Wellbeing Scale (WEMWBS), where a higher score indicates greater wellbeing on a range from 14 to 70. WEMWBS data were obtained from the Scottish Health Survey.

Life satisfaction was assessed using the mean score on the Scottish Health Survey question asking how satisfied the respondent is with ‘life nowadays’. On this question a higher score indicates greater life satisfaction.

Alcohol dependency was measured using the proportion of the sample with a CAGE score (a score derived from a short questionnaire which assesses the extent of substance misuse) who were alcohol dependent or on the borderline, using a score of 2+ on the CAGE questionnaire as the cut-off for 'alcohol dependency'. Similarly, common mental health problems were measured using the proportion of the sample with a GHQ score (a score derived from a short questionnaire which assesses the extent of common mental health problems) of 2+ as the cut-off for 'common mental health problems'. Drug problems were measured using routinely available estimates on prevalence to calculate the proportion with drug problems.

All the rate-based indicators were calculated using the mean number of deaths per year over the five years 2009–13. SIMD rates were directly age–sex standardised per 100,000 average population (2009–13) for SIMD quintile. Rates by age group were sex standardised and rates by sex were age standardised. All rates were calculated using the 2013 European Standard Population and SIMD 2012.

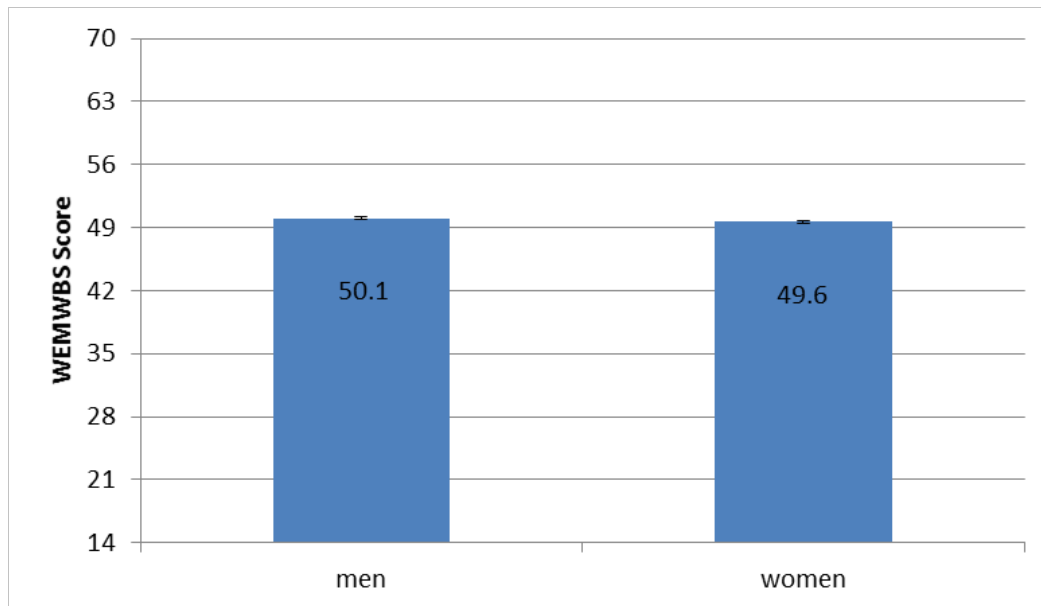
Alcohol-related deaths used underlying cause to determine whether a death was alcohol related. Drug-related death rates were defined according to National Records Scotland (NRS) definitions. Deaths from suicide included those of undetermined intent. The International Classification of Diseases-10 (ICD-10) codes used by NRS to define alcohol-related, drug-related and suicide deaths were used. In 2011, NRS changed its coding practice with some deaths previously coded under 'mental and behavioural disorders' now being classed as 'self-poisoning of undetermined intent' and consequently as undetermined-intent suicides. The profile presents data based on the old coding rules so that trends over time can be assessed.

## 4. Results

### Wellbeing

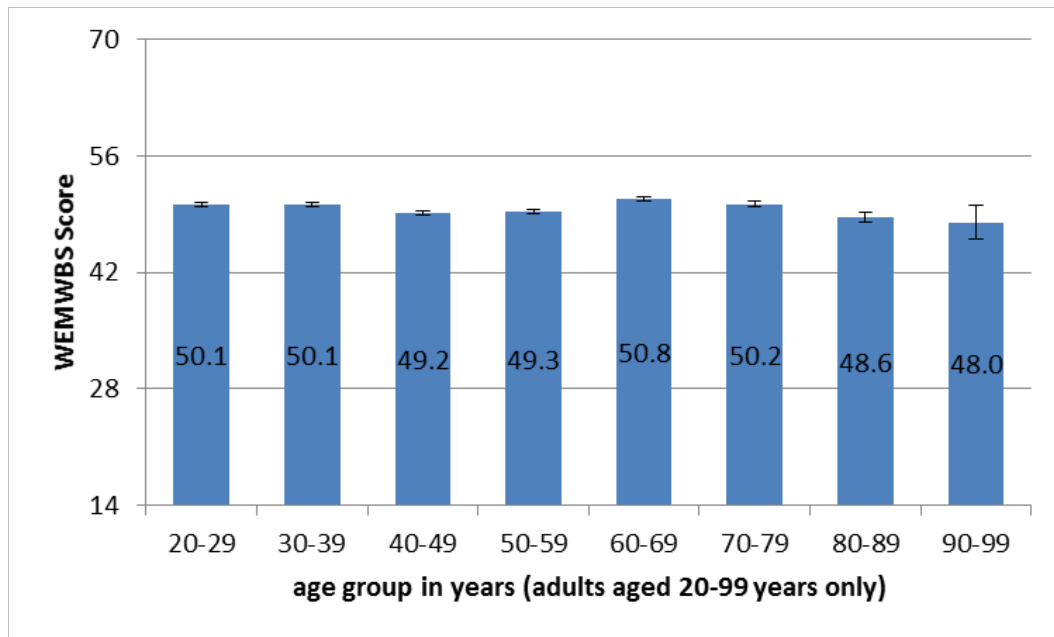
Men scored slightly higher than women for wellbeing (Figure 1).

Figure 1 Mean wellbeing score for adults, Scotland 2008–11 by sex



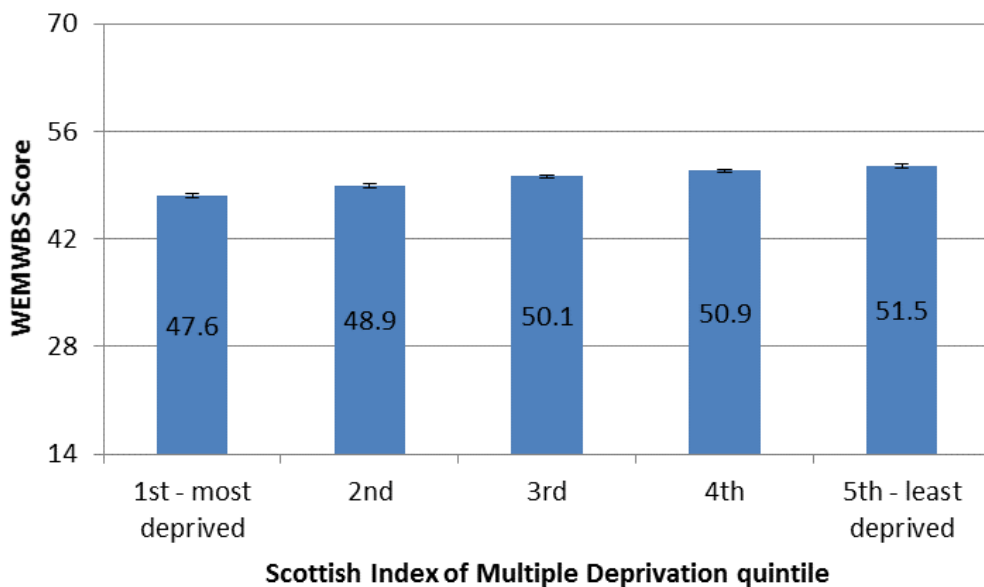
Wellbeing varies across the life course, with higher wellbeing in young adults and in those aged 60–79 years than in those aged 40–59 years and over 80 years (Figure 2).

