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SCOTTISH EXECUTIVE

The epidemiology of suicide in Scotland 1989-2004: an examination of temporal trends and risk factors at national and local levels



**THE EPIDEMIOLOGY OF SUICIDE IN SCOTLAND
1989-2004: AN EXAMINATION OF TEMPORAL
TRENDS AND RISK FACTORS AT NATIONAL AND
LOCAL LEVELS**

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**Scottish Executive Social Research
2007**

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CONTENTS

ACKNOWLEDGEMENTS

EXECUTIVE SUMMARY	1
1. INTRODUCTION	7
1.1 Background	7
1.2 Aim and objectives	8
1.3 Structure of the report	9
2. METHODS	10
2.1 Data	10
2.1.1 Deaths data	10
2.1.2 Population data	11
2.2 Data analyses	12
2.2.1 Three year moving average of suicide rates	12
2.2.2 Suicide rates by social class	12
2.2.3 Ratio of male: female age-adjusted rates	12
2.2.4 Methods of suicide	13
2.2.5 SMR analysis	13
2.2.6 Age analysis	13
2.2.7 Area deprivation analysis	13
3. FINDINGS	15
3.1 Allocation of deaths to intentional self harm and undetermined categories	15
3.2 National suicide trends over time (objective 1)	17
3.3 Local suicide trends (three year moving average) (objective 1)	19
3.4 Suicide rates by social class (objective 2)	24
3.5 Ratio of male: female age-adjusted rates (objective 2)	25
3.6 Methods of suicide	30
3.7 Variation in suicide rates by local area (objective 1)	33
3.8 Suicide rates by age and sex (objective 2)	44
3.9 Area deprivation analysis	46
3.10 Relationship between area deprivation and social class (objective 5)	51
4. CONCLUSIONS	53
4.1 Key findings	53
4.2 Policy messages	54
5. GLOSSARY	57
6. REFERENCES	58
APPENDIX: TECHNICAL ASPECTS OF THE RESEARCH METHODS	59

ANNEXES

Annex 1	Three year moving average of suicide rates centred on the middle year, by sex, separately for each local authority, 1989-2004	65
Annex 2	Three year moving average of suicide rates centred on the middle year, by sex, separately for each health board, 1989-2004	98
Annex 3	Male suicide rates by social class, separately for each local authority, 1989-1995 and 1996-2002	114
Annex 4	Male suicide rates by social class, separately for each health board, 1989-1995 and 1996-2002	131
Annex 5	Suicide rates by method of suicide and sex, separately for each local authority, 1989-1995 and 1996-2002	140
Annex 6	Suicide rates by method of suicide and sex, separately for each health board, 1989-1995 and 1996-2002	173
Annex 7	Suicide rates by age group and sex, separately for each local authority, 1989-95 and 1996-2002	189
Annex 8	Suicide rates by age group and sex, separately for each health board, 1989-95 and 1996-2002	222
Annex 9	SMRs by population weighted deprivation tercile, all persons, separately for each local authority, 1989-95 and 1996-2002	238
Annex 10	SMRs by population weighted deprivation tercile, all persons, separately for each health board, 1989-95 and 1996-2002	255

INDEX OF TABLES

Table 2.1	Socio-demographic variables included in the suicide dataset	11
Table 3.1	Percent of deaths classified as intentional self harm or undetermined, by method, Scotland, 1989-2002	15
Table 3.2	Percent of deaths classified as intentional self harm or undetermined, by local authority, Scotland, 1989-2002	16
Table 3.3	Suicide among people aged 15 and over, by sex and year, Scotland, 1989-2004	17
Table 3.4	Suicide among people aged 15 and over, by sex and local authority, 1989-2002	33
Table 3.5	Suicide among people aged 15 and over, by sex and health board, 1989-2002	34
Table 3.6	Suicide among people aged 15 and over by sex and age, Scotland, 1989-2002	44
Table 3.7	The widening suicide gap in Scotland, 1989-1995 to 1996-2002	49
Table 3.8	The widening suicide gap, 1989-95 to 1996-2002, by local authority	50
Table 3.9	The widening suicide gap, 1989-95 to 1996-2002, by health board	51
Table A1	Summary statistics for official health boards in 2001 and pseudo health boards derived from CATTs	59
Table A2	The definitions of the four variables used to construct the Carstairs index of deprivation: 1991 and 2001 censuses	60
Table A3	Analytic classes and operational categories and sub-categories of NS-SEC	62

INDEX OF FIGURES

Figure 3. 1	Crude suicide rates, by sex, Scotland, 1989-2004	18
Figure 3. 2	Three year moving average of suicide rates centred on the middle year, by sex, Scotland, 1989-2004	18
Figure 3. 3	Three year moving average of male suicide rates, Glasgow City, 1989-2004	20
Figure 3. 4	Three year moving average of female suicide rates, Glasgow City, 1989-2004	20
Figure 3. 5	Three year moving average of male suicide rates, North Lanarkshire, 1989-2004	21
Figure 3. 6	Three year moving average of male suicide rates, South Lanarkshire, 1989-2004	21
Figure 3. 7	Three year moving average of female suicide rates, Aberdeen City, 1989-2004	22
Figure 3. 8	Three year moving average of male suicide rates, East Ayrshire, 1989-2004	22
Figure 3. 9	Three year moving average of female suicide rates, Dundee City, 1989-2004	23
Figure 3. 10	Three year moving average of male suicide rates, Shetland Islands, 1989-2004	23
Figure 3. 11	Three year moving average of female suicide rates, Shetland Islands, 1989-2004	24
Figure 3. 12	Suicide rates by social class, males, Scotland, 1989-95 and 1996-2002	25
Figure 3. 13	Ratio of male to female age-adjusted suicide rate by local authority, Scotland, 1989-2002	26
Figure 3. 14	Ratio of male to female age-adjusted suicide rate by local authority, Scotland, 1989-95 and 1996-2002	27
Figure 3. 15	Ratio of male to female age-adjusted suicide rate by health board, Scotland, 1989-2002	28
Figure 3. 16	Ratio of male to female age-adjusted suicide rate by health board, Scotland, 1989-95 and 1996-2002	29
Figure 3. 17	Suicide rate by method, males, Scotland, 1989-95 and 1996-2002	30
Figure 3. 18	Suicide rate by method, females, Scotland, 1989-95 and 1996-2002	31
Figure 3. 19	Proportion of suicides by method, males, Scotland, 1989-95 and 1996-2002	31
Figure 3. 20	Proportion of suicides by method, females, Scotland, 1989-95 and 1996-2002	32
Figure 3. 21	Suicide rate by method, males, Eilean Siar, 1989-95 and 1996-2002	32
Figure 3. 22	Standardised mortality ratio of suicide by local authority area, males and females, 1989-2002	36
Figure 3. 23	Standardised mortality ratio of suicide by local authority area and sex, 1989-2002	37
Figure 3. 24	Standardised mortality ratio of suicide by health board area, males, 1989-95 and 1996-2002	38
Figure 3. 25	Standardised mortality ratio of suicide by health board area, females, 1989-95 and 1996-2002	39
Figure 3. 26	Standardised mortality ratio of suicide by health board, males and females, 1989-2002	40
Figure 3. 27	Standardised mortality ratio of suicide by health board area and sex, 1989-2002	41

Figure 3. 28	Standardised mortality ratio of suicide by health board area, males, 1989-95 and 1996-2002	42
Figure 3. 29	Standardised mortality ratio of suicide by health board area, females, 1989-95 and 1996-2002	43
Figure 3. 30	Suicide rates among men, by age, Scotland, 1989-95 and 1996-2002	45
Figure 3. 31	Suicide rates among women, by age, Scotland, 1989-95 and 1996-2002	45
Figure 3. 32	SMRs by population weighted deprivation quintile, all persons, Scotland, 1989-95 to 1996-2002	46
Figure 3. 33	SMRs by population weighted deprivation quintile, males, Scotland, 1989-95 to 1996-2002	47
Figure 3. 34	SMRs by population weighted deprivation quintile, females, Scotland, 1989-95 to 1996-2002	47
Figure 3. 35	SMRs by population weighted deprivation quintile, persons aged 15-44 years, Scotland, 1989-95 to 1996-2002	48
Figure 3. 36	SMRs by population weighted deprivation quintile, persons aged 45+ years, Scotland, 1989-95 to 1996-2002	48
Figure 3. 37	Suicide rates by deprivation quintile and social class, 1989-1995, Scotland, males	52
Figure 3. 38	Suicide rates by deprivation quintile and social class, 1996-2002, Scotland, males	52

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EXECUTIVE SUMMARY

A research team based at the Universities of Edinburgh, Dundee and St Andrews¹ has been funded by the Scottish Executive's National Programme for Improving Mental Health and Well-being to undertake a detailed epidemiological analysis of suicide² in Scotland at national and local levels during the period 1989-2004. The study findings are intended to support the implementation of *Choose Life*, the national strategy and action plan to prevent suicide in Scotland.

Aim, objectives and scope

The broad aim of the project is to support the implementation of *Choose Life* by providing detailed information on the epidemiology of suicide at national and local levels.

The more specific objectives of the project were defined as:

1. To establish the incidence of suicide in Scotland over the period 1989-2004³, including time (temporal) trends⁴, at national and local levels
2. To describe variation in suicide rates by sex, age and social class⁵, over the period 1989-2002², at national and local levels
3. To examine the relationship between the suicide rate, on the one hand, and the gradient in suicide rates by age and social class⁵, on the other, over the period 1989-2002³, at local level
4. To examine the relationship between the level of socio-economic deprivation⁵, on the one hand, and the gradient in suicide rates by age and social class⁵, on the other, over the period 1989-2002³, at local level.
5. To compare individual-level estimates of the relationship between suicide and social class⁵ with area-level estimates of the relationship between suicide and socio-economic deprivation⁵.

¹ Project grantholders: Professor Stephen Platt, Research Unit in Health, Behaviour and Change (RUHBC), University of Edinburgh; Professor Paul Boyle, School of Geography & Geosciences, St Andrews University; Professor Iain Crombie, Department of Public Health, Division of Community Health Sciences, University of Dundee. Project staff: Dr Zhiqiang Feng and Dr Dan Exeter, School of Geography & Geosciences, St Andrews University

² For the purposes of this study, a **suicide death** is defined to comprise **both** those deaths which are officially classified as suicide/intentional self harm **and** also 'undetermined' deaths. This is in line with international research practice.

³ Originally 1994-2003

⁴ See glossary

⁵ Social class is an *individual* measure of socio-economic position, with low social class indicating a higher risk of poverty/deprivation, whereas socio-economic deprivation is an *area-based* measure.

In fact, we were unable to fulfil objectives 3 and 4 because the number of suicide deaths at local level was too small to permit meaningful or interpretable analysis. However, we have considerably extended the study by examining in some detail:

- the allocation of deaths to intentional self harm or undetermined categories, including variation by method and geography (section 3.1)
- methods of suicide, at national and local levels (section 3.6)
- suicide rates by area deprivation, at national and local levels, including analyses by gender and age group, and calculation of changes in the social gradient ('suicide gap') (section 3.9).

These additional analyses take advantage of a greater range of available data and add value by: highlighting the consequences of adopting a broader definition of suicide; and identifying trends in methods of suicide and the influence of area-level deprivation, thereby contributing to the development of appropriate suicide prevention policy and practice responses.

The main focus of this report is the 14 year period leading up to and including 2002, the year in which *Choose Life* was launched⁶. This is consistent with our intention to provide a detailed picture of suicide in Scotland prior to the implementation of the national suicide prevention strategy and action plan. In relation to the examination of suicide trends over time (at both local and national levels) (objective 1), the analysis is extended to 2004, in order to provide some indication of stability or change in the suicide rate (key outcome measure) during the first two years of *Choose Life* implementation.

Methods

An anonymised dataset of intentional self harm and undetermined deaths occurring over the period 1989 to 2004 was provided by the General Registrar Office for Scotland (GROS). The dataset is confined to deaths among adults aged 15+ years. There were 13185 deaths recorded over the period 1989-2004, of which 74% percent occurred in males (n=9759) and 26% percent in females (n=3426). The dataset permits description of this sample of deaths by key socio-demographic characteristics. With the exception of 189 deaths which did not have Output Area codes, each death record was assigned by the research team to a 2001 Census Output Area and also to a Consistent Area Through Time (CATT). The CATT enables small areas to be reliably compared using data from the 1981, 1991 and/or the 2001 Censuses. On the basis of residential address (postcode sector), each death was assigned to one of five categories of socio-economic deprivation (Carstairs score) for analysis at the national level and to one of three deprivation categories for analysis at the local level.

Population data were obtained from the mid-year population estimates (from GROS) and from the 1991 and 2001 censuses. Mid-year population estimates provide denominators

⁶ As *Choose Life* was launched in December 2002, the impact of the *Choose Life* strategy will be assessed by consideration of data from 2003 onwards.

by sex and age for all suicide rates and standardised mortality ratios⁷ (SMRs), while the census data provide denominators used to calculate suicide rates by social class. Denominators for social class were obtained from census data.

In order to examine local temporal trends in suicide, a three-year moving average of crude suicide death rates was computed separately for males and females in each local area and displayed against the national moving average.

National suicide rates by social class (at death) were computed for males during two time periods (separately): 1989-1995 (based on 1991 census) and 1996-2002 (based on 2001 census). The Registrar General's Social Class (SC) was used as the measure of socio-economic classification. There are five SC categories, with one divided into two subgroups: professional etc (I), managerial and technical (II), skilled non-manual (IIIN), skilled manual (IIIM), partly-skilled (IV) and unskilled (V).

The expected numbers of deaths were calculated for each local area using the death rates at the national level. The standardised mortality ratio (SMR) is thus derived by dividing the observed number of deaths by the expected number of deaths. The age-adjusted⁸ rate was obtained by multiplying SMR and crude death rate.

Methods of suicide were aggregated into eight categories: hanging, firearms/shooting, jumping, cutting, poisoning/overdose, gassing, drowning, other.

At national level and local levels, suicide death rates by age were calculated. At national level, seven age groups (15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75 and over) and three age groups (15-44, 45-64, 65+) were used. At local level, because small numbers are involved, only the latter three (broad) age bands were used.

For the area deprivation analysis, age and sex specific deaths from 1996-2002 were used as the numerators while the denominator was obtained from the 2001 Census. This standard population was used for the calculation of suicide SMRs for the 1989-1995 and 1996-2002 periods, to enable comparisons of suicide trends over time.

Main findings

Across the country as a whole male suicide rates increased by 22 percent and female suicide rates by 6 percent over the period.

In about half the local areas suicide incidence over the whole period was not significantly different to national suicide incidence. However, in Glasgow City, the suicide rate was significantly higher than the Scottish average in all years among both men and women. In Glasgow City and a few other local authorities (West Dunbartonshire, Highland, Eilean Siar, Dundee City and Argyll & Bute) all-person standardised suicide mortality ratios (SMRs) were significantly elevated (compared to Scotland as a whole). In West

⁷ See glossary

⁸ Age-adjusted rates eliminate the bias of age in the composition of populations being compared, thereby providing a much more reliable rate for comparison purposes.

Lothian, South Lanarkshire, North Lanarkshire, Fife, Falkirk, East Renfrewshire, East Lothian, East Dunbartonshire, Angus and Aberdeenshire all-person SMRs were significantly lower than the national average.

There was no clear temporal trend in suicide at the local level. Rates tended to fluctuate or exhibit irregular patterns.

Male suicide rates were approximately three times higher than female suicide rates over the period. There was some variation in the male: female suicide ratio between local areas, with a suggestion that male vulnerability to suicide was greater in the more rural and remote areas of the country.

