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COHORT ANALYSIS OF

# DRUG DEATHS & HOUSEHOLD INCOME

STATISTICS
IN SCOTLAND

# INTRODUCTION

The health of young-middle aged men living in Scotland's most deprived areas has been identified as a group of particular concern in the 2023 Health Foundation report 'Leave No One Behind' and its underpinning reports from the Fraser of Allander Institute (University of Strathclyde) and the MRC/CSO Social and Public Health Sciences Unit (University of Glasgow).

*"Suicide, alcohol and drugs are leading causes of death for men aged 15–44 years old, accounting for two-thirds of absolute inequalities in total mortality at that age. Socioeconomic trends also point to younger men being at greater risk of poor future health through reduced earnings potential. The gender gap in higher education participation is wide and has been growing – in 2020/21, male participation rates in higher education were 16 percentage points lower than for women. Employment rates for men aged 16–24 years in Scotland have fallen by 7.7 percentage points, from 65.1% to 57.4% between 2004 and 2019".*

**Leave No One Behind, The Health Foundation**

The 'Leave No One Behind' report focused on data from the period covering the last twenty years since devolution. This new report seeks to build on this analysis by examining historical data and analyses changes over time by birth cohort. According to the life course framework, timing and duration of health risk exposures can crucially alter consequences for health, and it is the socio-economic context during the period of young adulthood that this report seeks to illuminate.

The main objective of this new report is to pull together existing data on drug deaths and household incomes and present these in a new way that allows interpretation of the intersection of factors that may have affected certain cohorts.

This analysis is descriptive in nature. It does not seek to provide a level of analysis that would confirm causation, but it does set up some hypotheses that could be tested further. This report provides a summary of key themes, with the full set of data and charts that underpin this summary available here.
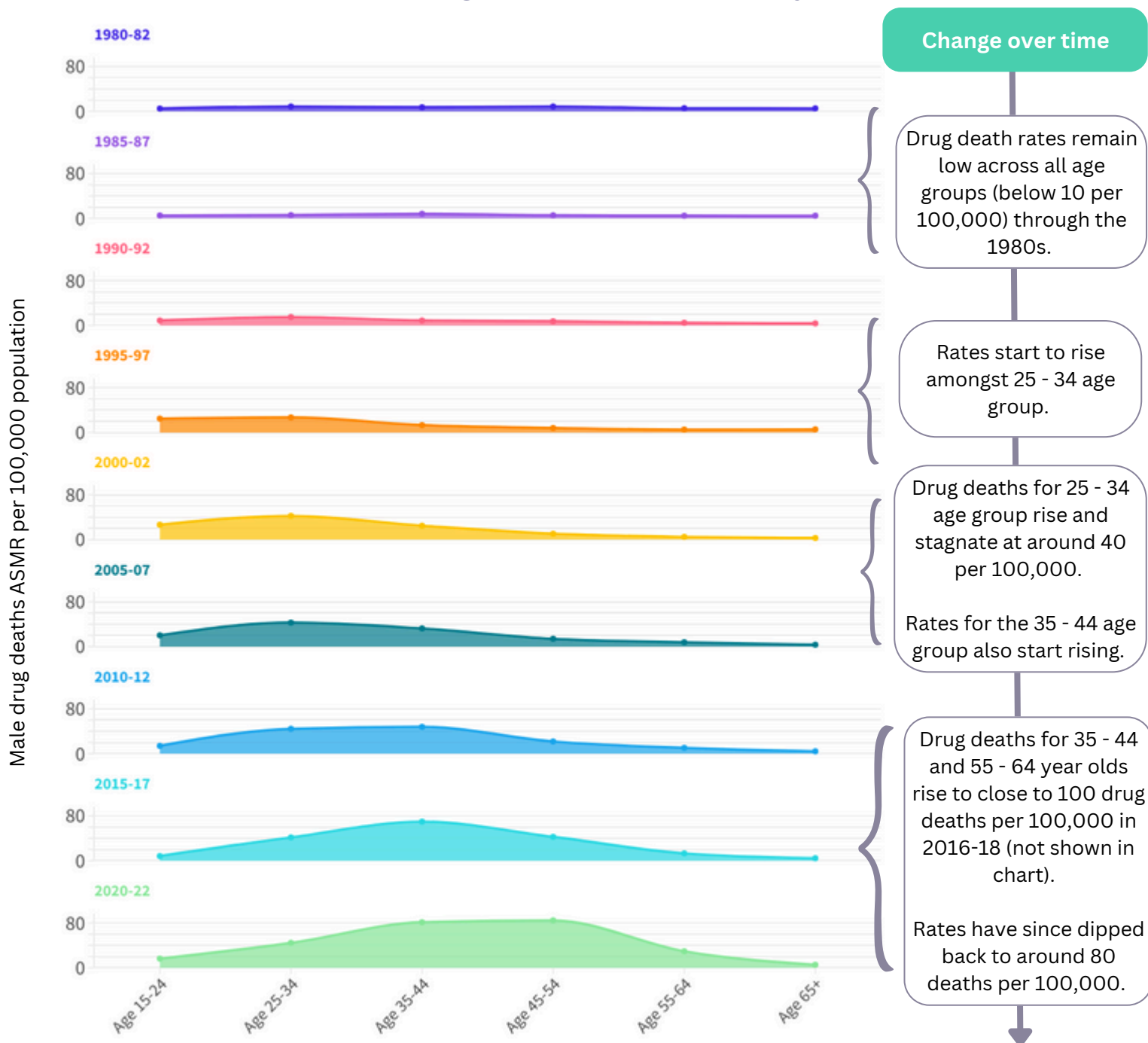
# DRUG DEATHS TREND OVER TIME: MEN