**Figure 2** Mean wellbeing score for adults, Scotland 2008–11 by age group



An inequality gradient in wellbeing across deprivation quintiles was evident, ranging from a score of 47.6 in the most deprived fifth of the population to 51.5 in the least deprived fifth (Figure 3).

**Figure 3** Mean wellbeing score for adults, Scotland 2008–11 by SIMD quintile



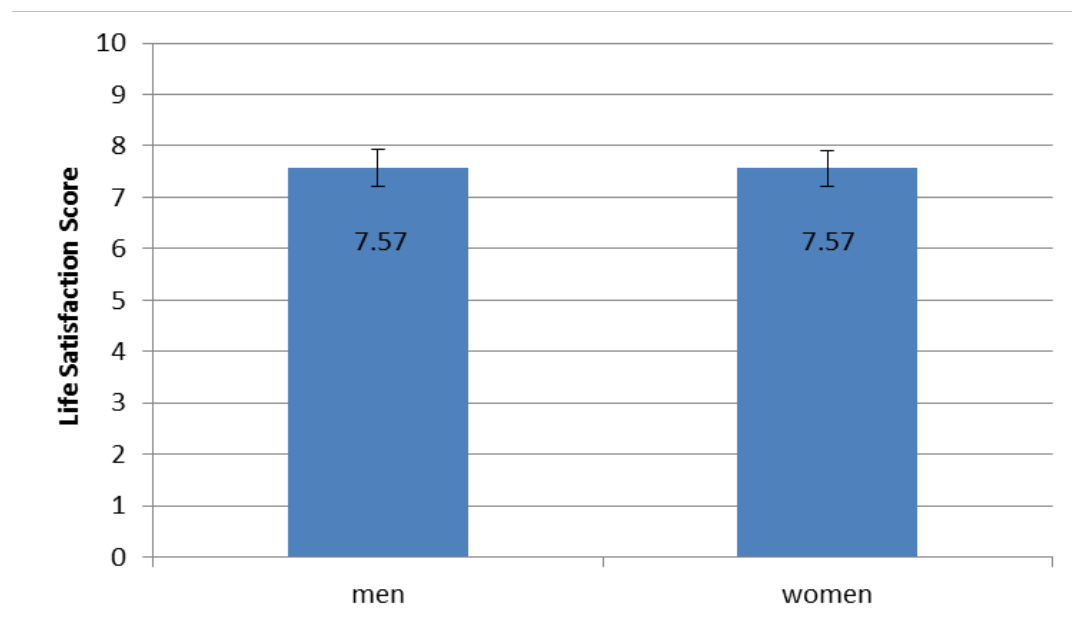
The mean wellbeing score for the whole sample was 49.8. The SII for adult wellbeing by SIMD was 4.8 (95% CI 4.5–5.2).



## Life satisfaction

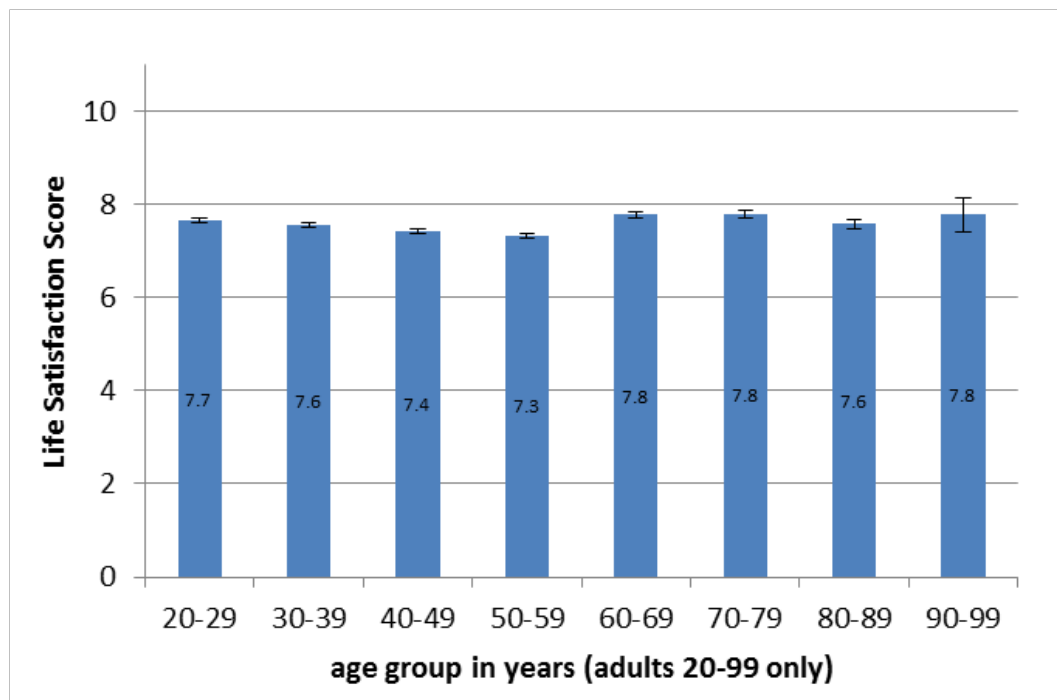
There was no difference between men and women in the level of life satisfaction (Figure 4).

Figure 4 Mean life satisfaction score for adults, Scotland, 2008–11 by sex



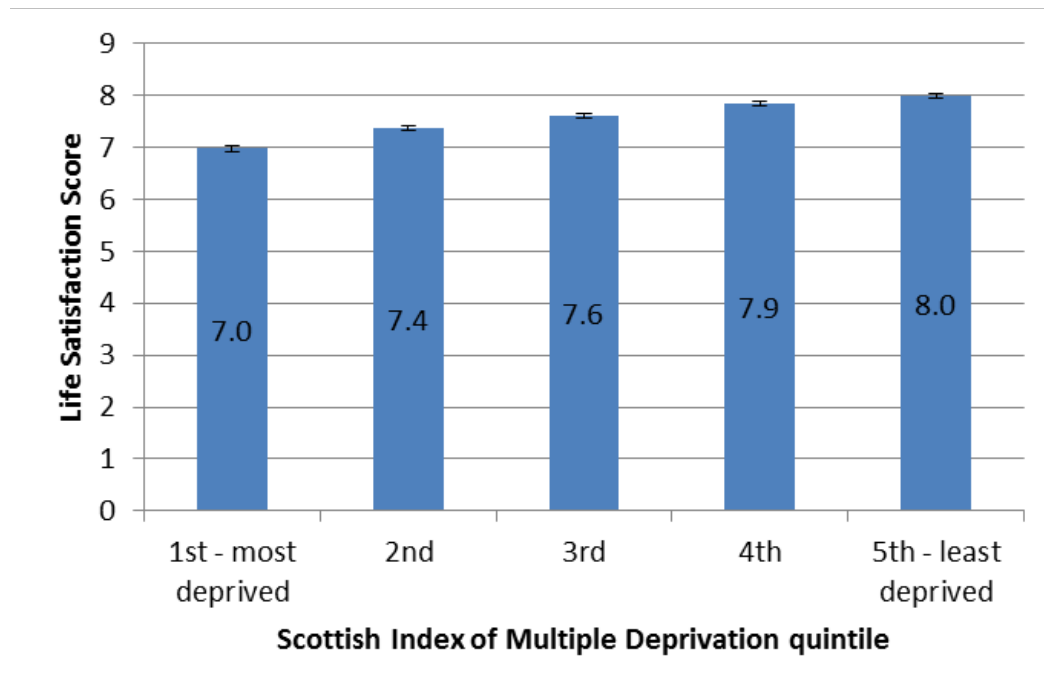
People between 40 and 59 years were less satisfied with their lives than other groups (Figure 5). Those between 60 and 79 years had higher life satisfaction than most groups except for 19 year olds. The 95% CIs were too wide to draw any conclusions for those over 90 years.