Across Scotland as a whole male suicide rates tended to decline with age, whereas among women there was an inverse U-shaped relationship (lower rates in youngest and oldest age groups). The highest suicide rate among men (40.8 per 100,000) occurred in 25-34 year age group. High rates were also evident among men aged 35-54 years. Among women, the highest suicide rate (11.6 per 100,000) was found in the 45-54 year age group, with high rates also in the 25-44 year age groups. The excess of suicide deaths among males (approximately fourfold) was particularly marked in the younger age groups (15-34 years). The age-related pattern found at national level is replicated at local level, although there are some anomalous patterns also (e.g. highest rate in the oldest age group in a few areas).

The most common method of suicide among males in Scotland were hanging (7.9 per 100,000), self-poisoning (6.1), drowning (3.1) and gassing (3.0). Among females the most common method of suicide was self-poisoning (4.4 per 100,000). Hanging suicide rates have significantly increased over time for both men and women, while death rates by gassing (mainly carbon monoxide [car exhaust] poisoning) have significantly decreased. In most local areas the rank ordering of methods and trends over time are similar to what is found at national level. The main difference is the greater popularity of drowning as a method of suicide in Highland and the islands.

At the national level there was a marked variation in male suicide rates by social class. Differences between rates in the non-manual groups were not statistically significant. However, there were significant differences between rates in the non-manual groups and social class IIIM, between IIIM and IV, and between IV and V. The slope of the social class gradient was more pronounced in 1996-2002 than in 1989-1995. Similar patterns and trends were found in local areas.

Across Scotland there was a strong relationship between suicide and socio-economic deprivation: the higher the level of deprivation, the higher the standardised suicide mortality ratio. The 'relative gap' between SMRs, calculated by dividing the SMR for the most deprived quintile by the SMR for the least deprived quintile, was larger ('widening gap') in 1996-2002 compared to 1989-1995. The magnitude of the widening gap was similar for men and women. Although the relative gap was higher among people aged 15-44 years than among people aged 45+ years, the widening gap was more pronounced

in the older age group than in the younger age group. An analysis of suicide and socio-economic deprivation *within* local areas reveals evidence of a relative suicide gap in all but a few local authorities and health boards. A widening suicide gap over time was found in 24 (out of 32) local authorities and 12 (out of 15) health boards.

The suicide rate was found to be significantly higher in class V than in other social classes in all local areas, irrespective of the degree of socio-economic deprivation. In 1989-1995 the patterning of social class differences does not differ markedly between categories of socioeconomic deprivation. This that the main influence on suicide rates is at the individual, rather than area, level. In 1996-2002, however, there is evidence of a trend towards an increase in the social class gradient as the level of socioeconomic deprivation worsens: that is to say, the gap between suicide rates in the highest and lowest social classes increases as the level of socio-economic deprivation worsens. However, the compositional effect (the influence of individual social class) is undoubtedly far stronger than the area effect (the influence of the level of socio-economic deprivation in the locality).

Implications

Social class and socio-economic deprivation

- The study findings suggest the need to give greater priority to the effects of social class (at individual level) and socio-economic deprivation (at area level) in local and national suicide prevention strategy and action plans.
- Targeted action is warranted in areas with high suicide rates where there is evidence of impact of socio-economic deprivation (eg Glasgow).
- However, according to the analyses reported here, it is not enough to target suicide prevention activities exclusively on areas of social disadvantage, because this will not meet the needs of people who are in the lowest social classes but who live outside areas of economic deprivation. The analyses indicate that the influence of individual social class is far stronger than the influence of the level of socio-economic deprivation in the area.
- Addressing higher suicide risk in lower socio-economic groups would be consistent with Scottish Executive's wider strategies on promoting social justice and social inclusion, reducing social inequality and tackling health inequalities
- In addition to considerations of social class and socio-economic deprivation, the ratio of male to female age-adjusted suicide rates indicates a higher level of vulnerability to suicide among men in the more rural and remote areas in the country.

Supporting the national suicide reduction target

- If the recent reduction in suicide incidence is to be sustained in years to come, the public, government, policy makers, agencies, planners, academics, mass media and practitioners need to understand the role that suicide prevention activity in general, and *Choose Life* in particular, is playing and has played. In this context, it is important to note that in Scotland *Choose Life* sits in the broader context of health improvement, public health work and wider work on social justice (as part of the Executive's National Programme for Improving Mental Health and Well-being).

Initiatives such as ‘Scottish Mental Health First Aid,’ the ‘Breathing Space’ telephone line, the ‘see me’ anti-stigma campaign, work on recovery and social inclusion are all likely to be contributing to the recent reduction in the suicide rate in Scotland. Work on improving health and social care services, such as the recent emphasis on addressing depression and improving the delivery of mental health services (Delivering for Mental Health) may also be impacting on the suicide rate, as well as wider social, economic and public policy factors.

- To support the implementation of *Choose Life*, more detailed and up to date information about the epidemiology of suicide is needed, both nationally and locally. GROS has collected and collated a considerable amount of information on each suicide (or possible suicide) death in Scotland, but relatively little has been published to date. An in-depth exploration of these data would help to inform planners and practitioners about the suicide situation in Scotland.

Links with the evaluation of the first phase of *Choose Life*

This study was commissioned as part of a wide programme of research and evaluation to support the implementation of *Choose Life*. The evaluation of the first phase of *Choose Life* was published in September 2006 and members of the evaluation team also worked on this project. Findings from this study reinforce several of the recommendations made by the evaluation team. In particular:

- *Enhanced focus on inequalities.* The evaluation highlighted the omission of socio-economic deprivation and low socio-economic status from priority groups in the *Choose Life* strategy.
- *Targets at local levels.* Because the number of suicides and undetermined deaths fluctuates annually, it is not easy to translate a 10 year national target into meaningful local area targets, particularly in areas where the number of suicide deaths per annum is small. To maximise the engagement and continuing contribution of local areas towards the national 10 year target, it may be worthwhile considering the introduction of local targets.
- *Possible ‘proxy’ target.* One possible candidate would be non-fatal self harm incidence, operationally defined as admissions to hospital following self-poisoning and/or self-injury, although admissions to hospital and medical or psychosocial ‘seriousness’ are not perfectly correlated. Many (perhaps even the majority) of those treated in hospital will not represent a high suicide risk, and a small but significant minority of those who do not attend hospital (not referred or refusing to attend) will be high risk and will go on to die by suicide.

1. INTRODUCTION

1.1. Background

The epidemiology⁹ of suicide has changed markedly over the past 30 years, in Scotland as in other (post-) industrialised countries. In particular, the sex gap has continued to grow, with men in Scotland now over three times more likely to kill themselves than women (men: 24.3 per 100 000 population aged 15+ years; women: 7.0/100 000 in 2002). The age profile is also considerably altered: suicide risk, rather than tending to increase with age, is now highest in the 15-44 age groups, thereafter declining with age.

With respect to the influence of socio-economic status, there is evidence to suggest that lower socio-economic groups have been, and continue to be, more at risk of suicide than higher socio-economic groups. In 1991-93 there was a clear social gradient in suicide mortality between occupational social classes, with a four-fold difference in mortality between social classes I and V for the United Kingdom as a whole. However, this was mainly associated with excess mortality in social class V, as the gradient was less apparent when the experiences of social class V were excluded. Scotland had the worst level of suicide mortality, with higher rates¹⁰ in each social class than all other countries and regions (with one exception). There was considerable geographic variation in suicide mortality for social classes I and V. For social class I, suicide rates in Scotland were 3.5 times those in the North East (the region with the lowest mortality in this social class). For social class V, rates in Scotland were 2.7 times higher than in London (where rates for this class were significantly below most other areas in the UK)¹¹.

Within Scotland, geographical variations in suicide have also been identified. We have known for some time that rates are higher than expected in the Highlands, but there is increasing evidence of a stark polarisation between the most and least deprived areas. Thus, a recent study (Boyle et al 2005) showed that, while suicide rates declined significantly in all deprivation quintiles for older adults (45+), the ratio between the most and least deprived quintiles widened slightly from 1.51 to 1.81. However, the gap widened much more (from 2.98 to 4.02) among young adults (15-44), and especially among young women (from 2.96 to 5.77; compared to an increase from 2.99 to 3.67 among young men).

As relevant background for planning the implementation of *Choose Life*, the suicide prevention strategy in Scotland, detailed information about the epidemiology of suicide at regional and local levels is required. The General Register Office (Scotland) (GRO(S)) has collected and collated a considerable amount of information on each suicide (or possible suicide) death, but relatively little has been published. A comprehensive dataset could be constructed, which, together with appropriate general population data (also available from GRO(S)), would help to inform planners and practitioners about the suicide situation in Scotland. Many specific issues could be addressed. As a first step,

⁹ See glossary

¹⁰ See glossary

¹¹ http://www.statistics.gov.uk/downloads/theme_health/DS16/DS16_cap12.pdf.

we suggest examining variation in suicide incidence¹² by sex, age and socio-economic status across the whole of Scotland and separately for each local area. Given the possible unreliability of social class information derived from death certificates, it would be important to develop and apply area-level measures of economic status based on residential postcodes ('deprivation category'). The extent to which the 'suicide gap' (inequalities in suicide risk) varies according to the prevailing rate of suicide and the level of socio-economic deprivation in the locality also deserves further examination.

The aim and objectives of this study are set out below.

1.2 Aim and objectives

The broad aim of the project is to support the implementation of *Choose Life* by providing detailed information on the epidemiology of suicide at national and local levels.

The more specific objectives of the project were defined as:

1. To establish the incidence of suicide in Scotland over the period 1989-2004¹³, including time (temporal) trends¹⁴, at national and local levels
2. To describe variation in suicide rates by sex, age and social class¹⁵, over the period 1989-2002², at national and local levels
3. To examine the relationship between the suicide rate, on the one hand, and the gradient in suicide rates by age and social class¹⁵, on the other, over the period 1989-2002², at local level
4. To examine the relationship between the level of socio-economic deprivation¹⁵, on the one hand, and the gradient in suicide rates by age and social class¹⁵, on the other, over the period 1989-2002², at local level.
5. To compare individual-level estimates of the relationship between suicide and social class¹⁵ with area-level estimates of the relationship between suicide and socio-economic deprivation¹⁵.

In fact, we were unable to fulfil objectives 3 and 4 because the number of suicide deaths at local level was too small to permit meaningful or interpretable analysis. However, we have considerably extended the study by examining in some detail:

¹² See glossary

¹³ Originally 1994-2003

¹⁴ See glossary

¹⁵ Social class is an *individual* measure of socio-economic position, with low social class indicating a higher risk of poverty/deprivation, whereas socio-economic deprivation is an *area-based* measure.

- the allocation of deaths to intentional self harm or undetermined categories, including variation by method and geography (section 3.1)
- methods of suicide, at national and local levels (section 3.6)
- suicide rates by area deprivation, at national and local levels, including analyses by gender and age group, and calculation of changes in the social gradient ('suicide gap') (section 3.9).

These additional analyses take advantage of a greater range of available data and add value by: highlighting the consequences of adopting a broader definition of suicide; and identifying trends in methods of suicide and the influence of area-level deprivation, thereby contributing to the development of appropriate suicide prevention policy and practice responses.

The main focus of this report is the 14 year period leading up to and including 2002, the year in which *Choose Life* was launched¹⁶. This is consistent with our intention to provide a detailed picture of suicide in Scotland prior to the implementation of the national suicide prevention strategy and action plan. In relation to the examination of suicide trends over time (at both local and national levels) (objective 1), the analysis is extended to 2004, in order to provide some indication of stability or change in the suicide rate (key outcome measure) during the first two years of *Choose Life* implementation.

1.3 Structure of the report

The methods used in this study are set out in section 2 (starting on page 10), the findings in section 3 (starting on page 15) and the conclusions in section 4 (starting on page 53). Section 5 (page 56) is a glossary and the references can be found in section 6 (page 57). A technical appendix starts on page 58. An extensive set of annexes (starting on page 64) provides data on each local authority and health board in relation to suicide trends over time (annexes 1 and 2), male suicide rates by social class (annexes 3 and 4), suicide rates by method and sex (annexes 5 and 6), suicide rates by age group and sex (annexes 7 and 8) and the association between socio-economic deprivation and suicide (annexes 9 and 10).

¹⁶ As *Choose Life* was launched in December 2002, the impact of the *Choose Life* strategy will be assessed by consideration of data from 2003 onwards.

2. METHODS

2.1 Data

2.1.1 Deaths data

An anonymised dataset of intentional self harm and undetermined deaths occurring over the period 1989 to 2004 was provided by the General Registrar Office for Scotland (GROS).

For the purposes of this study, a **suicide death** is defined to comprise **both** those deaths which are officially classified as suicide/intentional self harm (ICD9 E950-959; ICD10 X60-84) **and** also ‘undetermined’ deaths (ICD9 E980-989; ICD10 Y10-34). The inclusion of ‘undetermined’ deaths is in line with accepted international research practice: ‘undetermined’ deaths are often considered to be *probable* suicides, whereas suicide/intentional self harm deaths are labelled *definite* suicides. Appendix A1 includes a discussion of the possible impact of using two different ICD systems on the reliability of the classification of suicide.

The dataset is confined to deaths among adults aged 15+ years. There were 13185 deaths recorded over the period 1989-2004, of which 74% percent occurred in males (n=9759) and 26% percent in females (n=3426). (An additional 42 deaths among adults were excluded from the analysis: 41 cases did not have council codes and one death did not have an age code.)

Deaths among children under 15 years of age are omitted from the analysis because, first, suicide is only rarely recorded in this age group, and, second, some of the deaths labelled undetermined will result from uncertainty between accident and homicide (rather than between accident and suicide).

Data have been provided for each death on a range of variables, as listed in table 2.1. The dataset permits description of this sample of deaths by key socio-demographic characteristics.

With the exception of 189 deaths which did not have Output Area codes, each death record was assigned by the research team to a 2001 Census Output Area and also to a Consistent Area Through Time (CATT). The CATT enables small areas to be reliably compared using data from the 1981, 1991 and/or the 2001 Censuses (Exeter *et al.* 2005). Pseudo health boards were derived from these CATTs (see appendix A2 for technical details), thus permitting comparison between health board areas.

On the basis of residential address (postcode sector), the research team assigned the Carstairs deprivation score to each death (see appendix A3 for technical details). The original Carstairs index of deprivation was divided into 7 disproportionate categories, based on a normal distribution curve, in order to make comparisons between the least and most deprived areas in Scotland. In this study, we also divided the continuous score into

categories for comparative analyses. At national level we used population weighted¹⁷ quintiles (five categories), while at local level population weighted terciles (three categories) were used. Thus, in 1991 and 2001, each quintile comprised approximately 800,000 adults aged 15 years and older, while each tercile comprised approximately 1.3 million adults aged 15 years and older.

Table 2.1 Socio-demographic variables included in the suicide dataset

<i>Time period covered</i>	1989-2004 (16 years)
<i>Geographical coverage</i>	Scotland
<i>Causes of death</i>	<ul style="list-style-type: none"> • Suicide (ICD9 E950-959) /Intentional self harm (ICD 10 X60-84) • Undetermined (ICD9 E980-989; ICD10 Y10-34)
<i>Age at death</i>	15+ years
<i>Information available for each death</i>	<ul style="list-style-type: none"> • Sex • Age • Marital status • Parents' marital status • Occupational code • Employment status • Social class (NS-SEC from 2001) • Cause of death (details) • Place of occurrence of death • Geographical information, including health board area*, local government (Council) area*, local government region, local government district, electoral ward, rural/urban indicator) <p><i>[*key indicators of area of residence]</i></p>

2.1.2 Population data

In order to conduct the epidemiological analysis, population (denominator) data were required for all key variables, at both national and local (council and health board) area level. Population data were obtained from the mid-year population estimates (from GROS) and from the 1991 and 2001 censuses. Mid-year population estimates provide denominators by sex and age for all suicide rates and standardised mortality ratios (SMRs¹⁸), while the census data provide denominators used to calculate suicide rates by social class. Denominators for social class were obtained from the census data: the 1991 census provides population denominators for the period 1989-1995 and the 2001 census provides population denominators for the period 1996-2002.