Drug deaths at ages 35–54 have increased exponentially since the early 2010s and are far higher compared to other ages. Rates remained low and fairly constant for the oldest and youngest age groups.

The 25–34 age group was experiencing the highest rates during the 2000s but has not seen further increases, with rates now half that of the 35–54 age group.

## Chart: Age distribution of drug deaths in men, for deaths occurring between 1980-82 and 2020-22 (age standardised mortality rates)



**Change over time**

Drug death rates remain low across all age groups (below 10 per 100,000) through the 1980s.

Rates start to rise amongst 25 - 34 age group.

Drug deaths for 25 - 34 age group rise and stagnate at around 40 per 100,000.

Rates for the 35 - 44 age group also start rising.

Drug deaths for 35 - 44 and 55 - 64 year olds rise to close to 100 drug deaths per 100,000 in 2016-18 (not shown in chart).

Rates have since dipped back to around 80 deaths per 100,000.
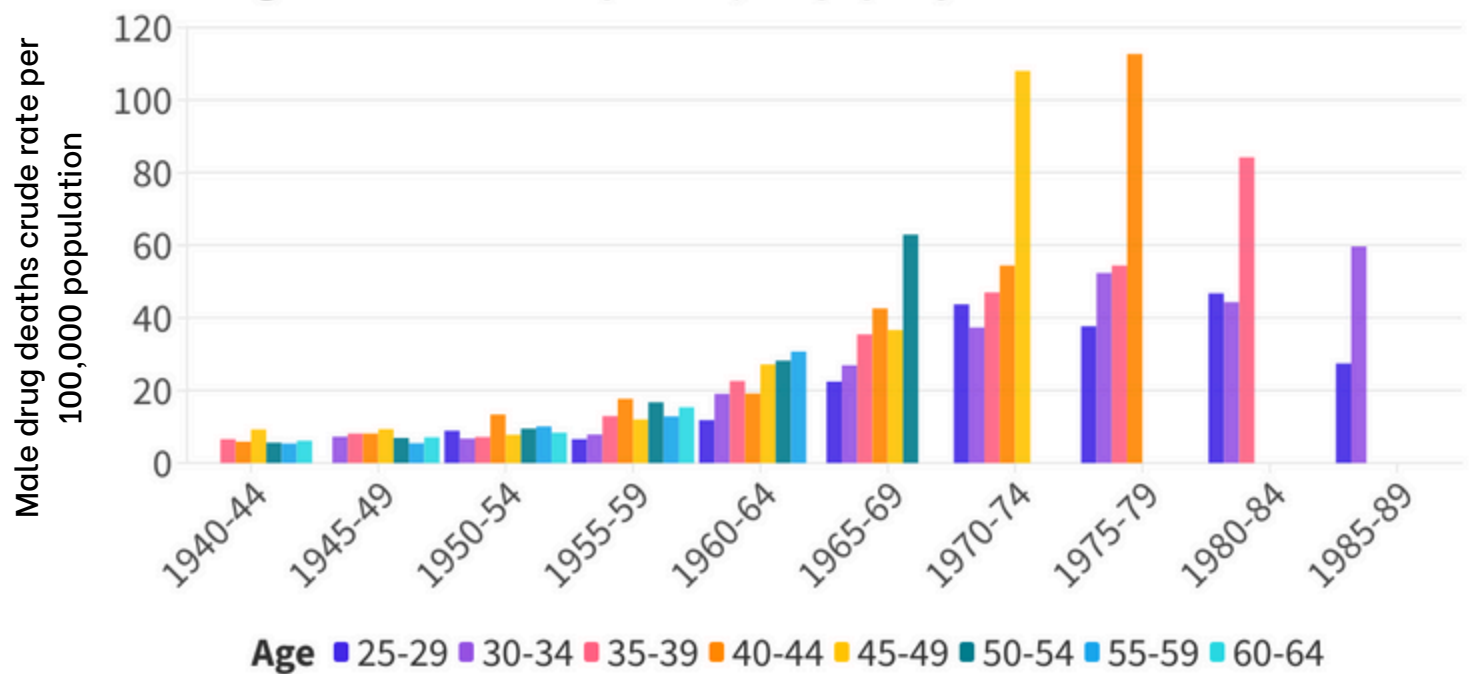
Source: University of Glasgow analysis of NRS individual mortality data

# DRUG DEATHS BIRTH COHORT ANLAYSIS: MEN

Examining the data by birth cohort shows how the differences look depending on when you were born.