Figure 5 Mean life satisfaction score for adults, Scotland 2008–11 by age group



There was a linear gradient in adult life satisfaction across SIMD quintiles, with a mean score of 7.0 in the most deprived fifth and a mean score of 8.0 in the least deprived fifth. (Figure 6) The mean life satisfaction score for the whole sample was 7.6. The SII for adult life satisfaction across deprivation quintiles was 1.2 (95% CI 1.2–1.3).

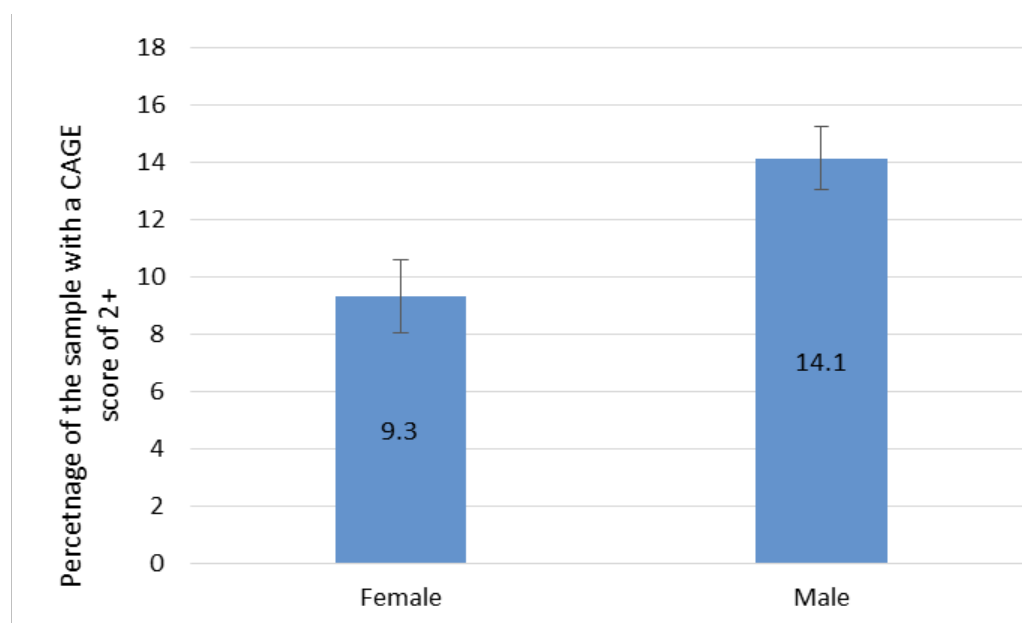
Figure 6 Mean life satisfaction score for adults, Scotland 2008–11 by SIMD quintile



## Alcohol problems

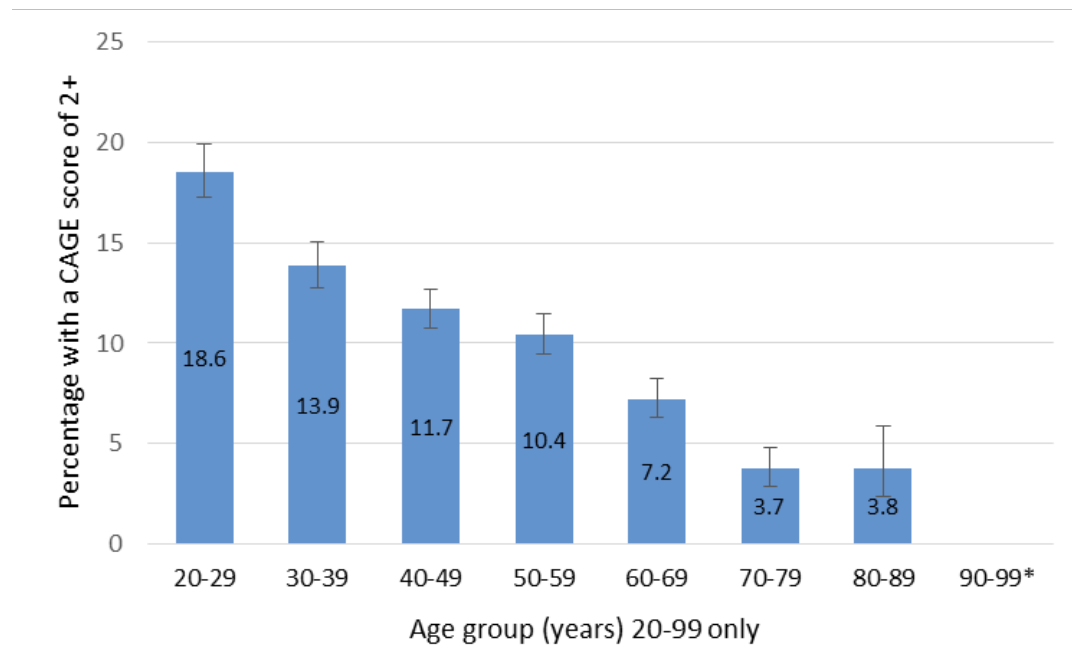
The percentage of women who scored two or more on the CAGE questionnaire (indicating alcohol problems) was 9.3%, substantially lower than the 14.1% of men who scored that high (Figure 7).

Figure 7 Alcohol problems by sex, Scotland 2008–11



The percentage of the adult population who scored two or more on the CAGE questionnaire decreased with age, from over 20% of 19 year olds to only around 3–4% of those over age 70 years (Figure 8).

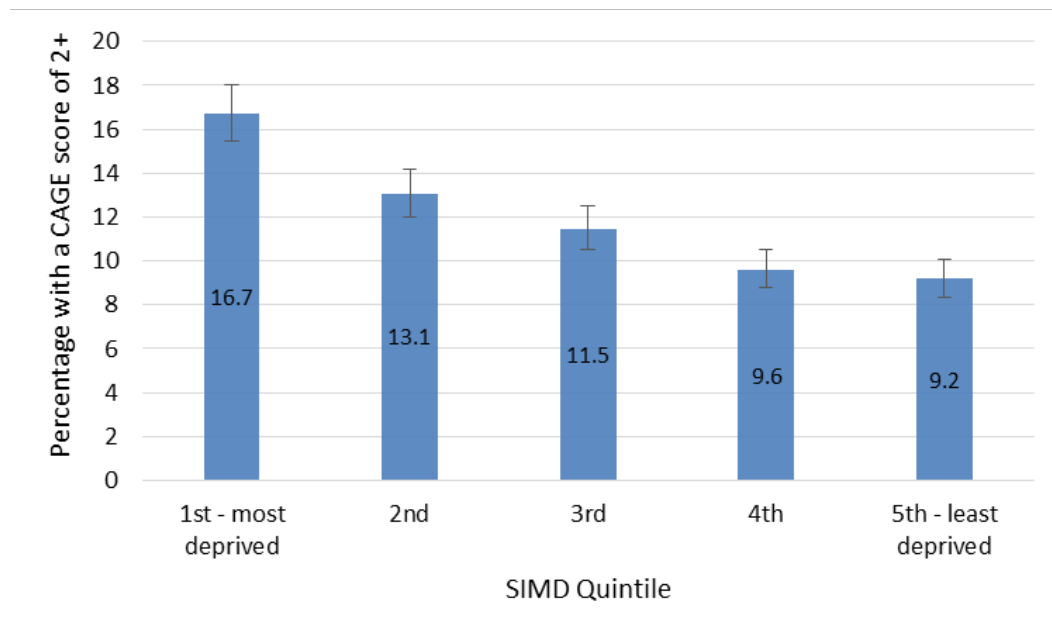
**Figure 8** Alcohol problems by age group, Scotland 2008–11



\*Too few cases to report in this age group

There was a clear gradient across deprivation quintiles in the percentage of the population scoring two or more on the CAGE questionnaire, with almost 17% of the population in the most deprived fifth scoring that highly (Figure 9). The percentage of the whole sample who had alcohol problems on this measure was 11.8%. The SII for adult alcohol problems across deprivation quintiles was 9.0 (95% CI 3.4–14.7).