¹⁷ See glossary

¹⁸ See glossary

2.2 Data analyses

The software package STATA was used for all data management and analysis. Graphs were prepared using Microsoft Excel.

2.2.1 Three year moving average of suicide rates

A moving average is a useful indicator to show the temporal trend when data are subject to marked fluctuations from one time period to another. The underlying trend becomes more discernible through the ‘smoothing’ process. A three-year moving average of crude suicide death rates was computed separately for males and females in each local area and displayed against the national moving average. The moving average was constructed by centring on the mid-year. For example, from 1990 to 1992, the crude rates for 1990, 1991, and 1992 were calculated and the average was taken as the moving average suicide death rate of 1991. Crude rates were used because they give a more readily interpretable measure of the burden of mortality than standardised rates and the population structure did not change significantly over the relatively short time period covered by the study.

2.2.2 Suicide rates by social class

National suicide rates by social class (at death) were computed for males during two time periods (separately): 1989-1995 (based on 1991 census) and 1996-2002 (based on 2001 census). This analysis was not undertaken for women due to the high proportion of female suicide deaths that were not assigned to a substantive social class category. The main reason appears to be non-involvement in the labour market.

The Registrar General’s Social Class (SC) has been used as the measure of socio-economic classification in this study. There are five SC categories, with one divided into two subgroups. These categories are:

- I Professional etc occupations
- II Managerial and technical occupations
- IIIN Skilled non-manual occupations
- IIIM Skilled manual occupations
- IV Partly-skilled occupations
- V Unskilled occupations.

Technical details relating to the use of the SC scheme can be found in appendix A4.

2.2.3 Ratio of male: female age-adjusted rates

The indirect standardisation¹⁹ method was employed to adjust male and female suicide death rates. Age (over 15 years) was assigned to a ten-year age group (15-24, 25-34, 35-44, 45-54, 55-64, 65-74) or an open-ended category (75 and over), as appropriate.

The expected numbers of deaths were calculated for each local area using the death rates at the national level. The standardised mortality ratio (SMR) was calculated by dividing the observed number of deaths by the expected number of deaths. SMRs permit the comparison of suicide incidence in a given local area against a common standard (the

¹⁹ See glossary

whole of Scotland). The age-adjusted rate was obtained by multiplying SMR and crude death rate. In order to identify the ratio of male: female suicide rates, it is necessary to adjust for differences in the age structure of male and female populations.

2.2.4 Methods of suicide

Methods of suicide were aggregated into eight categories (Platt, et al, 1988) from detailed categories of ICD9 and ICD10, which were attached to death records.

The methods are:

- Hanging
- Firearms/shooting
- Jumping
- Cutting
- Poisoning/overdose
- Gassing
- Drowning
- Others (not elsewhere classified).

Rates were calculated at both national and local area level, for the whole time period and two separate periods (1989-95, 1996-2002).

2.2.5 SMR analysis

SMRs and 95% confidence intervals²⁰ were calculated (Gardner and Altman, 1989) for each local area, over the whole period and for two separate time periods. SMRs were standardised around population structure in 1996-2002 in order to make comparisons between the two periods.

2.2.6 Age analysis

At national level and local level, suicide death rates by age were calculated. At national level, seven age groups (15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75 and over) and three age groups (15-44, 45-64, 65+) were used. At local level only the three age groups were used. Rates were computed for the whole period and also for 1989-1995 and 1996-2002. In order to indicate the uncertainty (imprecision) around these rates, 95% confidence intervals were computed. Analyses were conducted separately for males and females.

2.2.7 Area deprivation analysis

At national and local (health board and council) levels, we used age and sex specific deaths from 1996-2002 as the numerator while the denominator was obtained from the 2001 Census. This standard population was used for the calculation of suicide SMRs for the 1989-1995 and 1996-2002 periods, to enable comparisons of the suicide trends over time. Note that, if the observed deaths were equal to the expected deaths, the SMR would equal 100.

²⁰ See glossary

An established literature shows that suicide is increasing among young adults, and decreasing among older adults. Evidence also suggests that temporal trends in suicide differ among males and females. Therefore, in the analysis of Scottish trends we calculated SMRs and 95% confidence intervals for males, females and all persons, aged 15 years and older, 15 to 44 years, and 45 years and older. At local level, we calculated SMRs and 95% confidence intervals for all persons, aged 15 years and older, 15 to 44 years, and 45 years and older. (More fine-grained analysis was ruled out as a result of small numbers.) SMRs were calculated for population weighted quintiles for Scotland, while SMRs were calculated for population weighted terciles (three categories) for local areas.

3. FINDINGS

3.1 Location of deaths to intentional self harm and undetermined categories

Overall 72% of suicide deaths during 1989-2002 were classified as intentional self harm. This average conceals massive variation by method (table 3.1). Virtually all deaths by hanging were coded as intentional self harm, whereas under 40% of deaths by drowning and less than a third of deaths by ‘other’ methods were coded as intentional self harm. This finding is in line with previous research relating to an earlier time period in Scotland (Platt *et al* 1988).

Table 3.1 Percent of deaths classified as intentional self harm or undetermined, by method, Scotland, 1989-2002

<i>Method of suicide</i>	<i>Intentional self harm</i>	<i>Undetermined</i>	<i>Total</i>	<i>Percent of total classified as intentional self harm</i>	<i>Difference from average</i>
Poisoning/overdose	2,296	1,388	3,684	62.32	-9.76
Gassing	1,081	72	1,153	93.76	21.68
Hanging	3,123	20	3,143	99.36	27.28
Drowning	542	837	1,379	39.30	-32.78
Firearm/shooting	231	44	275	84.00	11.92
Cutting	136	30	166	81.93	9.85
Jumping	690	351	1,041	66.28	-5.8
Other	233	486	719	32.41	-39.67
Total	8,332	3,228	11,560	72.08	

Table 3.2 shows that there was also variation in the classification of suicide deaths across different local authority areas, albeit on a smaller scale. The most anomalous area is Eilean Siar, where nearly two thirds of suicide deaths are classified as undetermined. The most likely explanation is the frequency of deaths by drowning (40 out of 83 suicides) and the difficulty of meeting the burden of proof necessary for the classification of such deaths as suicide. In fact, all but three of the 40 drowning deaths were assigned to the undetermined category.

Table 3.2 Percent of deaths classified as intentional self harm or undetermined, by local authority, Scotland, 1989-2002

<i>Local authority</i>	<i>Intentional self harm</i>	<i>Undetermined</i>	<i>Total</i>	<i>Percent of total classified as intentional self harm</i>	<i>Difference from average</i>
Aberdeen City	371	99	470	78.94	6.86
Aberdeenshire	306	132	438	69.86	-2.21
Angus	174	34	208	83.65	11.58
Argyll & Bute	154	87	241	63.90	-8.18
Clackmannanshire	69	22	91	75.82	3.75
Dumfries & Galloway	246	93	339	72.57	0.49
Dundee City	317	109	426	74.41	2.34
East Ayrshire	191	77	268	71.27	-0.81
East Dunbartonshire	129	42	171	75.44	3.36
East Lothian	115	24	139	82.73	10.66
East Renfrewshire	86	18	104	82.69	10.62
Edinburgh, City of	791	233	1,024	77.25	5.17
Eilean Siar	31	52	83	37.35	-34.73
Falkirk	208	83	291	71.48	-0.60
Fife	566	146	712	79.49	7.42
Glasgow City	1,219	695	1,914	63.69	-8.39
Highland	443	185	628	70.54	-1.53
Inverclyde	138	81	219	63.01	-9.06
Midlothian	120	38	158	75.95	3.87
Moray	150	59	209	71.77	-0.31
North Ayrshire	209	88	297	70.37	-1.71
North Lanarkshire	455	150	605	75.21	3.13
Orkney Islands	34	20	54	62.96	-9.11
Perth & Kinross	221	72	293	75.43	3.35
Renfrewshire	281	102	383	73.37	1.29
Scottish Borders	185	43	228	81.14	9.06
Shetland Islands	34	26	60	56.67	-15.41
South Ayrshire	160	73	233	68.67	-3.41
South Lanarkshire	395	161	556	71.04	-1.03
Stirling	123	57	180	68.33	-3.74
West Dunbartonshire	172	88	260	66.15	-5.92
West Lothian	239	39	278	85.97	13.90
Total	8,332	3,228	11,560	72.08	

3.2 National suicide trends over time (objective 1)

Male rates of death by suicide increased by 22 percent and female rates increased by 6 percent from 1989 to 2004 (single years) (table 3.3). Among males the peak rate during the period under review occurred in 2002 (34.1 per 100,000 aged 15+ years); among females the peak rate was in 2001 (10.9). It would be premature, however, to assume that 2001/2002 marks a turning point in terms of suicide incidence in Scotland. It should be noted that the rate in 2004 was higher than that in 2003 for both men and women.

Table 3.3 Suicide among people aged 15 and over, by sex and year, Scotland, 1989-2004

<i>Year</i>	<i>Male</i>		<i>Female</i>	
	<i>Number of deaths</i>	<i>Rate per 100,000</i>	<i>Number of deaths</i>	<i>Rate per 100,000</i>
1989	487	24.9	208	9.6
1990	543	27.7	181	8.3
1991	521	26.6	182	8.4
1992	575	29.4	217	10.0
1993	668	34.1	230	10.6
1994	607	31.0	222	10.2
1995	618	31.5	209	9.6
1996	613	31.3	224	10.3
1997	648	33.1	218	10.0
1998	648	33.1	225	10.3
1999	660	33.7	208	9.5
2000	671	34.2	199	9.1
2001	644	32.7	240	10.9
2002	673	34.1	221	10.1
2003	576	29.0	216	9.8
2004	607	30.3	226	10.2

Figures 3.1 and 3.2 illustrate the temporal trends in national suicide incidence, based on crude rates and a three year moving average, respectively.

Figure 3.1 Crude suicide rates, by sex, Scotland, 1989-2004

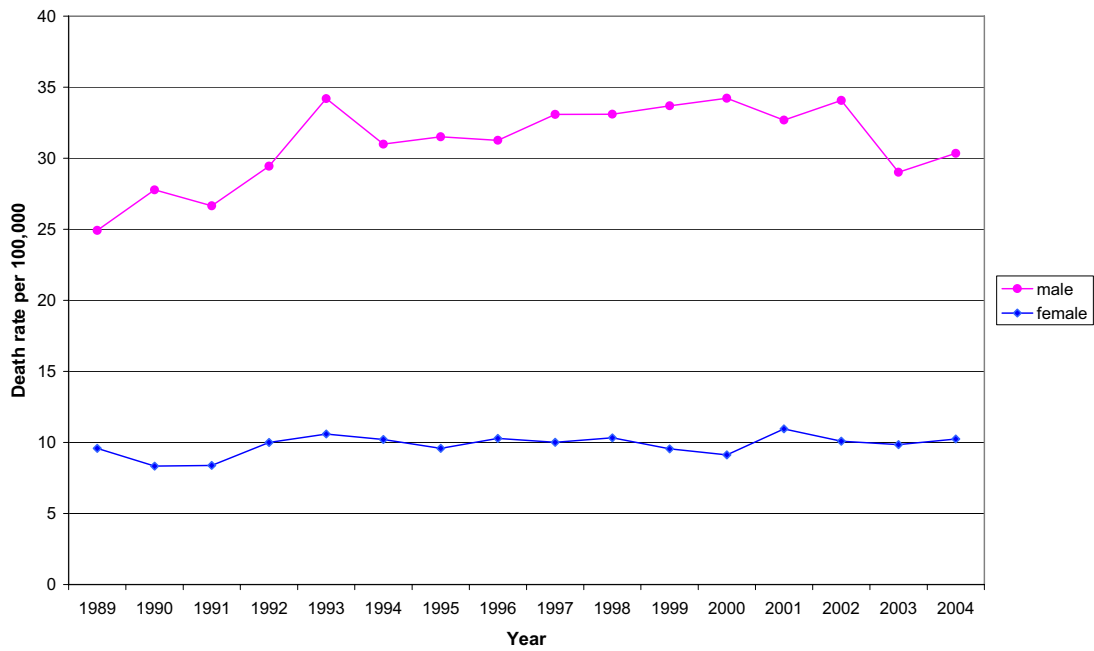
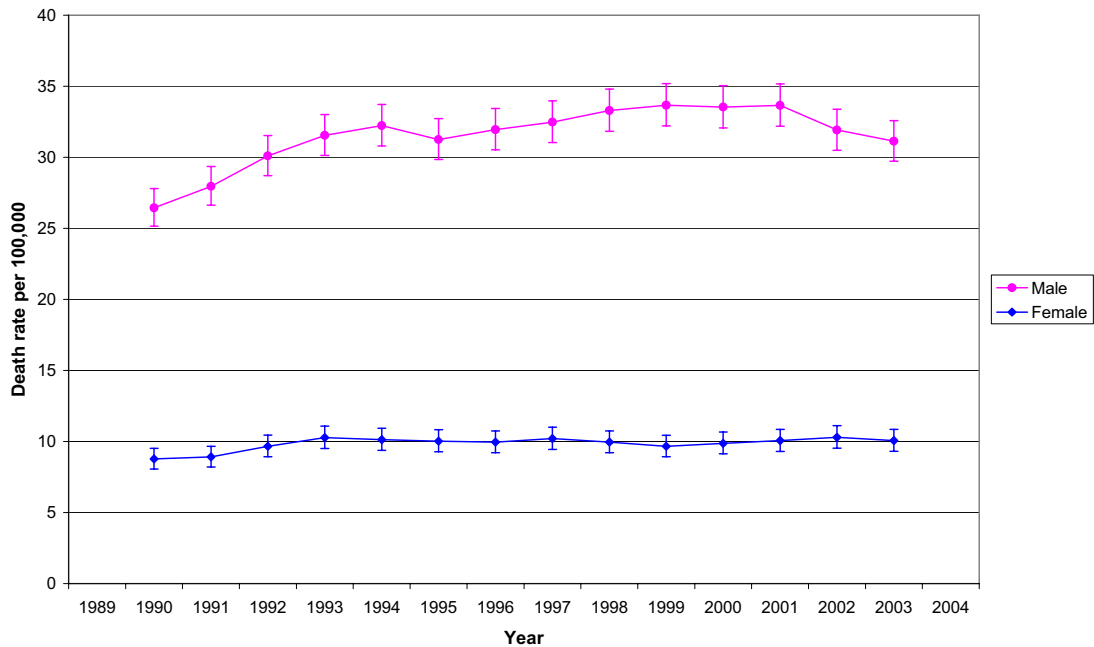


Figure 3.2 Three year moving average of suicide rates centred on the middle year, by sex, Scotland, 1989-2004



3.3 Local suicide trends (three year moving average) (objective 1)

Annex 1 provides a full set of graphs illustrating trends in suicide incidence, based on a three year moving average over the period 1989-2004, for each local authority in Scotland. Annex 2 contains a similar set of graphs for each health board.

Examples of different patterns of three-year moving average suicide rates over the period 1989-2004 are shown in figures 3.3-3.9 (all examples refer to local authority areas). There are two types of patterns, which also interact with each other. The first concerns the relationship between trends in a local area and in Scotland as a whole. In one local authority (Glasgow) the suicide rate was (significantly) higher than the Scottish average in all years among both men and women (see figures 3.3 and 3.4). In a further three areas (Western Dunbartonshire, Dundee City and Highland) the male suicide rate was consistently (but not always significantly) higher than the Scottish average (see annex 1). In several other areas (including Dundee City (females), Edinburgh City (females) and Eilean Siar (males)) the suicide rate was mostly above the Scottish average (see annex 1). On the other hand, in six areas (Aberdeenshire (males), E Dunbartonshire (males), East Lothian (males), East Renfrewshire (males and females), North Lanarkshire (males) and South Lanarkshire (males), the local suicide rate was consistently (but not always significantly) below the Scottish average. Trends in male suicide in North and South Lanarkshire are presented in figures 3.5 and 3.6, respectively. (Note the overlapping confidence intervals in some years. These indicate that we cannot be confident that local rates are significantly different from the rate for Scotland as a whole.) (See annex 1 for graphs of trends in the other areas.) In several other areas (including East Lothian (females), Fife (males), Midlothian (males) and Perth & Kinross (males)) the suicide rate was mostly below the Scottish average (see annex 1). Elsewhere there was less consistency in the relationship between suicide trends in the local area and national trends. Examples relating to Aberdeen City (females) and East Ayrshire (males) are shown in figures 3.7 and 3.8, respectively. (For other examples, see annex 1.)