These plots show crude rates for 5-year age groups, by birth cohort, using 3-year rolling averages (see Technical Notes page for more information on how this differs to age standardised mortality rates).

## Chart: Drug Deaths by Birth Cohort and Age at Death, Men



Source: University of Glasgow analysis of NRS individual mortality data

For birth cohorts born between 1940 and 1960, drug deaths were consistently low (less than 20 deaths per 100,000 population). Although gradual at first, we see an increase in drug deaths of those born from the 1960s onwards.
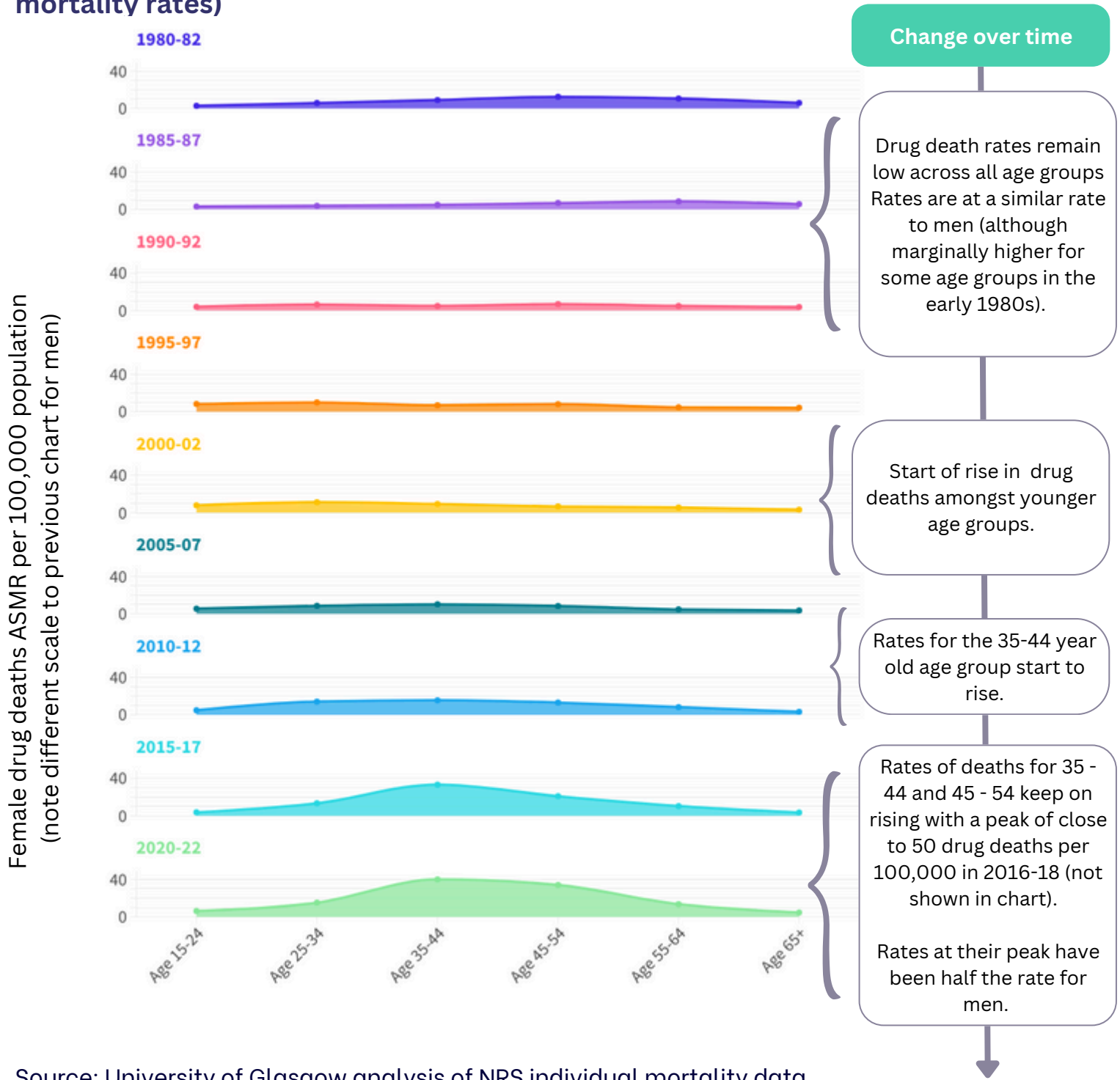
Drug deaths for those aged over 35 have increased for each successive cohort (although the older the age group, the fewer cohorts we have data on). To date, we have observed rates to be highest overall for those aged in their 40s and born in the 1970s (crude rate of over 100 deaths per 100,000 population). We do not yet have data for people in their 40s born in later decades.

It is not clear whether death rates have peaked or will continue to rise (overall and/or in specific age groups).

# DRUG DEATHS TREND OVER TIME: WOMEN

In this report we also include separate analysis of female drug deaths. Rates of drug deaths are lower overall for females than males but we still see peaks in the 35–54 year age group in recent years.