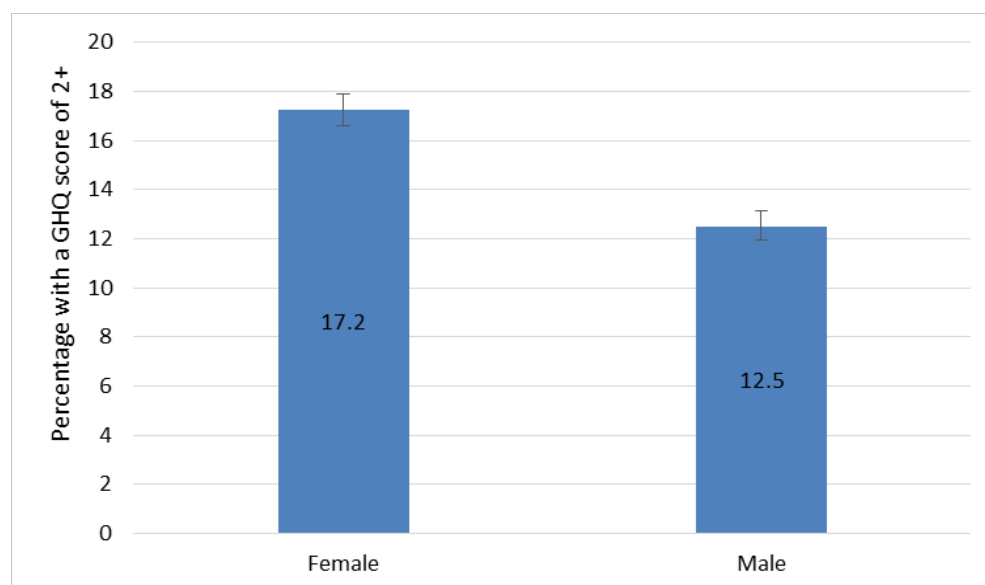
**Figure 9** Alcohol problems by SIMD quintile, Scotland 2008–11



## Common mental health problems

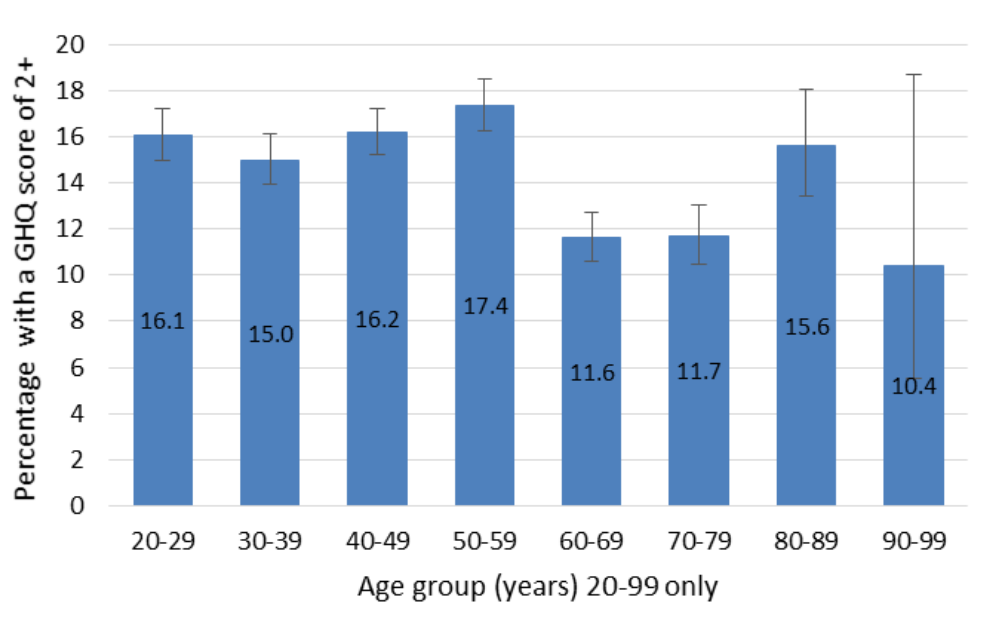
The percentage of men who reported common mental health problems was 12.5%, substantially lower than the 17.2% of women who reported these problems (Figure 10).

**Figure 10** Mental health problems by sex, Scotland 2008–11



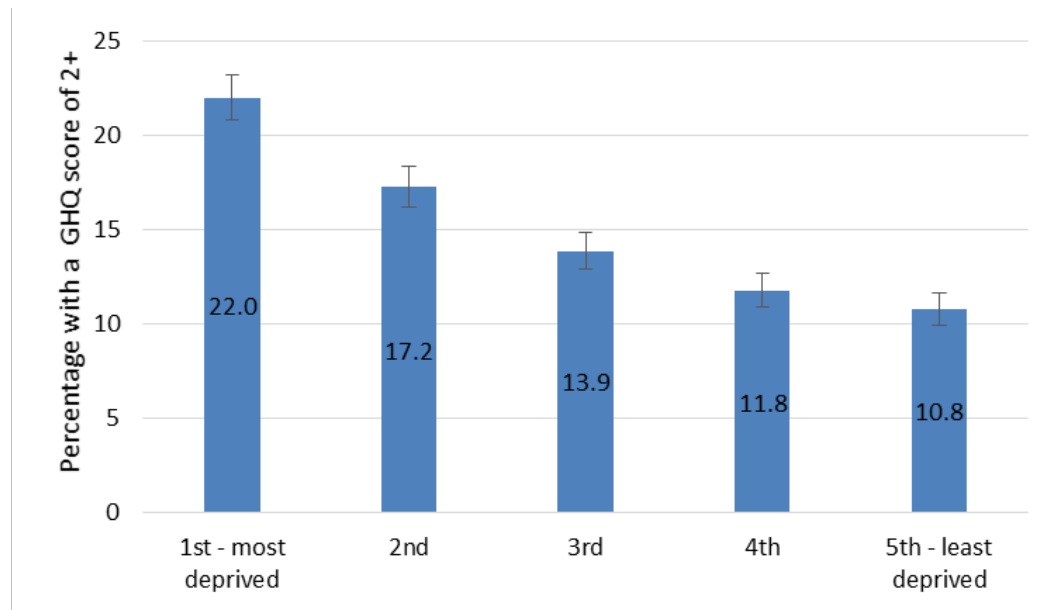
The percentage of the adult population who reported common mental health problems fluctuated by age group (Figure 11). The percentage was generally lower among people aged 60–79 years and higher among those aged 20–59 years.

Figure 11 Mental health problems by age, Scotland 2008–11



There was a steep gradient in the percentage reporting common mental health problems across deprivation SIMD quintiles, with percentages more than twice as high in the most deprived fifth compared with the least deprived fifth (Figure 12). For the whole sample, 15% had common mental health problems on this measure. The SII for adult common mental health problems by SIMD was 13.7 (95% CI 6.6–20.9).