The second pattern concerns the temporal trend in suicide incidence in the local area. In two areas (Angus (females) and Dundee City (females)) there was a (fluctuating) downward trend in suicide over time. Figure 3.9 shows the trend among females in Dundee City. The next most common trend is fluctuating but upward. Figure 3.5 provides an example (North Lanarkshire (males)). However, the overwhelmingly predominant (typical) trend is highly fluctuating, irregular or stable (i.e. no trend). Figures 3.3 and 3.4 provide examples relating to Glasgow City. More extreme versions of fluctuating/irregular trends are shown in annex 1. The local areas with most irregular trends in suicide incidence tend to be those with the fewest deaths, as evidenced by very wide confidence intervals. In some areas the difference between highest and lowest rates over the period is very substantial indeed. The most extreme example is found in Shetland, where the difference is more than sixfold among men and more than fivefold among women (figures 3.10 and 3.11).

Figure 3.3 Three year moving average of male suicide rates, Glasgow City, 1989-2004

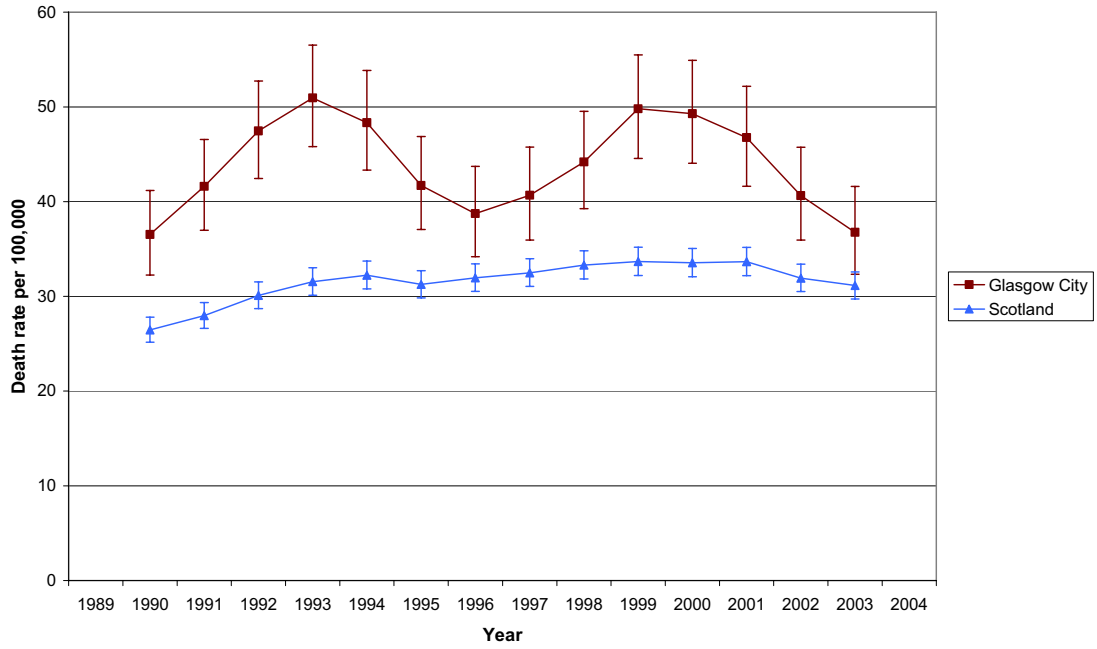


Figure 3.4 Three year moving average of female suicide rates, Glasgow City, 1989-2004

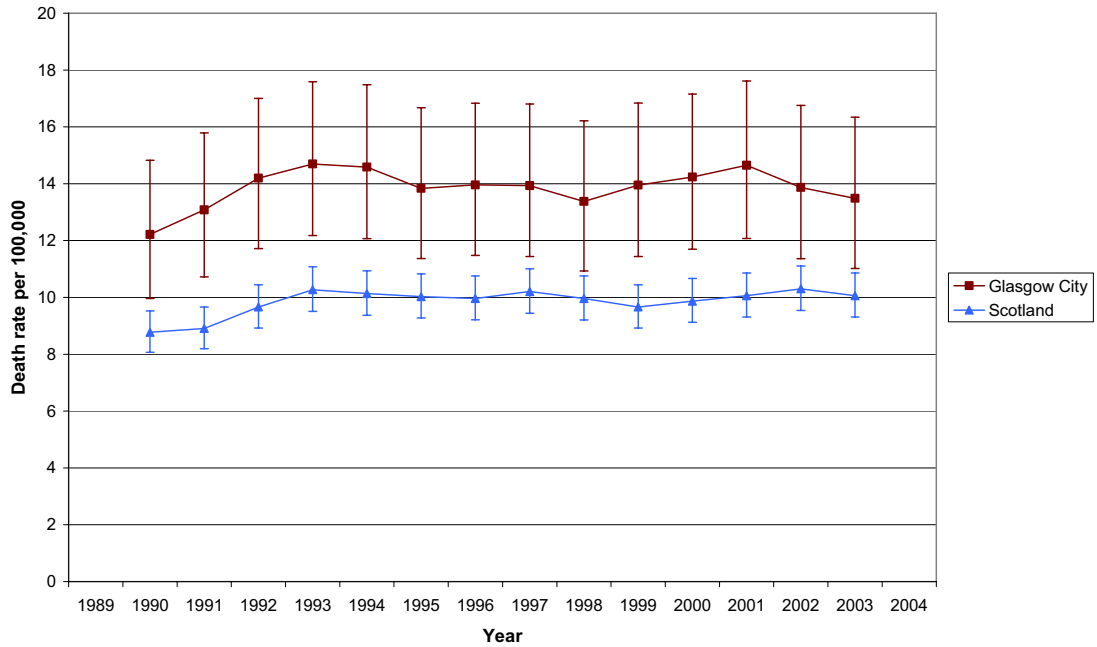


Figure 3.5 Three year moving average of male suicide rates, North Lanarkshire, 1989-2004

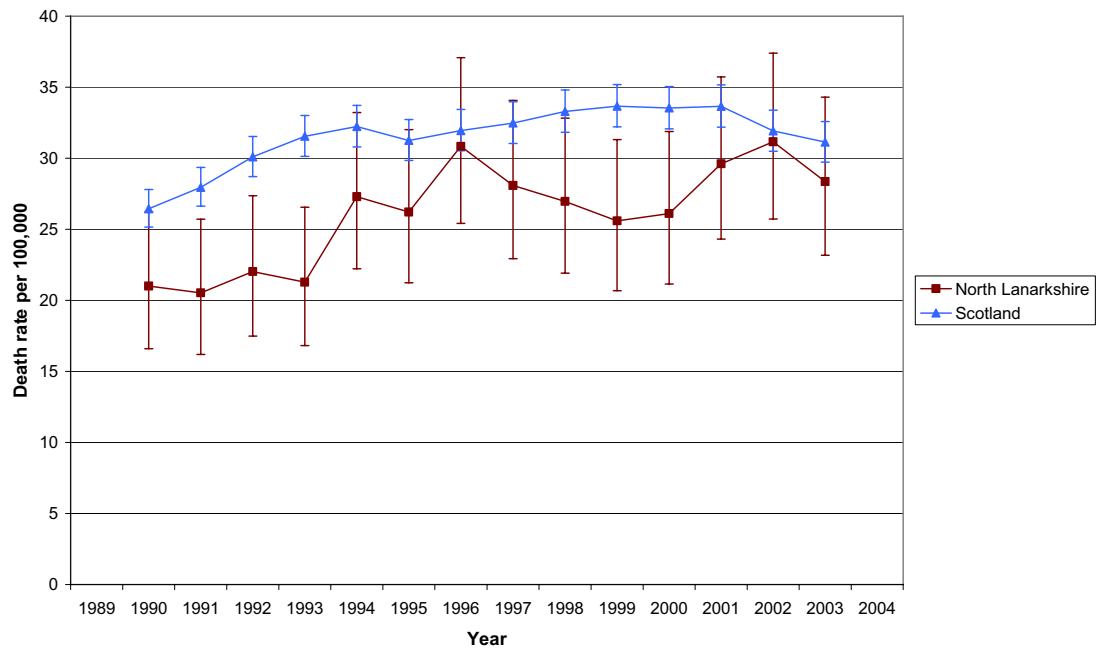


Figure 3.6 Three year moving average of male suicide rates, South Lanarkshire, 1989-2004

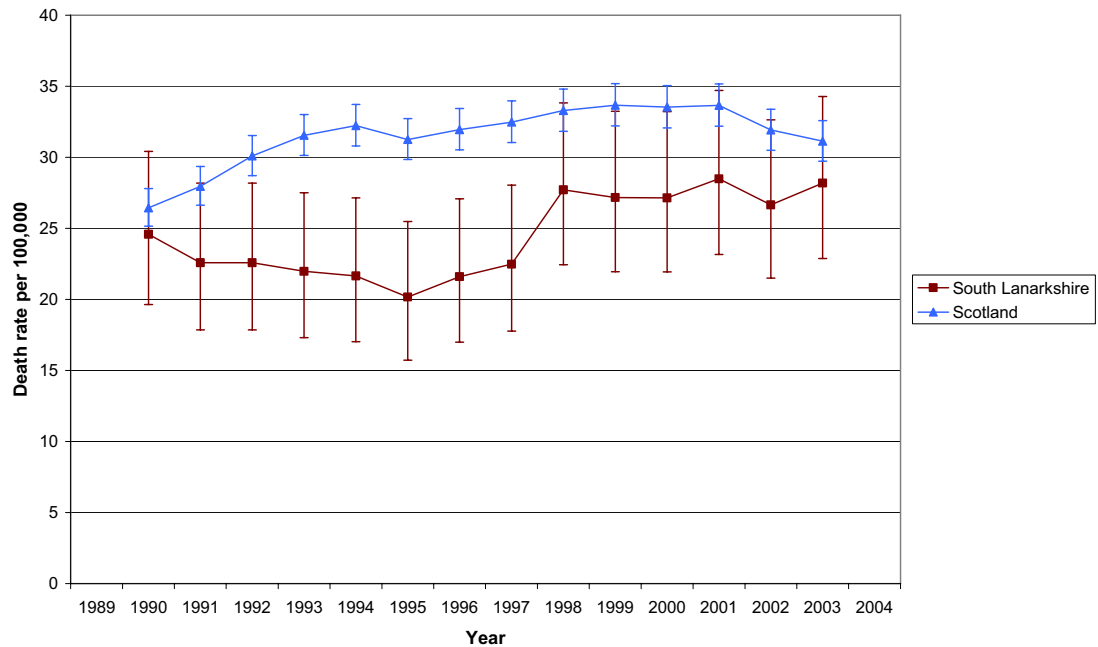


Figure 3.7 Three year moving average of female suicide rates, Aberdeen City, 1989-2004

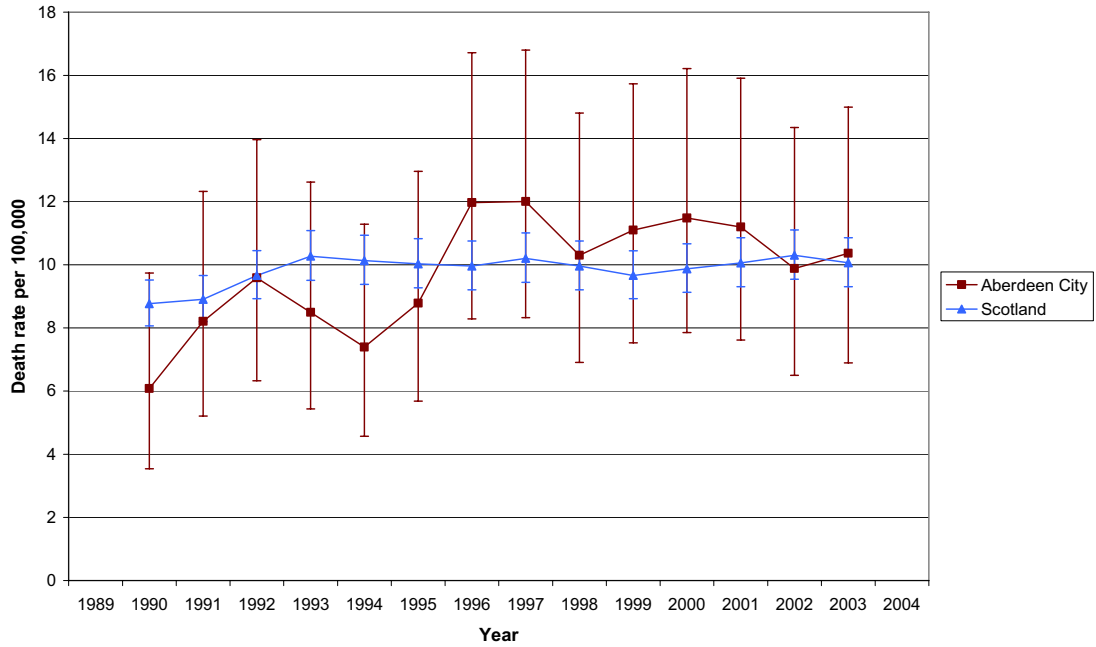


Figure 3.8 Three year moving average of male suicide rates, East Ayrshire, 1989-2004

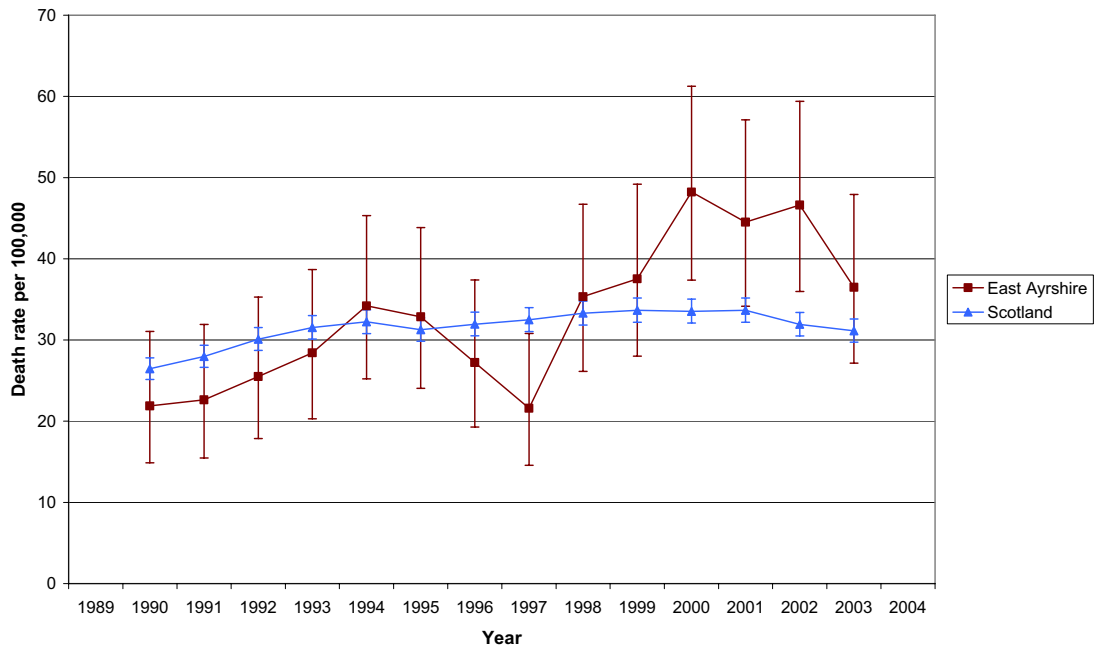


Figure 3.9 Three year moving average of female suicide rates, Dundee City, 1989-2004