**Chart: Age distribution of drug deaths in women, for deaths occurring between 1980-82 and 2020-22 (age standardised mortality rates)**



Female drug deaths ASMR per 100,000 population (note different scale to previous chart for men)

1980-82
1985-87
1990-92
1995-97
2000-02
2005-07
2010-12
2015-17
2020-22

Age 15-24 · Age 25-34 · Age 35-44 · Age 45-54 · Age 55-64 · Age 65+

**Change over time**

Drug death rates remain low across all age groups Rates are at a similar rate to men (although marginally higher for some age groups in the early 1980s).

Start of rise in drug deaths amongst younger age groups.

Rates for the 35-44 year old age group start to rise.

Rates of deaths for 35 - 44 and 45 - 54 keep on rising with a peak of close to 50 drug deaths per 100,000 in 2016-18 (not shown in chart).

Rates at their peak have been half the rate for men.

Source: University of Glasgow analysis of NRS individual mortality data

# DRUG DEATHS BY BIRTH COHORT ANALYSIS: WOMEN

Examining the data by birth cohort shows how the differences look depending on when you were born.

These plots show crude rates for 5-year age groups, by birth cohort, using 3-year rolling averages.

**Chart: Drug Deaths by Birth Cohort and Age at Death, Women**
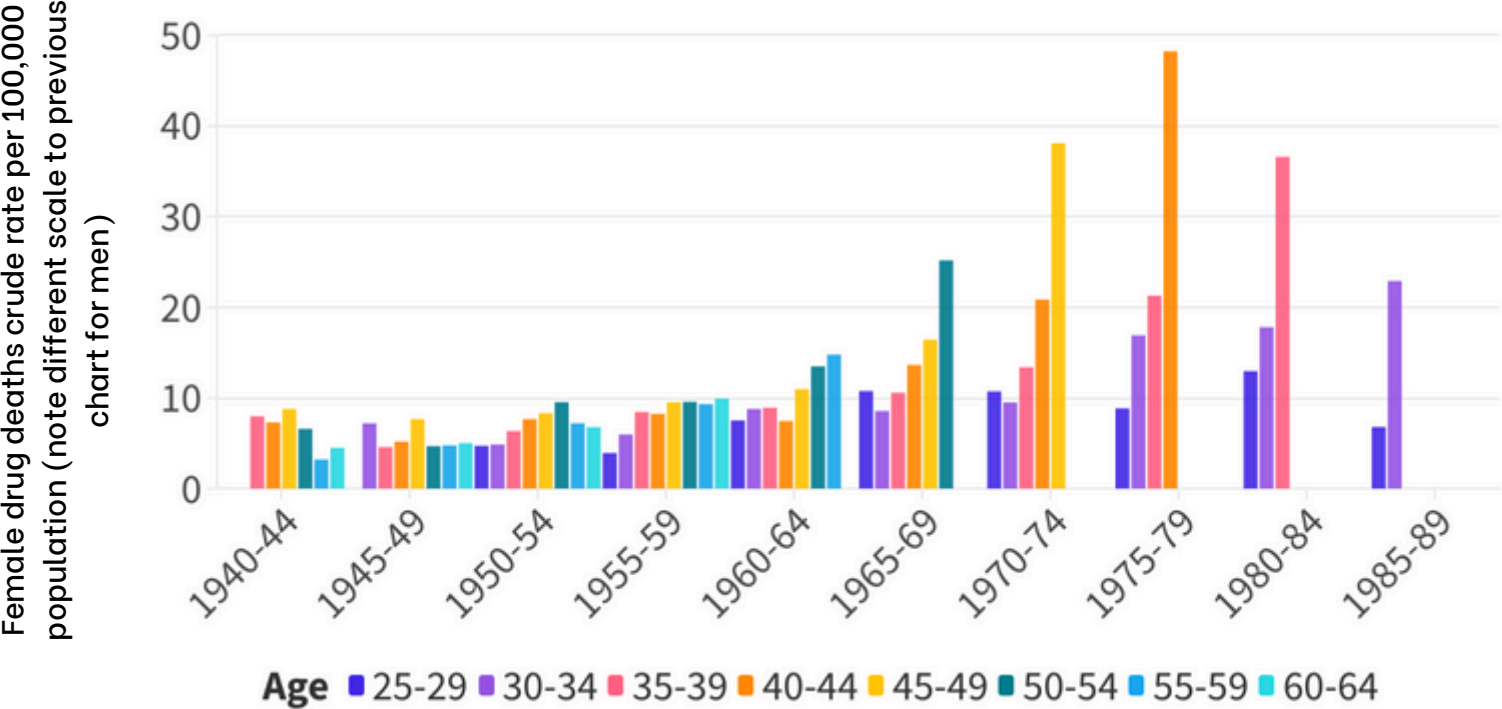


Source: University of Glasgow analysis of NRS individual level mortality data

For females, the pattern of deaths is similar to that of males (peaking – to date – in those born in the 1970s and aged in their 40s).