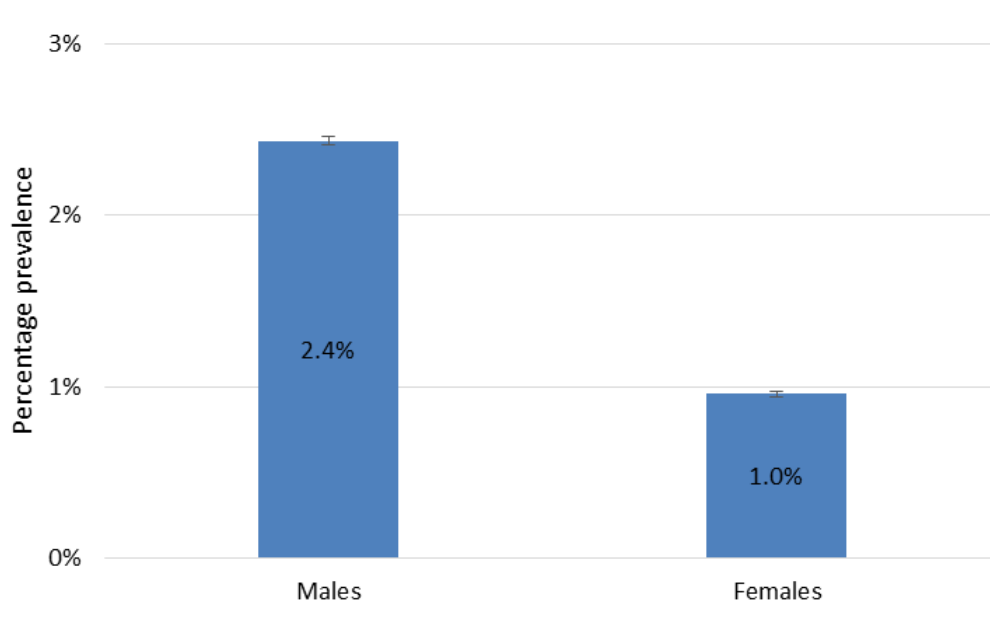
Figure 12 Mental health problems by SIMD quintile, Scotland 2008–11



## Drug problems

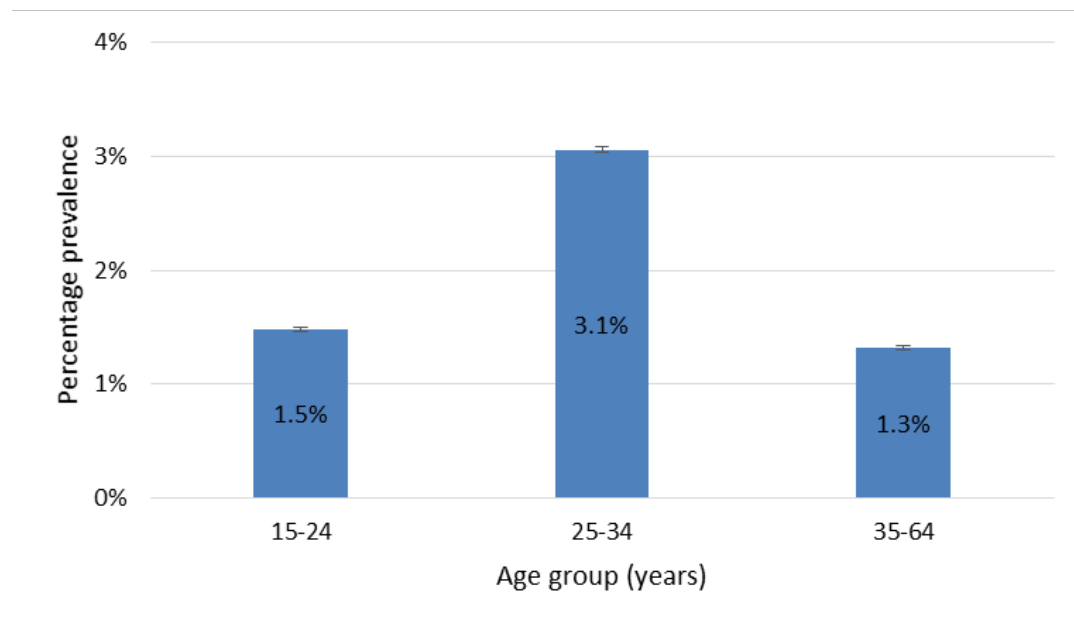
The percentage of men who had drug misuse problems was 2.4%, more than double the 1.0% of women (Figure 13).

Figure 13 Percentage with drug misuse problems, Scotland 2012, people aged 15–64 years



The percentage of the adult population who had drug problems was highest among 25–34 year olds in 2012–13 (Figure 14). There were insufficient data available to facilitate an inequality analysis by deprivation.