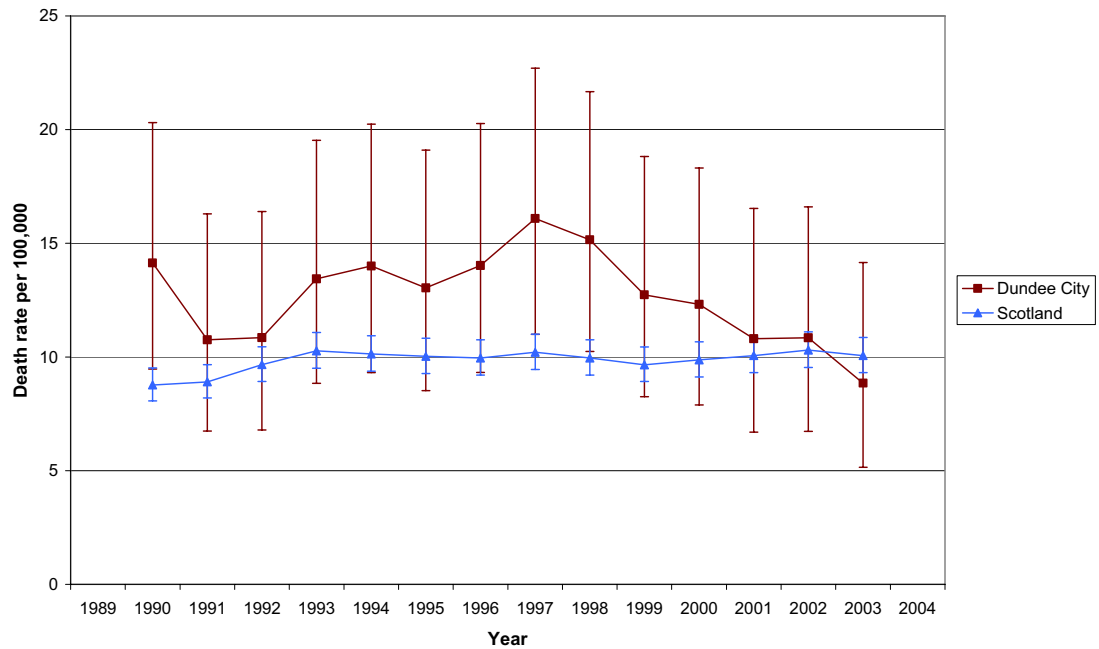


Figure 3.10 Three year moving average of male suicide rates, Shetland Islands, 1989-2004

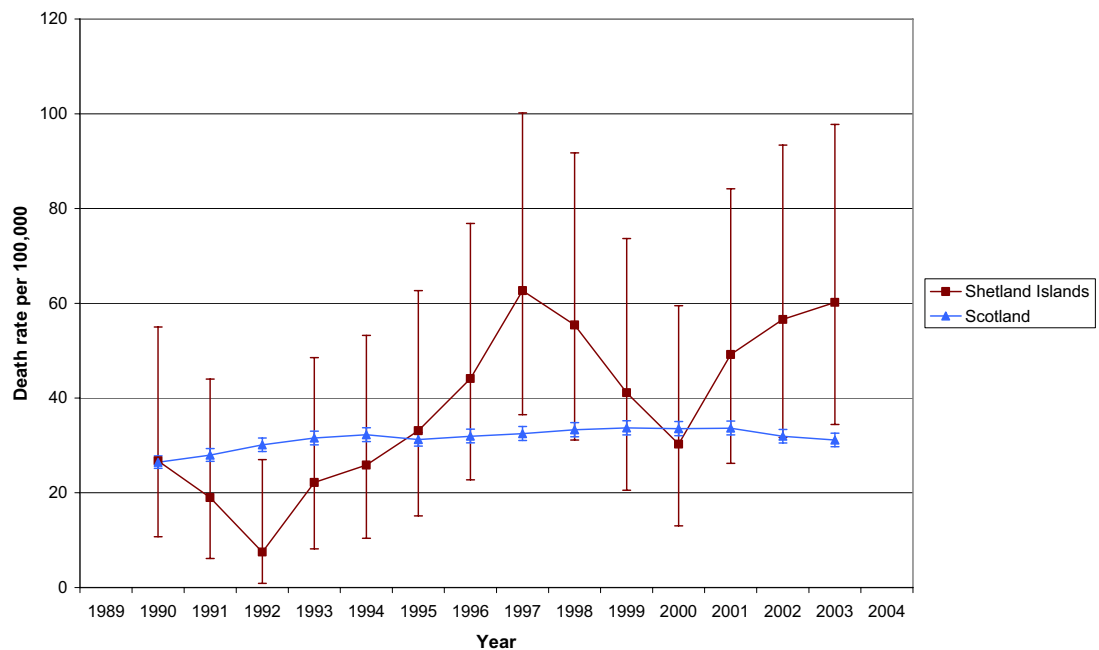
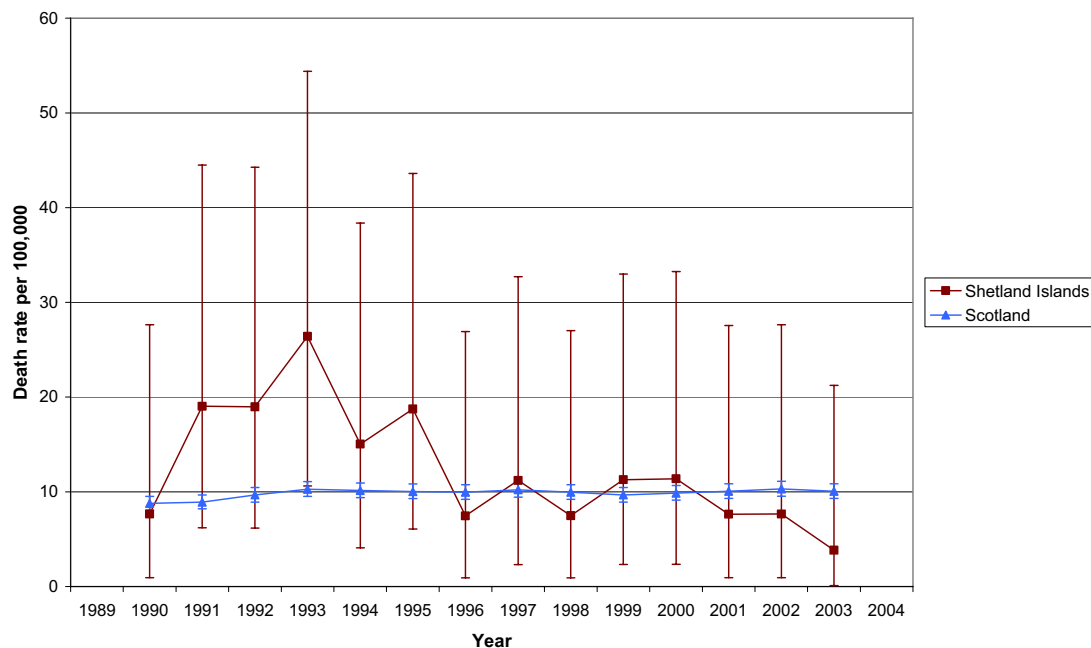


Figure 3.11 Three year moving average of female suicide rates, Shetland Islands, 1989-2004



3.4 Suicide rates by social class (objective 2)

At the national level there was a marked variation in male suicide rates by social class in both 1989-95 and 1996-2002 (figure 3.12). Differences between rates in the non-manual groups were not statistically significant. However, there were significant differences between rates in the non-manual groups and social class IIIM, between IIIM and IV, and between IV and V.

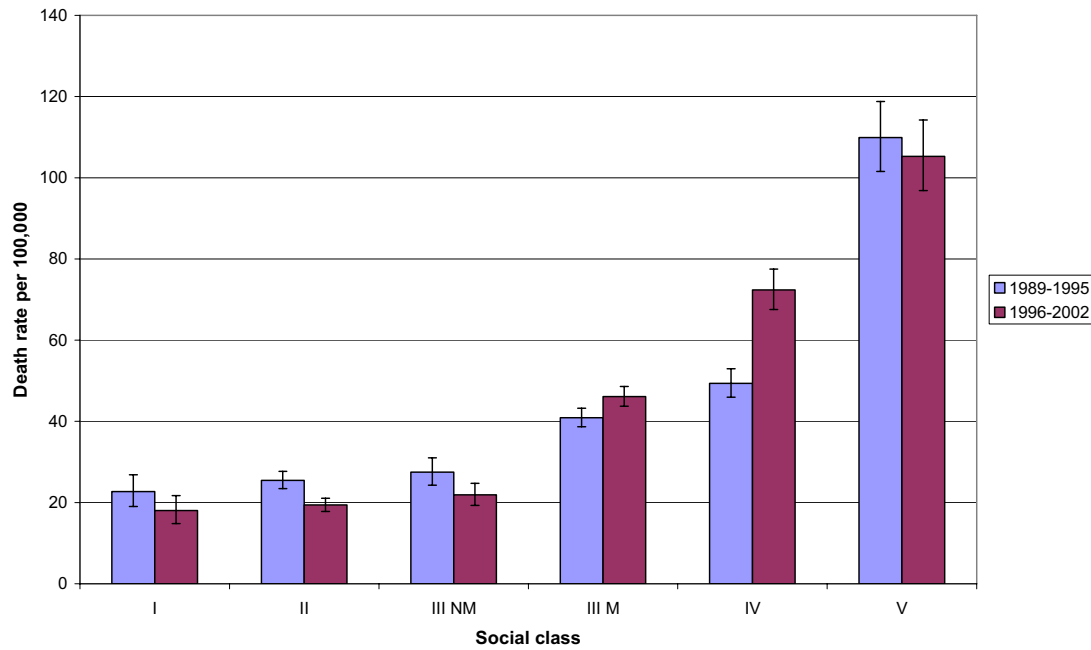
Charts showing variations in male suicide rates by social class in local authority and health board areas are presented in annexes 3 and 4, respectively.

In 1996-2002 there was an inverse linear relationship between social class and suicide (the lower the social class, the higher the rate) in 12 local authorities and an inverse trend in the other 20 local authorities. In 27 areas the relationship was more pronounced in 1996-2002 than in 1989-1995. In seven local authorities the suicide rate in classes IV and V combined was significantly higher than the rates in the other social classes. In 12 local authorities the suicide rate in classes IV and V was significantly higher than the rates in the non-manual social classes, while in 11 local authorities the suicide rate in classes IV and V was higher than the rate in classes I and II.

In 1996-2002 there was an inverse linear relationship between social class and suicide in six health boards and an inverse trend in nine other health boards. In all areas, with the exception of Fife, the relationship was more pronounced in 1996-2002 than in 1989-1995. In nine health boards the suicide rate in classes IV and V combined was significantly higher than the rates in the other social classes. In two health boards, the suicide rate in classes IV and V was significantly higher than the rates in the non-manual social classes,

while in three health boards the suicide rate in classes IV and V was higher than the rate in classes I and II.

Figure 3.12 Suicide rates by social class, males, Scotland, 1989-95 and 1996-2002



3.5 Ratio of male: female age-adjusted rates (objective 2)

Suicide rates of males were consistently higher (approximately threefold across the whole country [see table 3.3]) than suicide rates of females across the period 1989-2002. Variation in the male: female suicide ratio across local authorities during 1989-2002 is shown in figure 3.13. The excess of male deaths was particularly marked in Eilean Siar, Clackmannanshire, West Dunbartonshire and Moray. However, estimates in these areas are not very reliable, as evidenced by the large confidence intervals. (To take an extreme example, we cannot state with certainty that the male: female ratio was significantly higher in Eilean Siar than any other local authority because of overlapping confidence intervals.) Some change in the ratio of male: female suicide ratio between the two halves of the time period is evident (figure 3.14), but there is no consistent pattern and none reaches statistical significance.

Variation in the male: female suicide ratio across health boards during 1989-2002 is shown in figure 3.15. The excess of male deaths was particularly marked in the Western Isles, Highland, Argyll & Clyde, Grampian and Borders. Again, some change in the ratio of male: female suicide ratio between the two halves of the time period is evident (figure 3.16), but there is no consistent pattern and none reaches statistical significance.

This analysis suggests a higher level of vulnerability to suicide among men in the more rural and remote areas of the country.

Figure 3.13 Ratio of male to female age-adjusted suicide rate by local authority, Scotland, 1989-2002

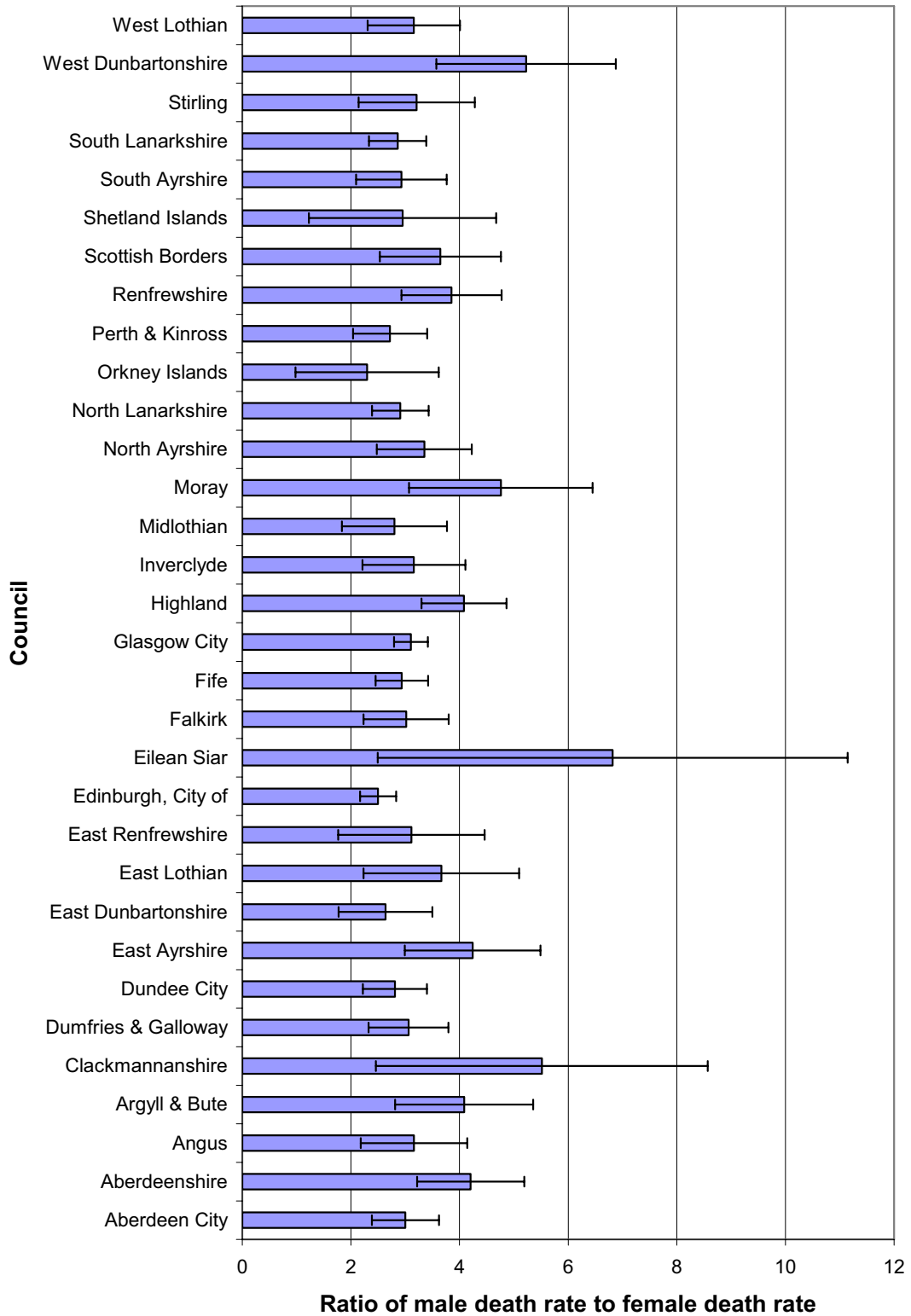


Figure 3.14 Ratio of male to female age-adjusted suicide rate by local authority, Scotland, 1989-95 and 1996-2002