Crude death rates, however, are of a much lower magnitude than males, overall and within each age group from the 1960s onwards.

# INCOME DATA

It is widely accepted that socioeconomic factors play a key role in resulting health experiences and there is strong evidence that income, including income relative to others, can influence health via psychosocial pathways.

It is hard to find socioeconomic data that can be directly linked to individuals who have seen such extreme rises in drug deaths. Health inequality analysis often uses the index of multiple deprivation, but whilst this helps us identify issues in the area where people live now, it does not help identify which individuals are at greatest risk, or allow us to look at trends affecting those same individuals over time.

In this report, we look at data on household incomes and explore ways that we can use this data to illuminate socioeconomic issues facing young men and women.

Household Income data provides a snapshot of the total disposable income that households have. The data we have used here includes earnings and social security benefits minus housing costs. We look at the data disaggregated by household type, focussing on single adults.

Whilst it is not only single men and women who are dying from drug poisoning, a focus on single adult data give us a good insight into socioeconomic backdrop for young people entering adulthood.  This time of life can be formative in terms of building a career and starting to live financially independent lives.

Single adults may be living with other adults but still be categorised as single adults. For example, they may be cohabiting with other single adults, or be an adult living with their parents.

This data has been publicly available for some time, but to the best of our knowledge we are the first to bring together a consistent time series that stretches back beyond the early 1990s for this household type in Scotland.

# INCOME TRENDS OVER TIME

**Chart: Single adult household income over time in absolute and relative terms**
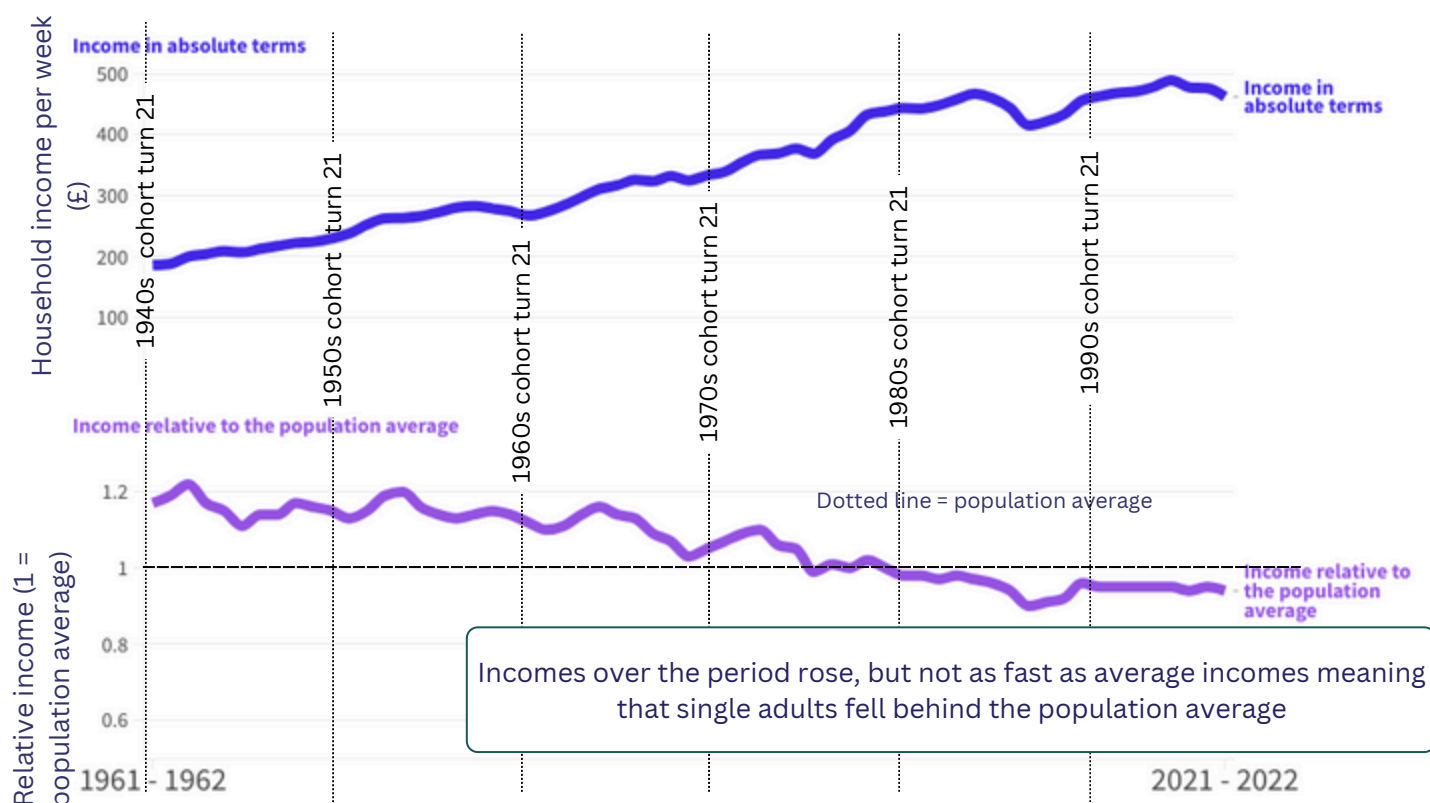


Source: FAI analysis of IFS historical income data series (1961/2 – 1993/4), DWP Households Below Average Income (1994 onwards).