**Figure 14** Percentage with drug misuse problems, Scotland 2012–13, people aged 15–64 years

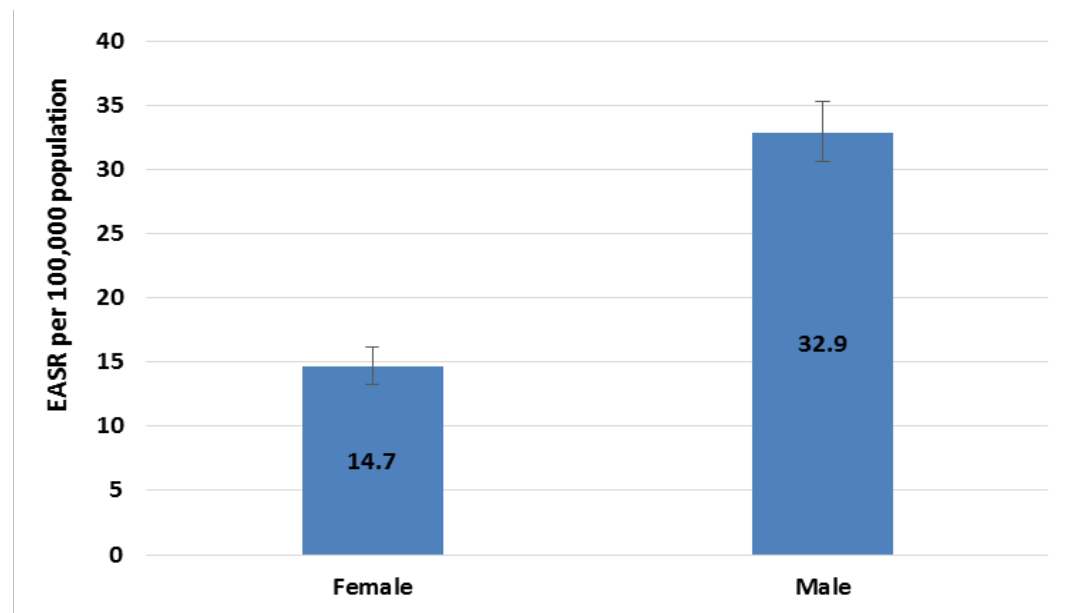




# Alcohol-related deaths

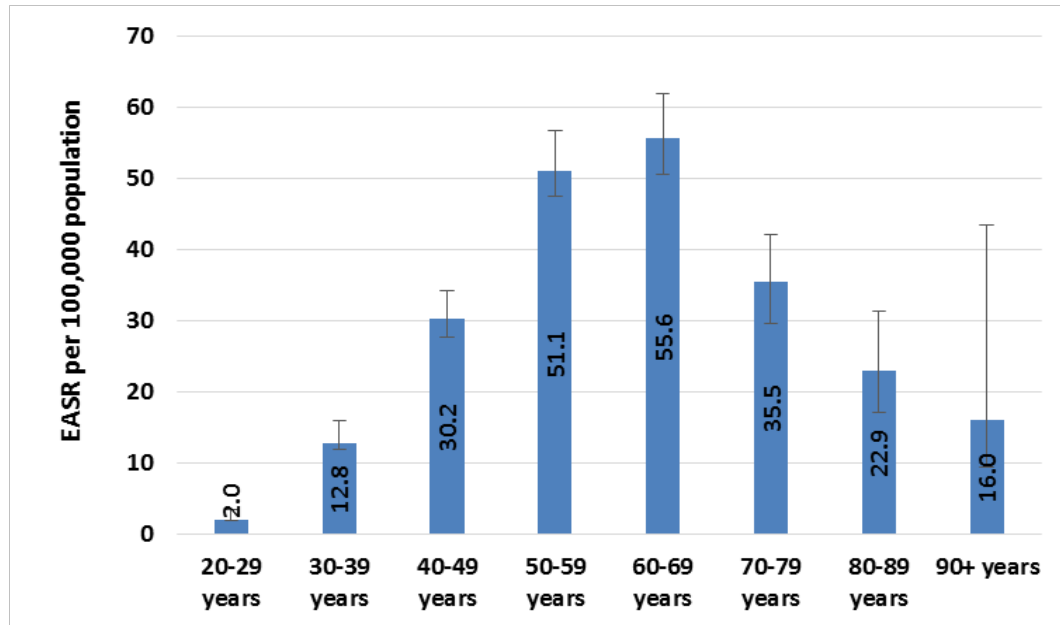
Age standardised alcohol-related death rates for males were over twice as high as for females (Figure 15).

Figure 15 European age-standardised rates (EASRs) for alcohol-related deaths by sex, Scotland 2009–13



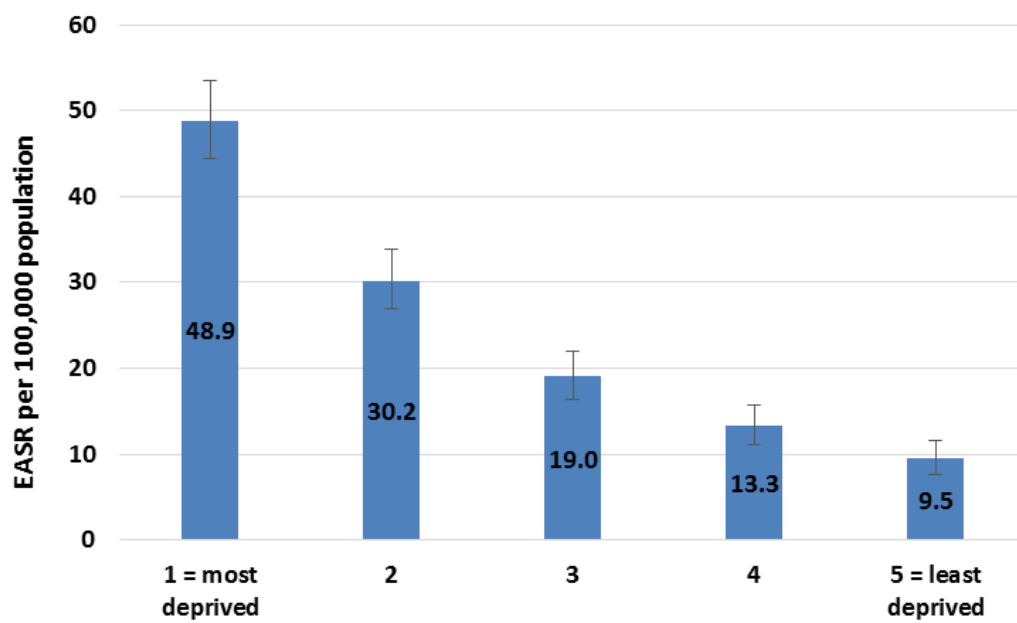
Alcohol-related death rates were highest among those aged 60–69 years (Figure 16).

Figure 16 EASRs for alcohol-related deaths by age group, Scotland, 2009–13



There was a stepwise increase in alcohol-related death rates across SIMD quintiles from least deprived to most deprived. Death rates in the most-deprived quintile were five times higher than in the least-deprived quintile (Figure 17). The alcohol-related death rate for the population as a whole was 23.9 per 100,000 per year. The SII for alcohol-related death rates by SIMD quintile was 47.9 (95% CI 20.6–75.2).

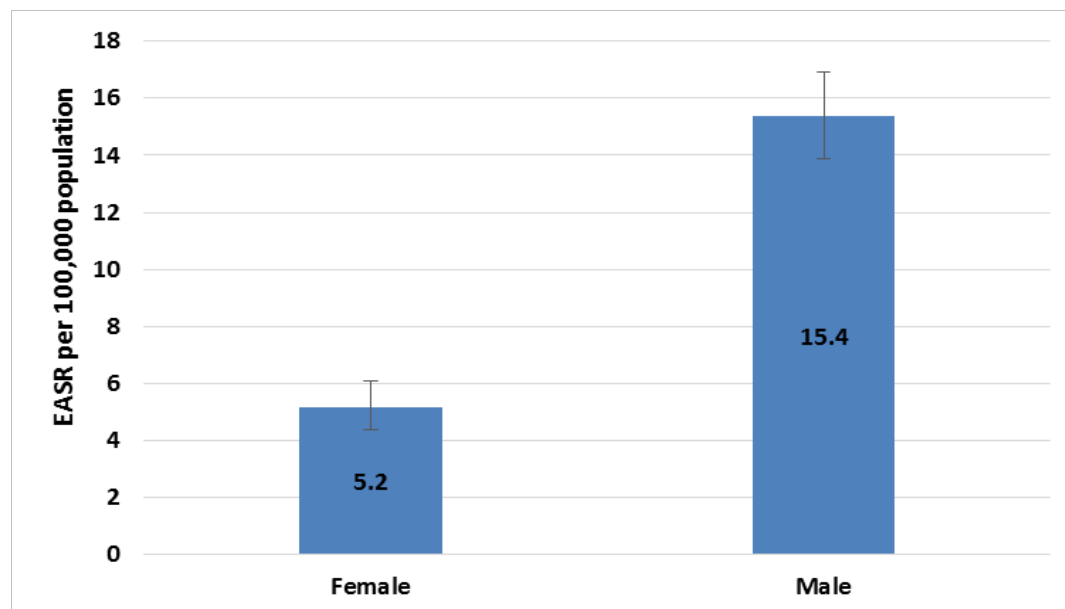
Figure 17 Alcohol-related death rate by SIMD quintile, Scotland 2009–13