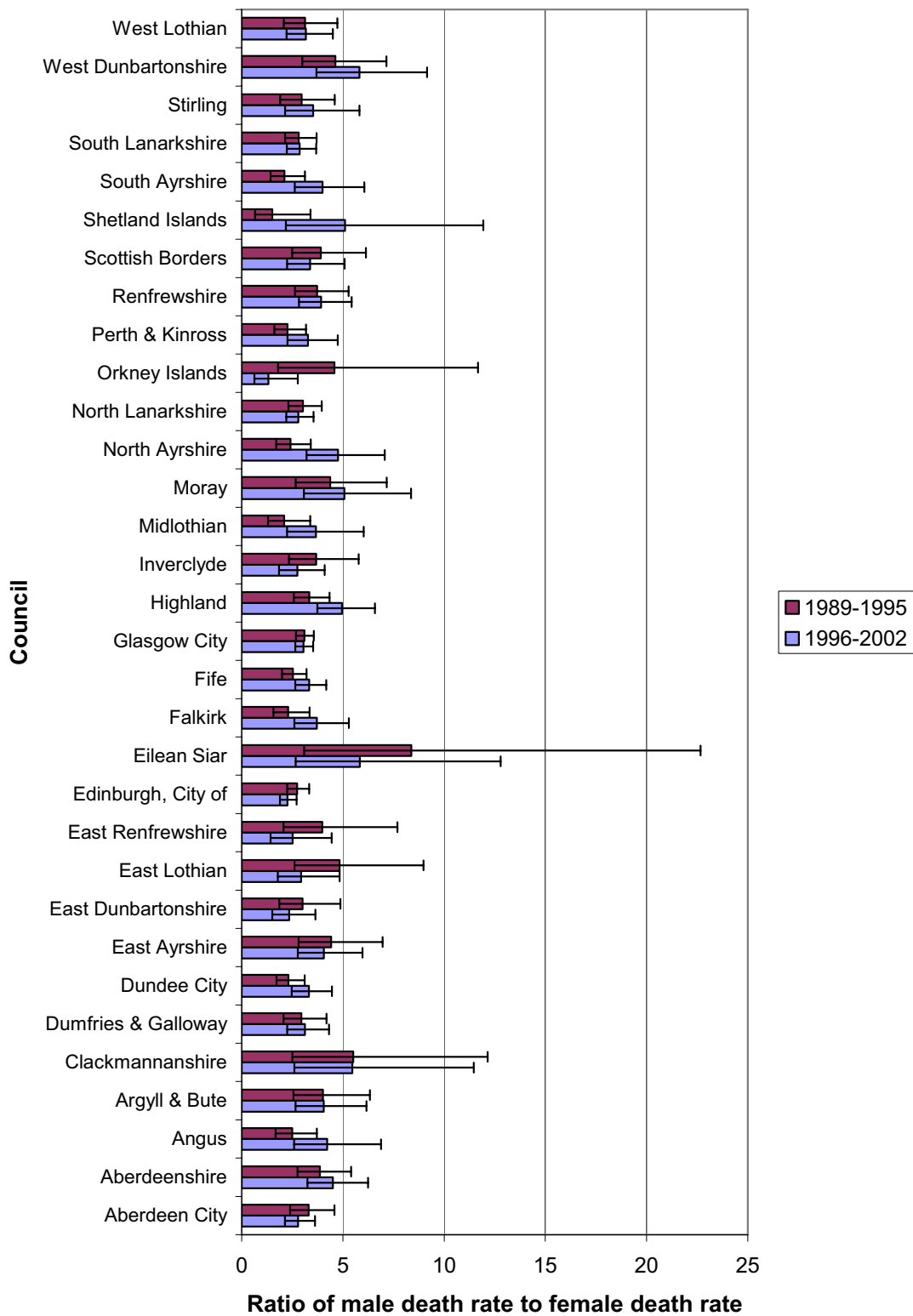


Figure 3.15 Ratio of male to female age-adjusted suicide rate by health board, Scotland, 1989-2002

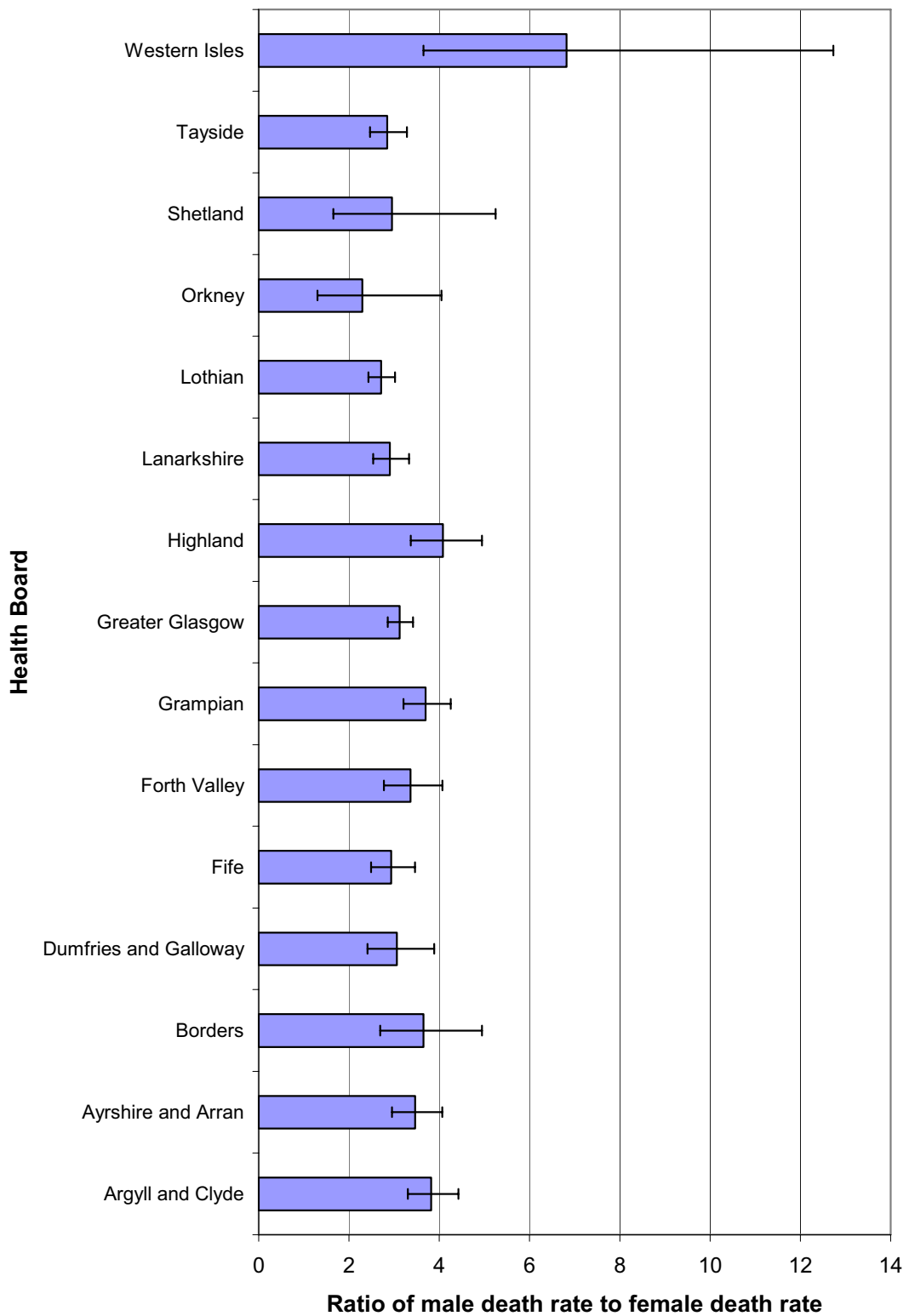
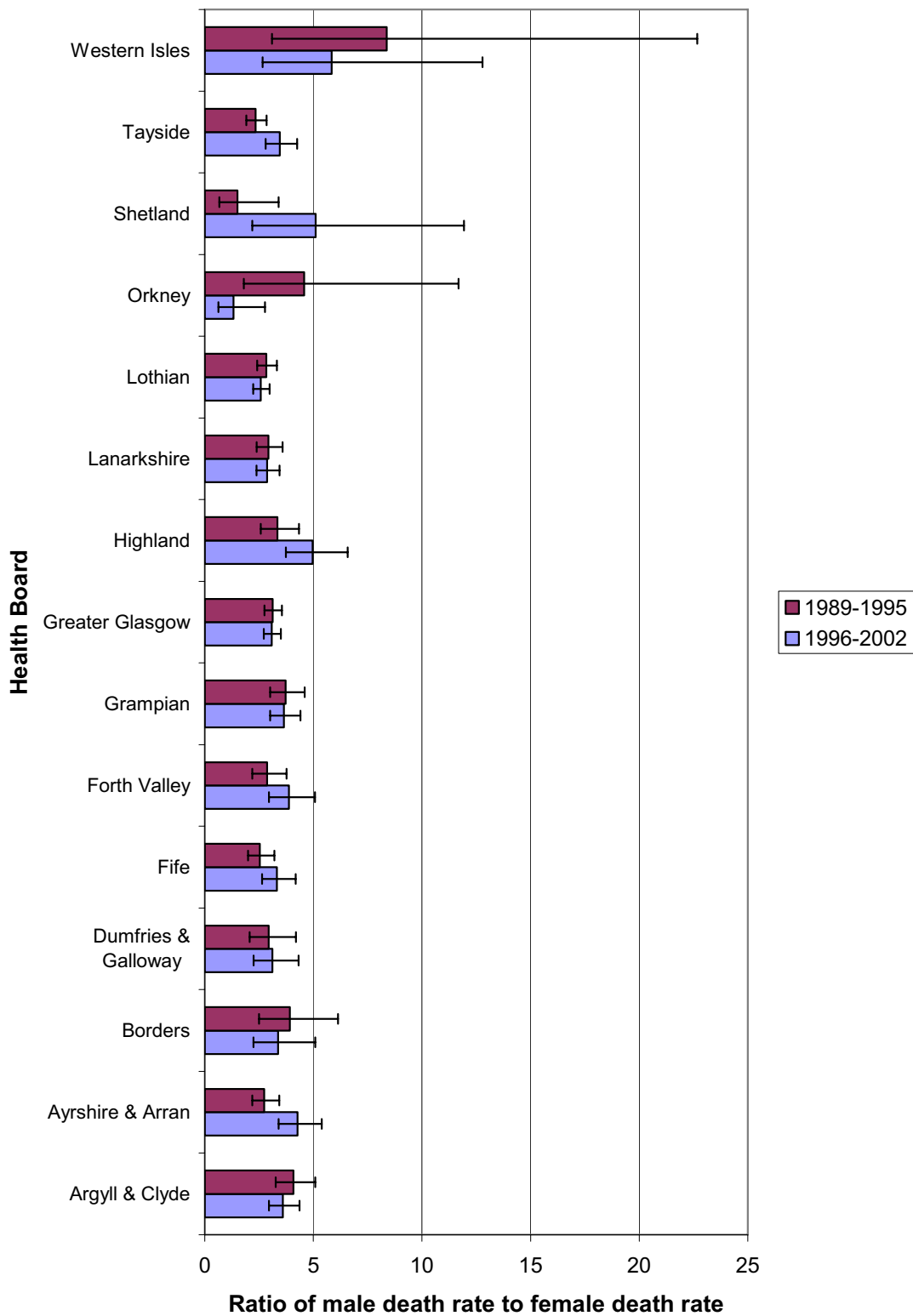


Figure 3.16 Ratio of male to female age-adjusted suicide rate by health board, Scotland, 1989-95 and 1996-2002



3.6 Methods of suicide

During the years 1989-2002, the most common methods of suicide among males were hanging (7.9 per 100,000), self-poisoning (6.1), drowning (3.1) and gassing (3.0). Among females the most common method of suicide was self-poisoning, with a suicide death rate of 4.4 per 100,000. Figures 3.17 and 3.18 illustrate suicide rates by different methods in 1989-95 and 1996-2002 among men and women, respectively. Figures 3.19 and 3.20 present the proportions of suicide by different methods in the two time periods among men and women, respectively. Both sets of analyses reveal that hanging death rates have significantly increased over time for both men and women, while death rates by gassing (mainly carbon monoxide [car exhaust] poisoning) have significantly decreased.

Rates of suicide by different methods have been calculated for each local authority and health board area (annexes 5 and 6, respectively), for 1989-95 and 1996-2002. In the majority of areas the rank ordering of methods and trends over time are similar to what has been reported for Scotland as a whole. The main difference is the greater popularity of drowning as a method of suicide in Highland and the islands, especially among males in Eilean Sear (see figure 3.21). In 1996-2002 the male suicide rate by drowning was significantly higher than male suicide rate by hanging.