Since 1960, incomes for single adults have increased in absolute terms. There have only been a few periods where real incomes have declined, and only one period of sustained and substantial fall in the late 2010s.

Looking at the data in absolute terms would not suggest that single adults have seen any deterioration in their overall living standards over time. At worst, we see a stagnation in the most recent data.

However, when this data is viewed relative to the population average, a different picture emerges. Incomes for single adults were consistently above average through the 1960s and 1970s and the first half of the 1980s. From the mid 1990s onwards, incomes were hovering around the same level as the population average, before falling below in the late 2000s. Incomes for single adults have stagnated just below the population average since the early 2010s.

# EXPLAINING CHANGES IN INCOME DATA

**Trends over time**

The three main components of income in the data used in this analysis are earnings, social security income, and housing costs.

Through the 1960s and 1970s, earnings were hovering close to 20% higher than the population average, and housing costs were around 10% lower relative to the population average. Social security income, whilst historically lower relative to the rest of the population, came close to the population average in the early 1970s. Taking these factors together, relative incomes remained fairly steady over these two decades, at a sustained higher rate than the population average (as with earnings, close to 20% higher).

Sustained deterioration in relative income starts in the mid 1980s, driven by falling earnings, and carries on into the 1990s. In the 1990s, housing costs rise significantly with single adults paying 20% more than the population average by the end of the decade. Social security support starts to fall away relative terms from the mid-1990s onwards, and this accelerates in the 2000s, a period when households with children and pensioners started to get increasingly more support.
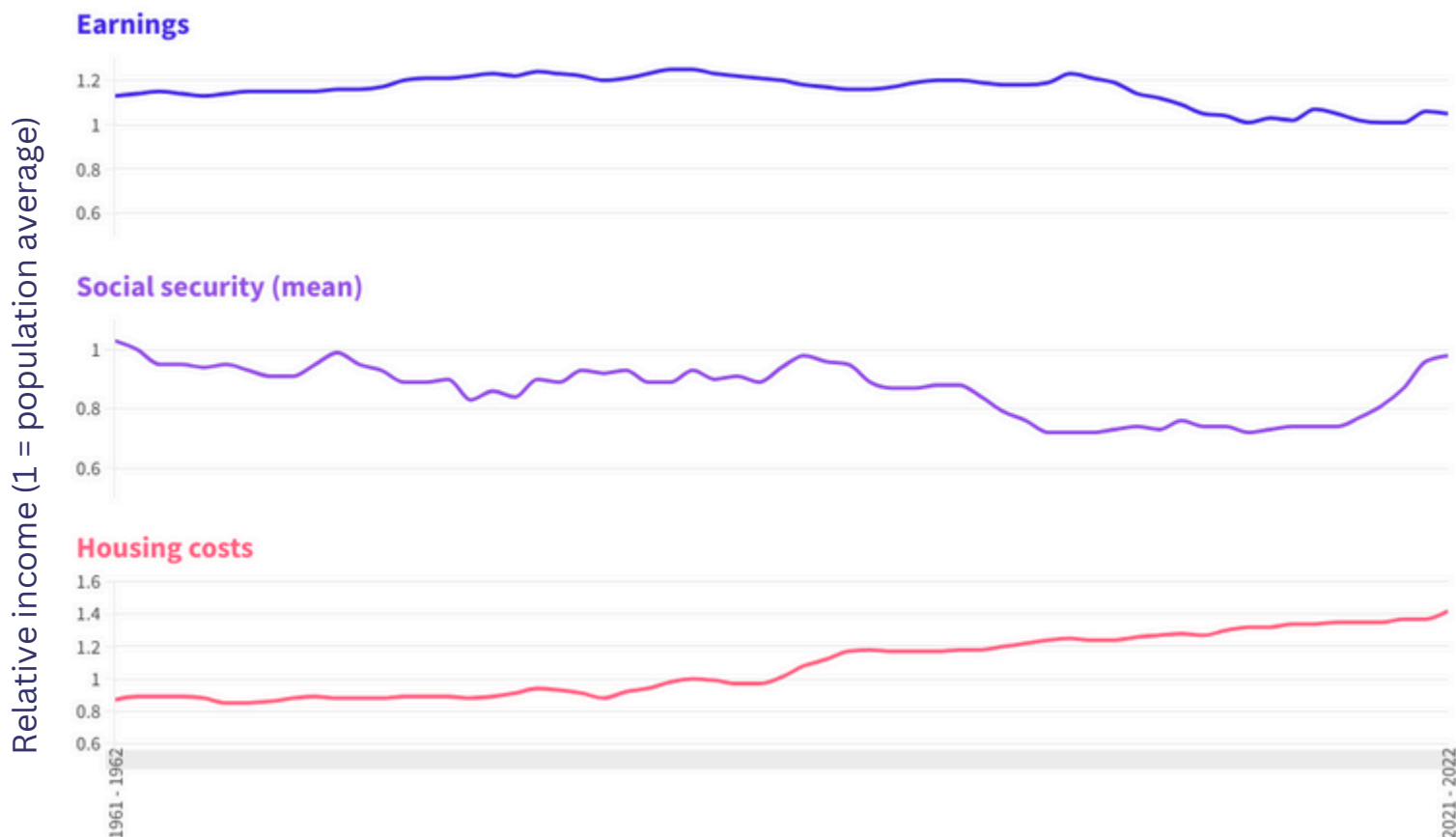