## Drug-related deaths

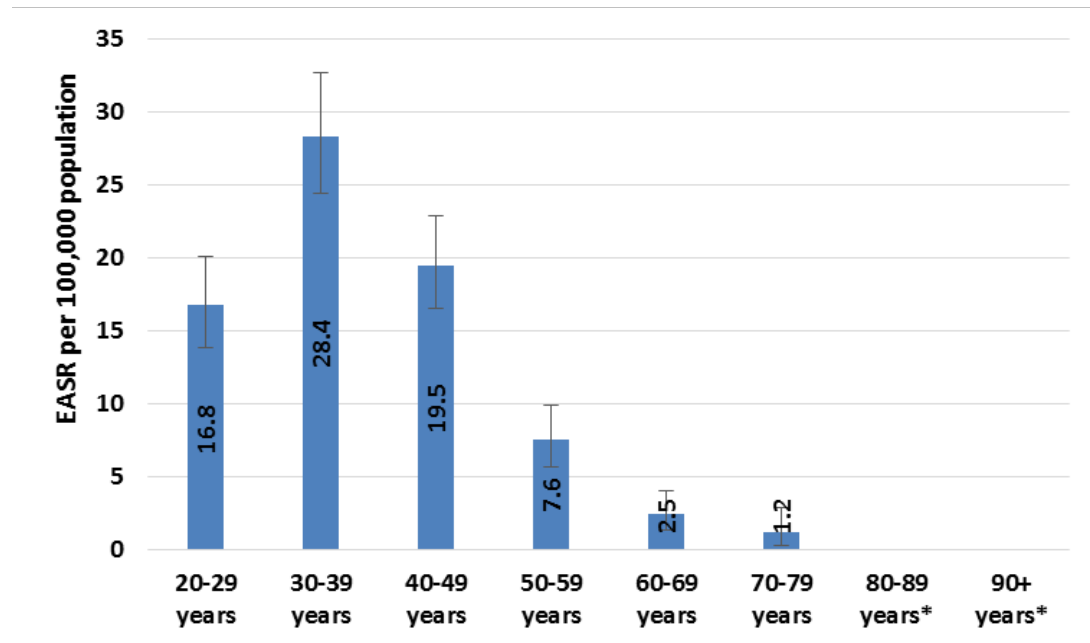
Age-standardised drug-related death rates for males were nearly three times as high as those for females (Figure 18).

Figure 18 EASRs for drug-related deaths by sex, Scotland 2009–13



Drug-related deaths were highest among those aged 30–39 years, with very low rates among those aged over 60 years (Figure 19).

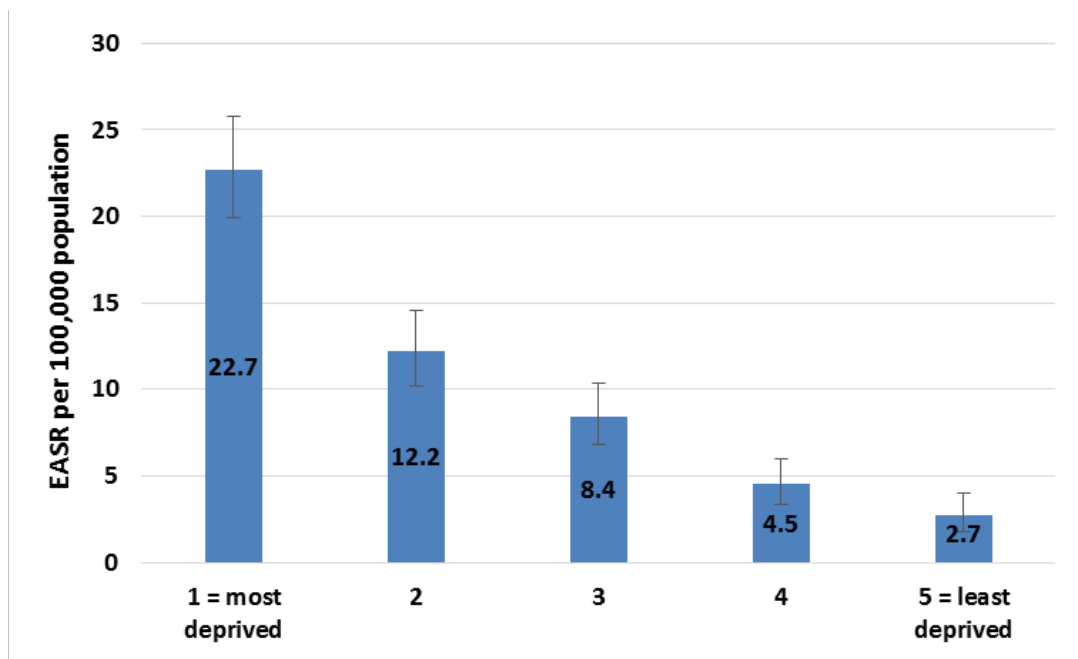
Figure 19 EASRs for drug-related deaths by age group, Scotland, 2009–13



\*numbers suppressed for confidentiality reasons

There was a linear increase in drug-related death rates across deprivation quintiles from the least deprived to the most deprived. Death rates in the most-deprived quintile were more than eightfold higher than in the least-deprived quintile (Figure 20). The drug-related death rate for the population as a whole was 10.0. The SII for drug-related death rates across deprivation quintiles was 23.9 (95% CI 9.7–38.1).

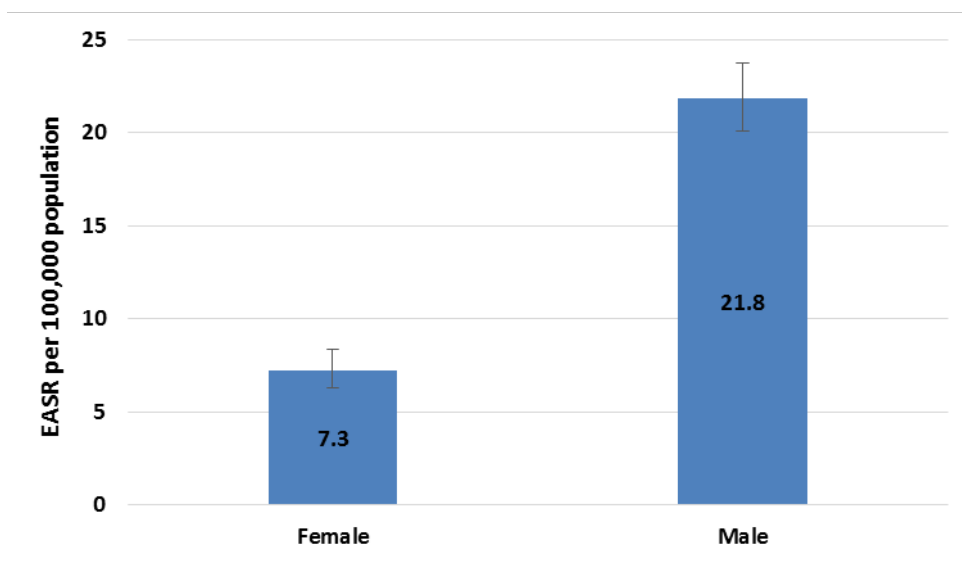
Figure 20 EASRs for drug-related deaths by deprivation, Scotland 2009–13



## Suicide deaths

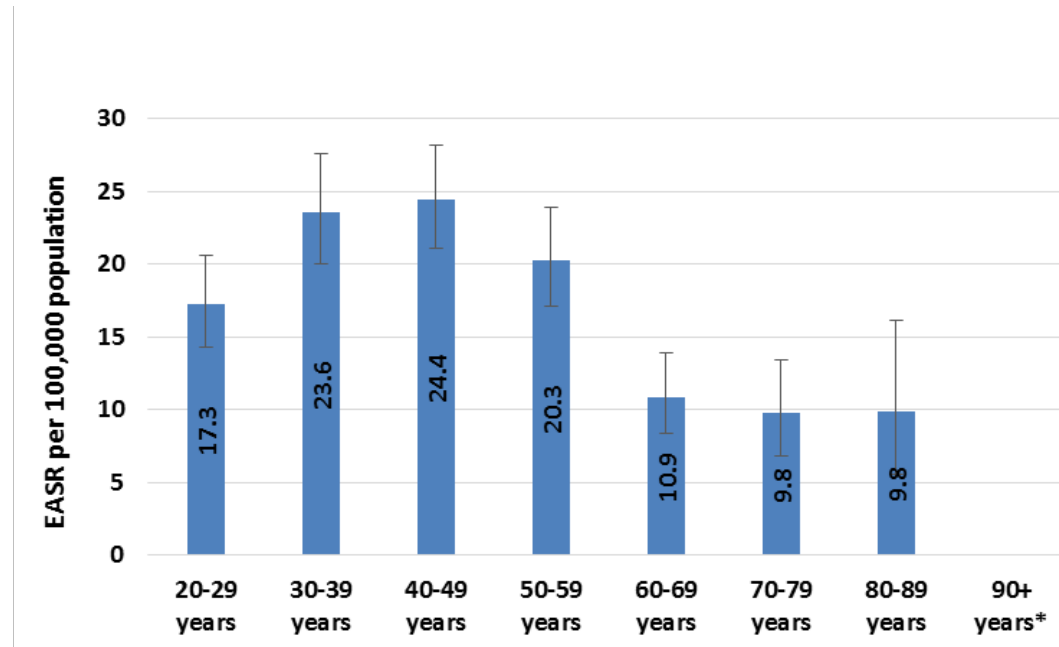
Suicide death rates for males were nearly three times higher than for females (Figure 21).