Figure 3.17 Suicide rate by method, males, Scotland, 1989-95 and 1996-2002

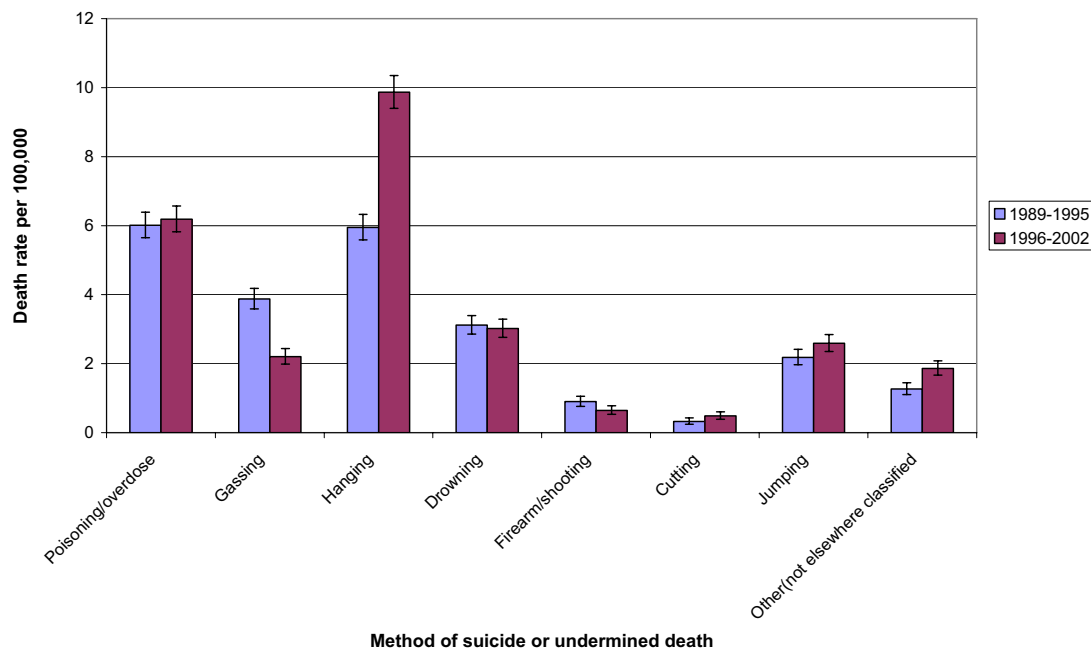


Figure 3.18 Suicide rate by method, females, Scotland, 1989-95 and 1996-2002

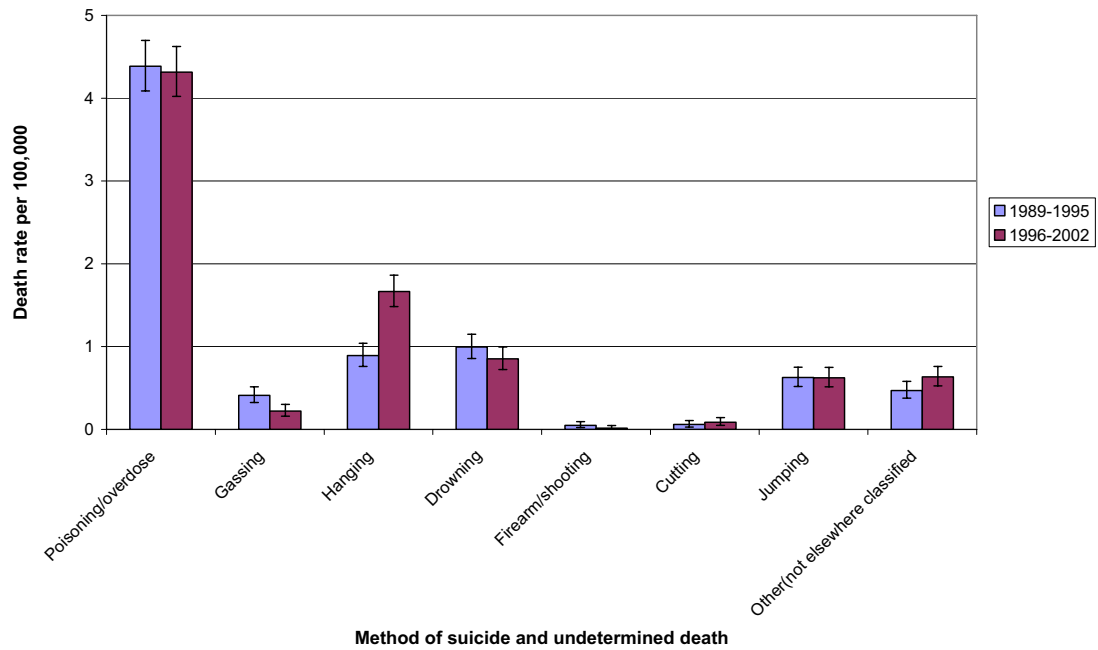


Figure 3.19 Proportion of suicides by method, males, Scotland, 1989-95 and 1996-2002

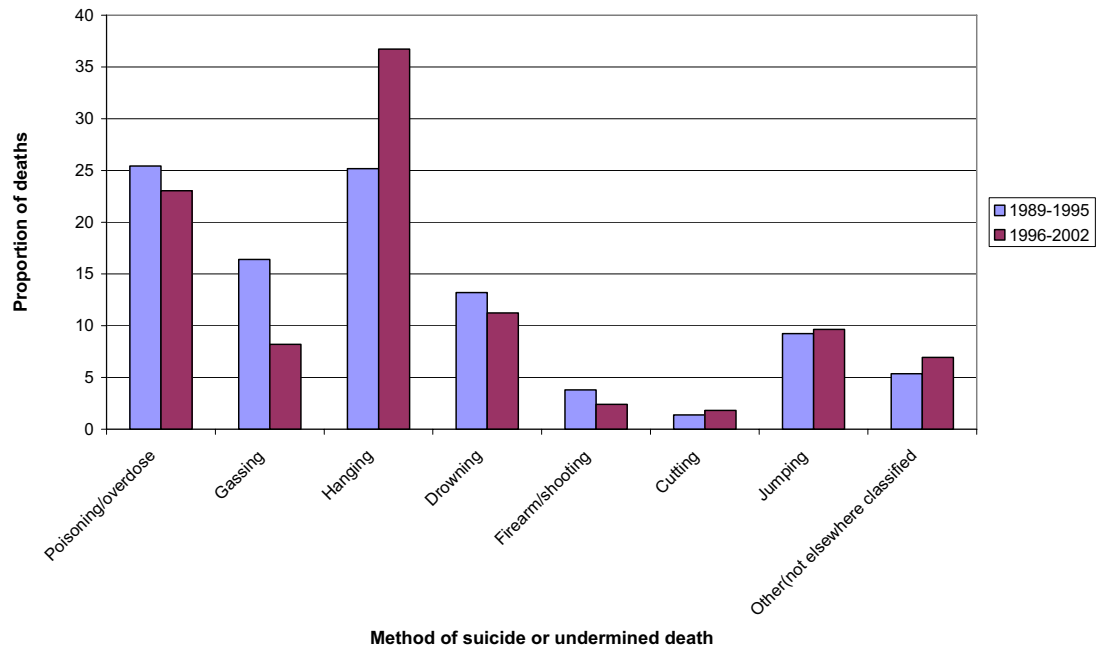


Figure 3.20 Proportion of suicides by method, females, Scotland, 1989-95 and 1996-2002

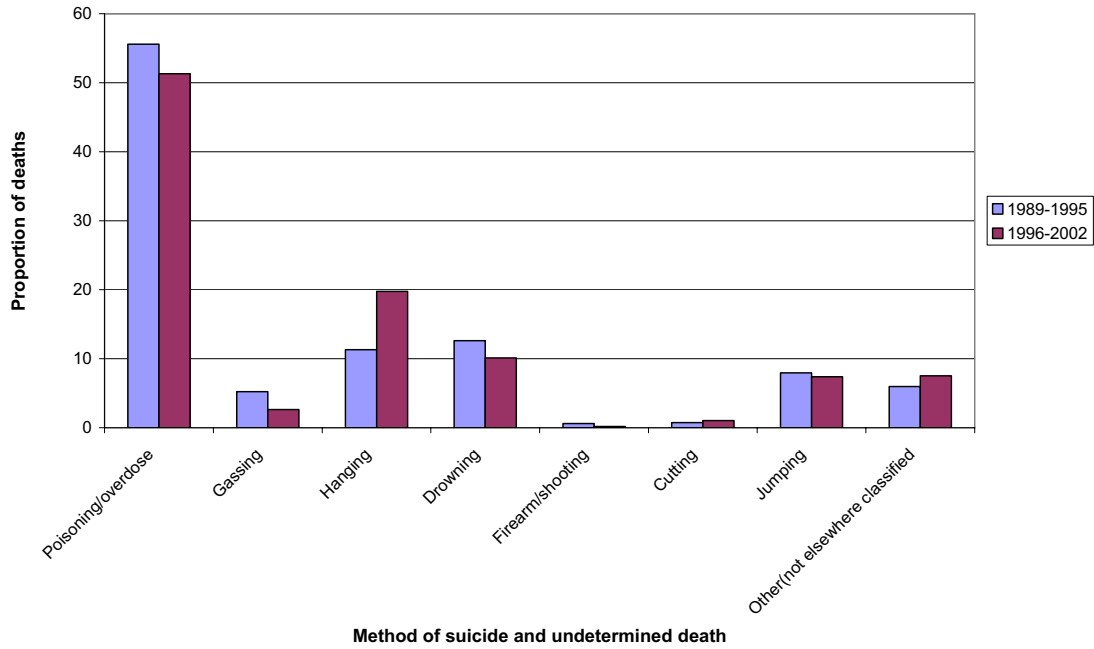
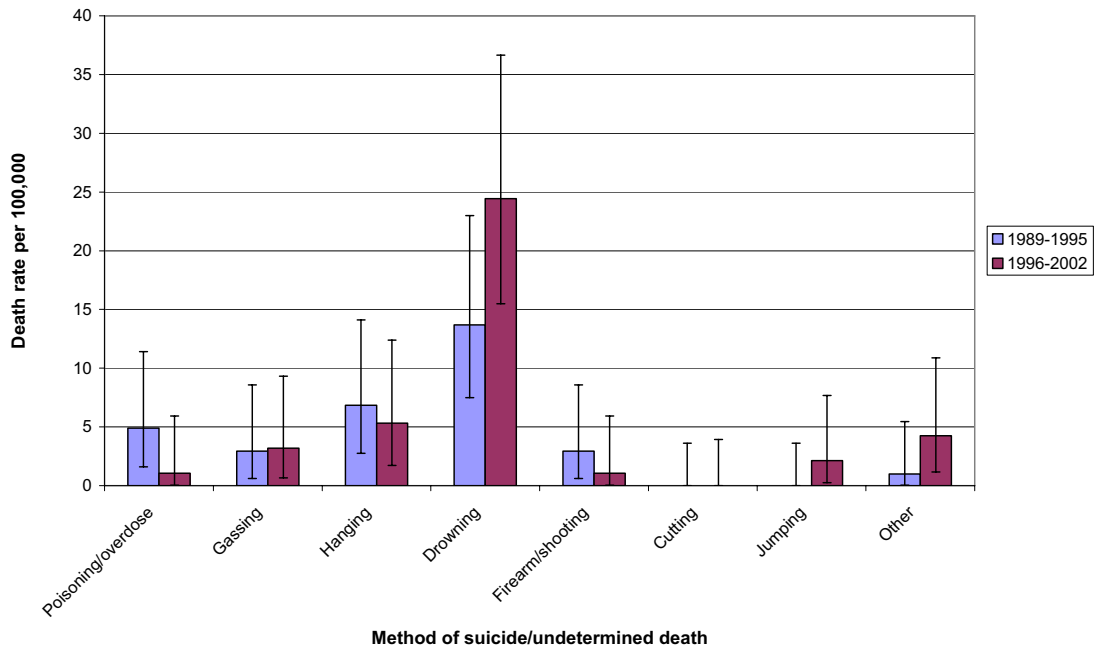


Figure 3.21 Suicide rate by method, males, Eilean Siar, 1989-95 and 1996-2002



3.7 Variation in suicide rates by local area (objective 1)

There was a substantial geographical variation in suicide rates. Suicide numbers and rates by sex over the period 1989-2002 are presented for each local authority (table 3.4) and health board (table 3.5).

Across local authority areas (table 3.4), the highest male suicide death rates occurred in Eilean Siar, Highland, Glasgow City and West Dunbartonshire (all over 40 per 100,000). The lowest male death rates occurred in East Renfrewshire, East Dunbartonshire, East Lothian and South Lanarkshire (all under 25 per 100,000). Among women, the highest rates occurred in Orkney Islands, Glasgow City, Dundee City, and Shetland Islands (all over 12 per 100,000). The lowest death rates occurred in Clackmannanshire, East Renfrewshire, East Lothian and Eilean Siar (under 7 per 100,000).

Table 3.4 Suicide among people aged 15 and over, by sex and local authority, 1989-2002

<i>Council</i>	<i>Male</i>		<i>Female</i>	
	<i>Number of deaths</i>	<i>Rate per 100,000</i>	<i>Number of deaths</i>	<i>Rate per 100,000</i>
Aberdeen City	348	28.6	122	9.3
Aberdeenshire	351	28.9	87	6.9
Angus	154	25.7	54	8.3
Argyll & Bute	191	37.3	50	9.2
Clackmannanshire	76	29.3	15	5.3
Dumfries & Galloway	248	30.7	91	10.3
Dundee City	303	37.2	123	13.2
East Ayrshire	212	32.4	56	7.7
East Dunbartonshire	120	20.5	51	7.9
East Lothian	106	22.8	33	6.3
East Renfrewshire	76	16.6	28	5.4
Edinburgh, City of	710	29.0	314	11.4
Eilean Siar	72	45.3	11	6.8
Falkirk	213	27.4	78	9.1
Fife	517	27.5	195	9.4
Glasgow City	1400	43.6	514	13.8
Highland	496	44.0	132	10.9
Inverclyde	161	34.4	58	10.9
Midlothian	113	26.5	45	9.6
Moray	172	35.7	37	7.5
North Ayrshire	221	30.6	76	9.2
North Lanarkshire	438	25.5	167	8.7
Orkney Islands	37	34.4	17	15.2
Perth & Kinross	207	28.8	86	10.8
Renfrewshire	296	31.6	87	8.2
Scottish Borders	174	30.3	54	8.5
Shetland Islands	45	36.1	15	12.1
South Ayrshire	167	27.4	66	9.5
South Lanarkshire	399	24.7	157	8.7
Stirling	133	29.7	47	9.3
West Dunbartonshire	213	42.7	47	8.1
West Lothian	207	26.0	71	8.2

Across the health boards (table 3.5), the highest male suicide death rates occurred in Western Isles and Highland, both over 40 per 100,000. High male suicide rates also occurred in Greater Glasgow (37.1), Shetland (36.1) and Argyll and Clyde (34.5). Lowest male suicide rates were found in Lanarkshire, Lothian and Fife (under 28 per 100,000).

Among women, the highest rates were recorded in Orkney, Shetland, Greater Glasgow, Tayside and Highland (all over 10 per 100,000) and the lowest rates in Western Isles (under 7 per 100,000).

Table 3.5 Suicide among people aged 15 and over, by sex and health board, 1989-2002

<i>Health board</i>	<i>Male</i>		<i>Female</i>	
	<i>Number of deaths</i>	<i>Rate per 100,000</i>	<i>Number of deaths</i>	<i>Rate per 100,000</i>
Argyll & Clyde	794	34.5	232	9.1
Ayrshire & Arran	600	30.2	198	8.8
Borders	174	30.3	54	8.5
Dumfries & Galloway	248	30.7	91	10.3
Fife	517	27.5	195	9.4
Forth Valley	421	28.4	139	8.5
Grampian	871	29.9	246	8.0
Greater Glasgow	1756	37.1	643	11.8
Highland	496	44.0	132	10.9
Lanarkshire	744	25.1	284	8.6
Lothian	1137	27.5	464	10.0
Orkney	37	34.4	17	15.2
Shetland	45	36.1	15	12.1
Tayside	664	31.1	263	11.0
Western Isles	72	45.3	11	6.8

It should be noted that there were few suicide deaths in the island councils/health boards. However, rates were high as a result of the small population denominators. For example, in Western Isles, where the highest male death rate was recorded, the average number of deaths each year was 5.1. In Orkney, where the highest female death rate was recorded, the average number of deaths each year was 1.3.

Figure 3.22 shows standardised mortality ratios (SMRs) by local authority area across the whole period for all persons, while figure 3.23 shows SMRs separately for males and females. All-person SMRs were significantly elevated (compared to Scotland as a whole) in West Dunbartonshire (also male SMR), Highland (also male SMR), Glasgow City (also male and female SMRs), Eilean Siar (also male SMR), Dundee City (also male and female SMRs) and Argyll & Bute (also male SMR). All-person SMRs were significantly lower in West Lothian (also male SMR), South Lanarkshire (also male SMR), North Lanarkshire (also male SMR), Fife (also male SMR), Falkirk, East Renfrewshire (also male and female SMRs), East Lothian (also male and female SMRs), East Dunbartonshire (also male SMR), Angus (also male SMR) and Aberdeenshire (also

female SMR). In Edinburgh female SMR was significantly elevated, while male SMR was significantly lower than expected. In Clackmannanshire female SMR was significantly lower than expected. Figures 3.24 and 3.25 show SMRs in 1989-95 and 1996-2002 for males and females, respectively, in each local authority. Little change is apparent over time in the relative status of areas compared to Scotland as a whole, apart from the island local authorities, where SMR estimates are markedly more imprecise due to the small numbers of deaths.

Figure 3.26 shows standardised mortality ratios (SMRs) by health board across the whole period for all persons, while figure 3.27 shows SMRs separately for males and females. All-person SMRs were significantly elevated (compared to Scotland as a whole) in Western Isles (also male SMR), Highland (also male SMR) and Greater Glasgow (also male and female SMRs) All-person SMRs were significantly lower in Lothian (also male SMR), Lanarkshire (also male and female SMRs), Grampian (also female SMR), Forth Valley and Fife (also male SMR). In Argyll & Clyde male SMR was significantly elevated. Figures 3.28 and 3.29 show SMRs in 1989-95 and 1996-2002 for males and females, respectively, in each health board area. As for local authorities, little change is apparent over time in the relative status of health boards compared to Scotland as a whole, apart from the island health boards, where SMR estimates have wide confidence intervals due to the small numbers of deaths.