Source: FAI analysis of IFS historical income data series (1961/2 – 1993/4), DWP Households Below Average Income (1994 onwards).

In the 2000s, earnings fell to reach the same level as the population average at the end of the decade. Over the same time housing costs soared to 40% more than the population average.

The 2010s have not seen relative positions for single adults deteriorate further but incomes remain below the population average through the whole decade. The amount of social security paid to this cohort relative to the population average has risen in recent years but this is likely to be Covid related and unlikely to persist.

**Trends by Birth Cohort**

The trend over time shows that it is from the mid 1980s onwards that relative income for single adults starts to fall, and the mid 1990s when they start to become relatively less well off than the population average.

Based on our analysis using 5 year birth cohorts, the first affected birth cohort is those born in 1955 who are in their 30s by this time relative incomes start to fall. If we focus on younger adults in early adulthood (age 21) those born in the 1970s are the first affected cohort. Relative income increased marginally by the time the 1975 birth cohort turned 21, but since then every cohort has seen relative incomes worsening.

**Chart: Single adult income relative to population average**
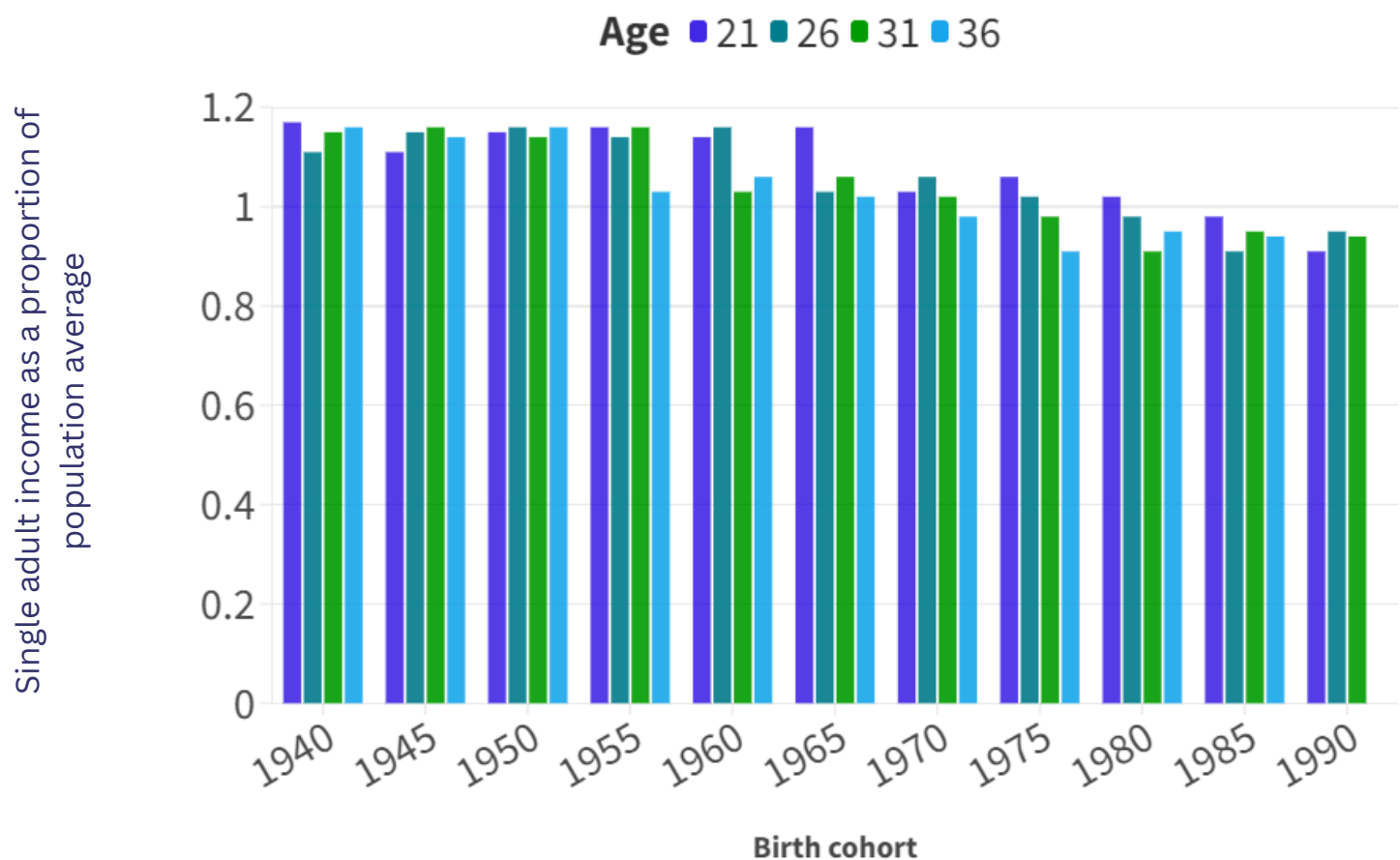


Source: FAI analysis of IFS historical income data series (1961/2 – 1993/4), DWP Households Below Average Income (1994 onwards).

# CONCLUSION

This report draws together existing data in a new way to look at trends between drug deaths and household incomes of single adults.

Bringing the data together in this way provides an extra layer of evidence to add to analyses using place-based estimates of relative deprivation. Data looking at personal financial situations helps to unpick why incomes have declined, and also provides some examples of ways to mitigate falling incomes- for example through uprating benefits in social security system to bring them in line with other household types.

This analysis has not been designed to provide any proof in itself of causality between the deterioration of relative incomes and the recent peaks in drug deaths. However, there are some observed correlations in the data which are potentially of interest.

In particular:

- Cohorts born in the 1970s entered young adulthood in the early 1990s at a time when relative incomes for single adults had dropped significantly compared to previous cohorts.
- Cohorts beginning with those born in 1970 have so far been the most affected with regard to drug deaths.