Figure 21 EASRs for suicide by sex, Scotland 2009–13



Sex-standardised suicide death rates were highest for adults between 20 and 59 years and peaked at age 40–49 years (Figure 22).

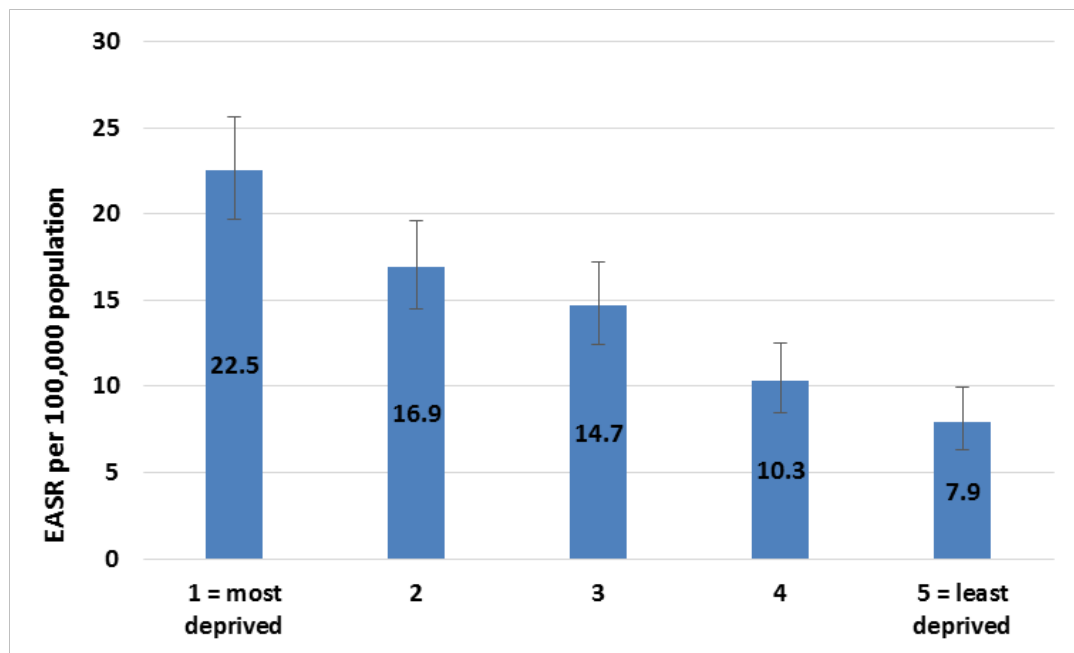
Figure 22 Suicide rate by age group, Scotland, 2009–13



\*numbers suppressed for confidentiality reasons

There was a stepwise increase in suicide death rates across deprivation quintiles from least deprived to most deprived. Death rates in the most-deprived quintile were nearly threefold higher than in the least-deprived quintile (Figure 23). The suicide death rate for the population as a whole was 14.5. The SII for suicide death rates by deprivation quintile was 17.9 (95% CI 13.1–22.6).

Figure 23 EASRs for suicide by deprivation quintile, Scotland 2009–13



## Inequality by SIMD – summary

The SII and RII by deprivation quintile for each adult indicator are summarised in Table 1 below. Absolute and relative inequalities (as indicated by the SII and RII, respectively) are evident across all of the indicators, but it is not possible to compare the magnitude of these inequalities for the indicators derived from survey scales (wellbeing, life satisfaction, alcohol dependency, common mental health problems). For the three mortality rate indicators, alcohol-related mortality has the highest incidence for the whole population and the greatest absolute inequality (a difference of around 48 age-standardised deaths across the population ranked by deprivation). The relative inequality in drug-related deaths is slightly higher (although somewhat uncertain), but accounts for a smaller number of deaths.

**Table 1** Summary of absolute and relative inequality in Scotland by SIMD quintile for indicators of adult mental health and wellbeing

<b>Indicator name</b>	<b>Period</b>	<b>Population mean</b>	<b>SII (95% CI)</b>	<b>RII (95% CI)</b>
Wellbeing	2008–11	49.8	4.8 (4.5–5.2)	0.096 (0.090–0.104)
Life satisfaction	2008–11	7.6	1.2 (1.2–1.3)	0.16 (0.15–0.17)
% alcohol dependency	2008–11	11.8%	9.0 (3.4–14.7)	0.8 (0.28–1.23)
% common mental health problems	2008–11	15%	13.7 (6.6–20.9)	0.9 (0.44–1.39)
Alcohol-related death rate	2009–13	23.9	47.9 (20.6–75.2)	2.0 (0.86–3.15)
Drug-related death rate	2009–13	10.0	23.9 (9.7–38.1)	2.4 (0.97–3.81)
Suicide rate	2009–13	14.5	17.9 (13.1–22.6)	1.2 (0.90–1.56)

## 5. Discussion

### Main results

Mental wellbeing was higher, and our negative survey measure (common mental health problems) was lower, among men than women and was worst for those aged 40–59 years. Life satisfaction was the same for men and women but was also lowest for those aged 40–59 years. There was a linear gradient across deprivation quintiles for all of these measures, with better mental health and life satisfaction and lower prevalence of common mental health problems in the least-deprived groups.



The prevalence of alcohol dependence (as measured by the CAGE score) and drug misuse was higher in men than women, and was highest among young adults. Alcohol- and drug-related deaths were both higher among men than women and peaked at age 60–69 years and 30–39 years, respectively. Suicides were also more common among men and peaked at age 40–49 years. There were marked inequalities across deprivation quintiles in the prevalence of alcohol dependence, drug misuse and deaths from alcohol, drugs and suicide.

## **Strengths and weaknesses**

Data were available for only a limited range of measures of health and wellbeing and for a limited range of equality groups. For example, we would have liked to have examined outcomes by ethnicity, religion and for specific groups such as veterans, but there were insufficient data to do so.

The survey-based measures (mental wellbeing, life satisfaction, common mental health problems and alcohol dependency) are all subject to sampling and response biases which are likely to underestimate both the extent of the problem in Scotland and the inequality. The area-based measure of socioeconomic status we use is also subject to the ecological fallacy, as it applies an area-based measure to all residents within particular postcodes. This is likely to underestimate the extent of inequality compared with an individual-level measure. As stated in methods above, we used the complete SIMD. Although there is a circular logic in ranking by health outcomes (as included in SIMD) and then describing a gradient in health outcomes by that measure, in practice using the full SIMD index rather than the income–employment domain is unlikely to have changed the results substantially. Future work will explore the use of the income–employment domain.

## **Implications**

There are inequalities in mental health outcomes by age, sex and deprivation. Young adults and those living in the most deprived communities are at

greatest risk of worse mental health. Women report worse mental health and lower wellbeing than men on survey measures; however, men are more likely to be alcohol dependent, misuse drugs and die from alcohol- and drug-related conditions, and from suicide. Further work to identify effective policies and service responses to reduce these inequalities is important if we are to achieve the aspiration of a mentally flourishing Scotland.

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