Even if we could establish a causal link with this data this would clearly not be the only contributory factor to the rise in drug deaths that we've seen during the 2010s. A key issue that is not analysed here for example is the experience of 1970s cohorts during their childhood. We have also started to look at broader socio-economic data which is available in the accompanying data and charts, but are yet to draw any conclusions.

Other questions that we would like to explore in future include:

- What is the role of different components of income? For example, is there any evidence that earnings, social security and housing costs play different roles in wellbeing and subsequent health outcomes?

- Were there any countervailing factors that may protect more recent cohorts? For example, there were increases in public spending for families (through social security and initiatives such as SureStart) that cohorts born in the late 1980s and 1990s would have benefitted from as children.

# TECHNICAL NOTES
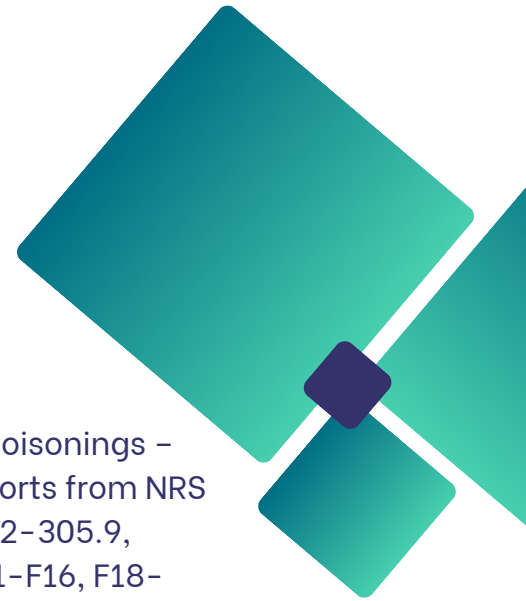
**Mortality Data**

Definitions: All drug-related outputs are presenting drug-related poisonings – this differs from some other definitions which feature in routine reports from NRS and ONS. We use the ONS wide definition (i.e. ICD9 – 292, 304, 305.2-305.9, E850-E858, E950.0-E950.5, E962.0 and E980.0-E980.5. ICD10 – F11-F16, F18-F19, X40-X44, X60-X64, X85 and Y10-Y14) as is standard when examining long-term (pre-1996) trends in drug mortality.  It is worth noting that while the figures from the new analyses can't be directly compared to some routine reports, the patterns are generally very similar.

Rolling averages: unless otherwise stated.

Age standardisation: the overall trends graph (ASMR drug deaths) is age-standardised. Subsequent outputs, broken down by age and cohort, are not age-standardised, but this is unlikely to introduce any bias, because of the narrow (5-year) age groups used.

The drug death analysis uses National Records of Scotland population estimates and individual mortality data (available on request).

**Income data**

The main data source used for the income analysis is UK Government survey data on household incomes. Data for 1961 – 1993 is from the Family Expenditure Survey with the historical data compiled by the Institute for Fiscal Studies and provided via the UK Data Service. Since 1994, the data is taken from the Households Below Average Income (HBAI) dataset, also available from the UK Data Service.

To be included in our analysis of single adults, people will not be cohabiting with a partner/spouse, nor will they have any dependent children living with them (in HBAI terms, they would be defined as being in their own 'benefit unit'). In line with normal practice, income is household income (i.e. total household income is split by the number of people in the household and equivalised using the McClements scale).

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