Figure 3.22 Standardised mortality ratio of suicide by local authority area, males and females, 1989-2002

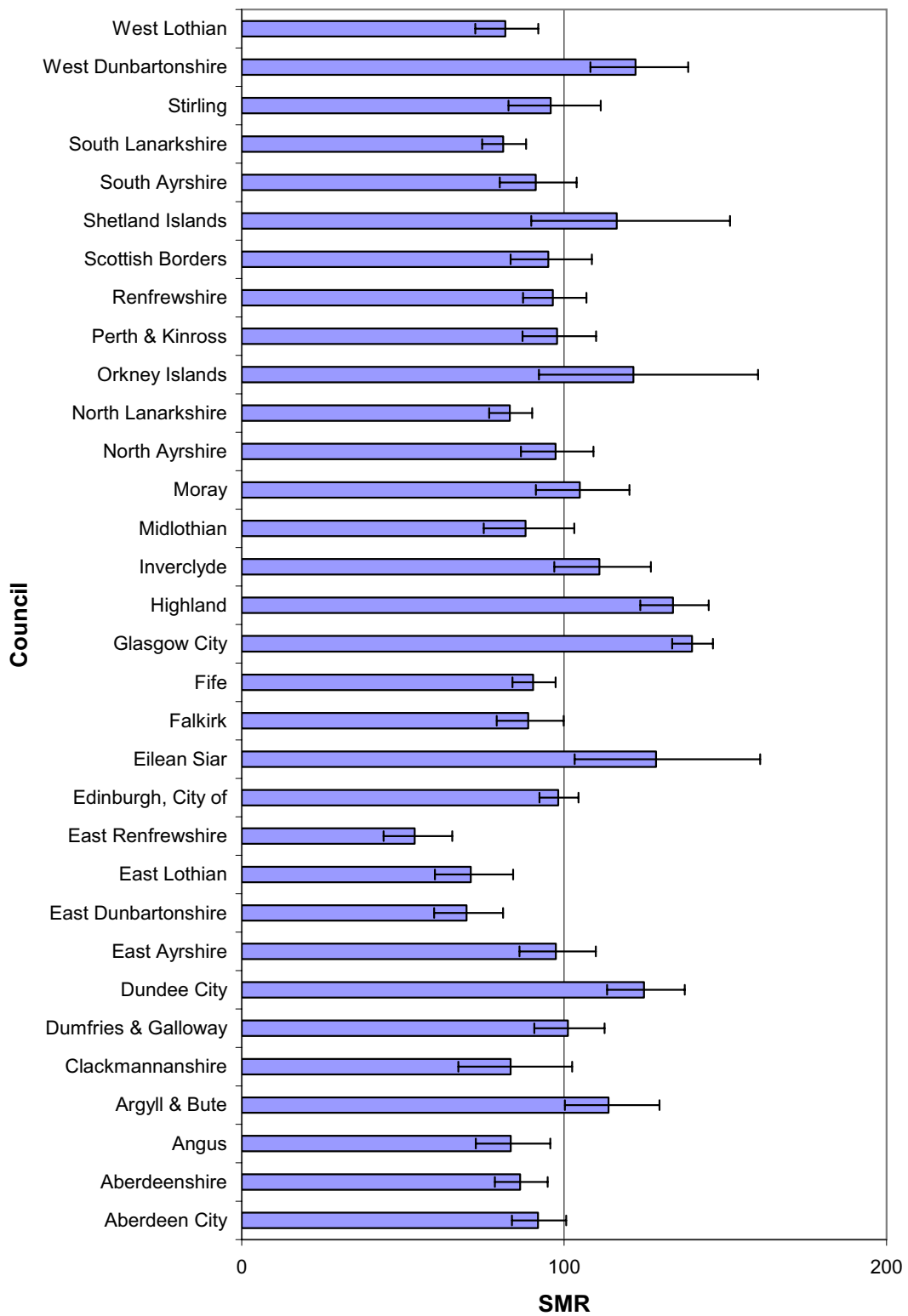


Figure 3.23 Standardised mortality ratio of suicide by local authority area and sex, 1989-2002

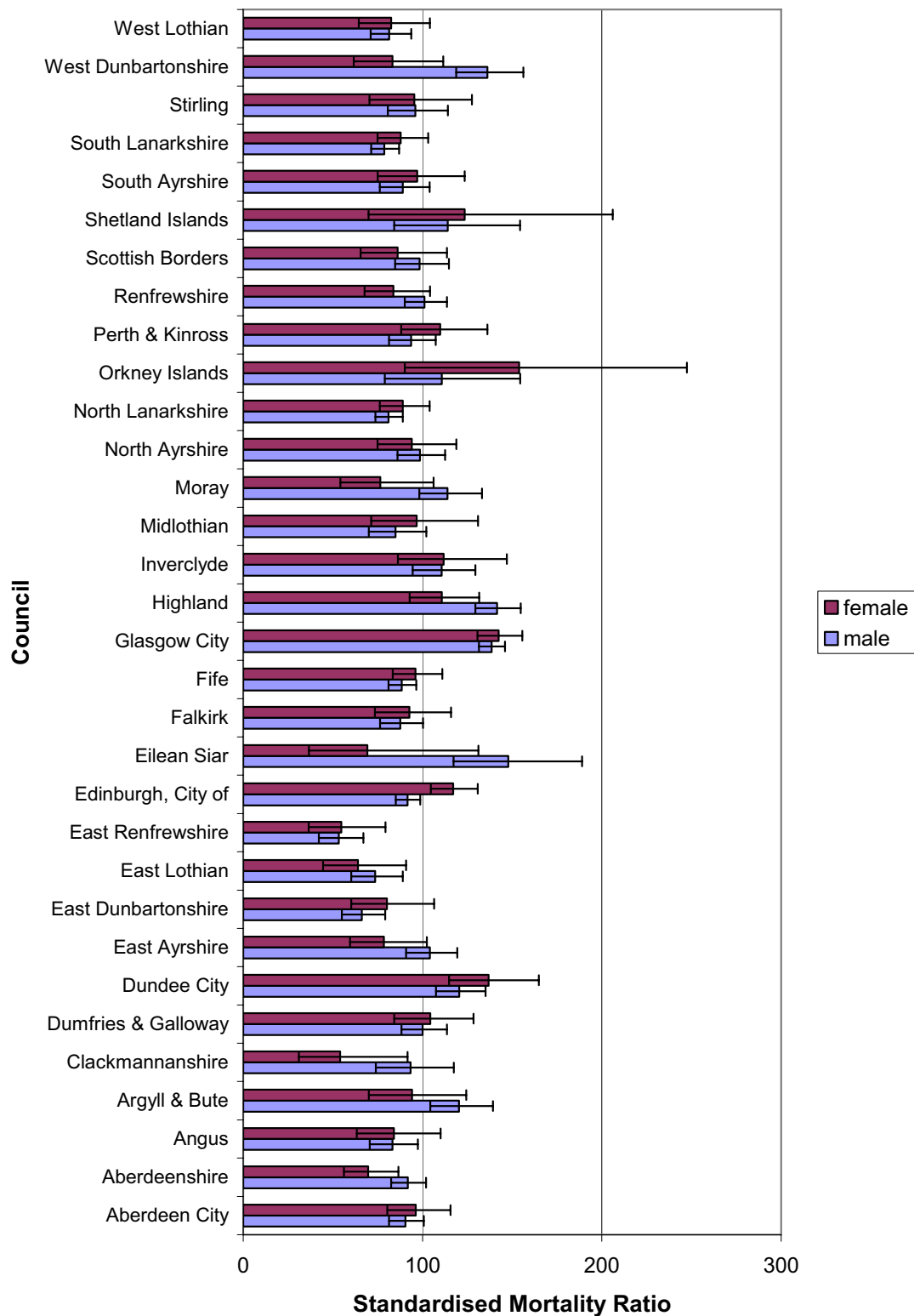


Figure 3.24 Standardised mortality ratio of suicide by health board area, males, 1989-95 and 1996-2002

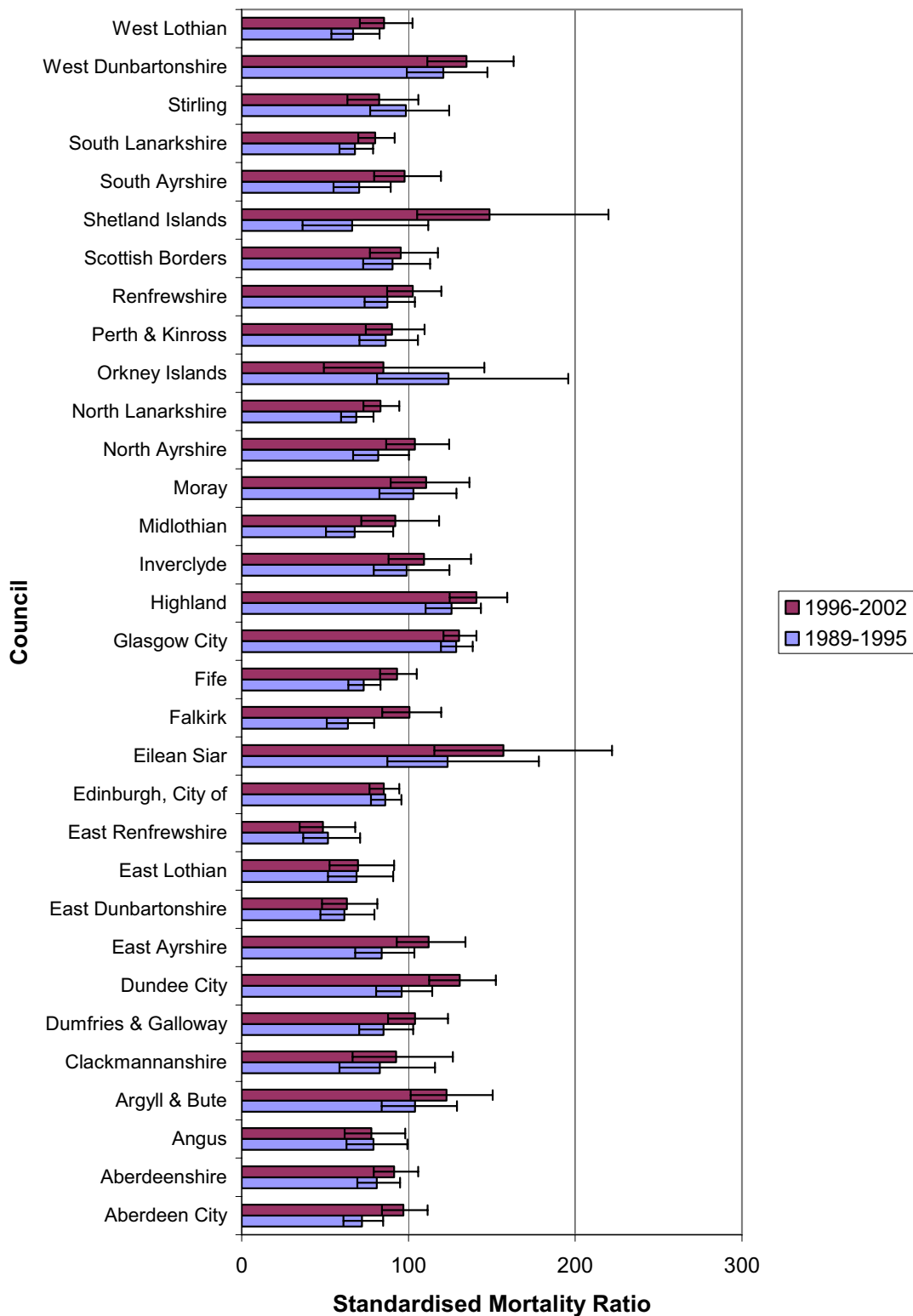


Figure 3.25 Standardised mortality ratio of suicide by health board area, females, 1989-95 and 1996-2002

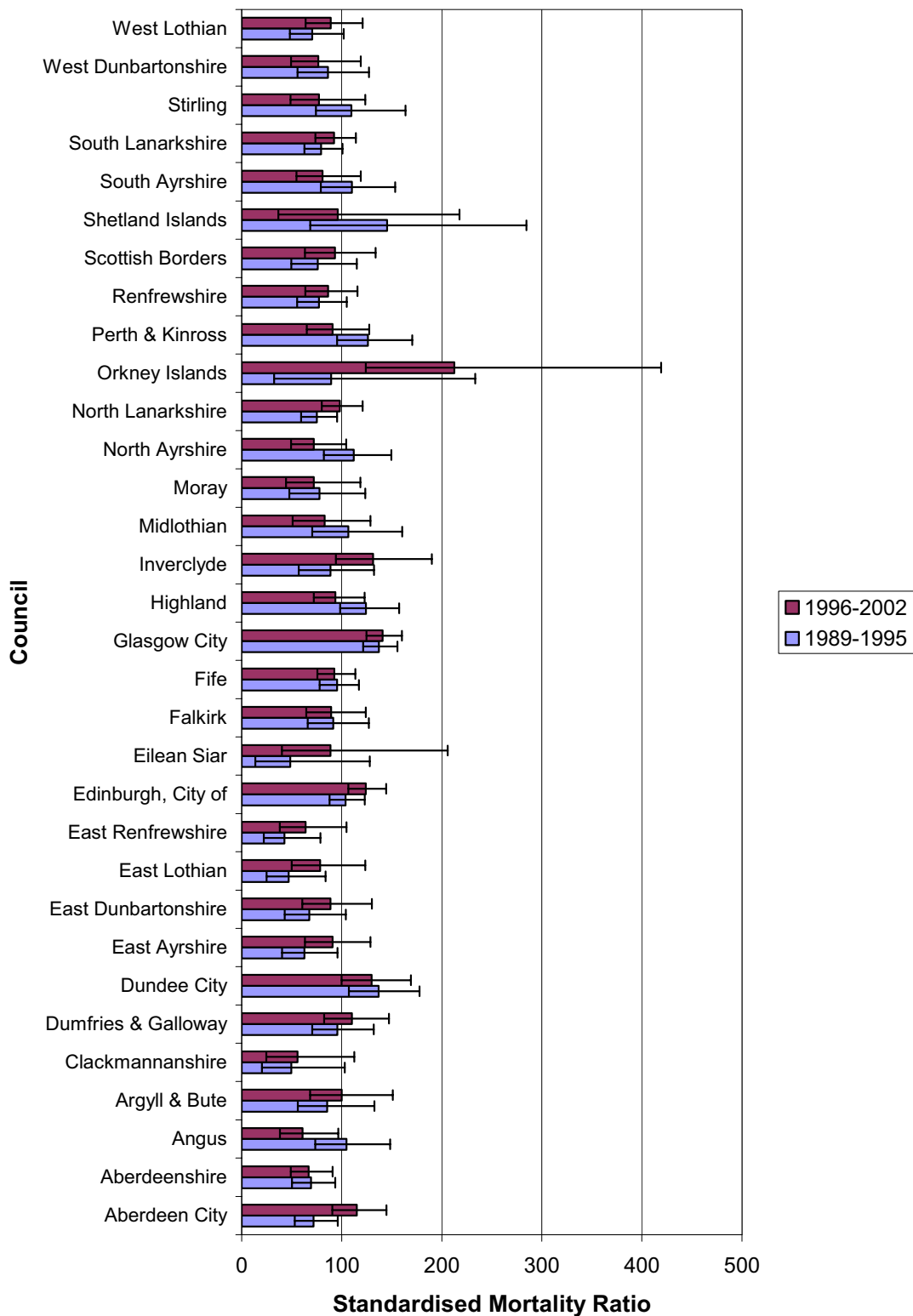


Figure 3.26 Standardised mortality ratio of suicide by health board, males and females, 1989-2002

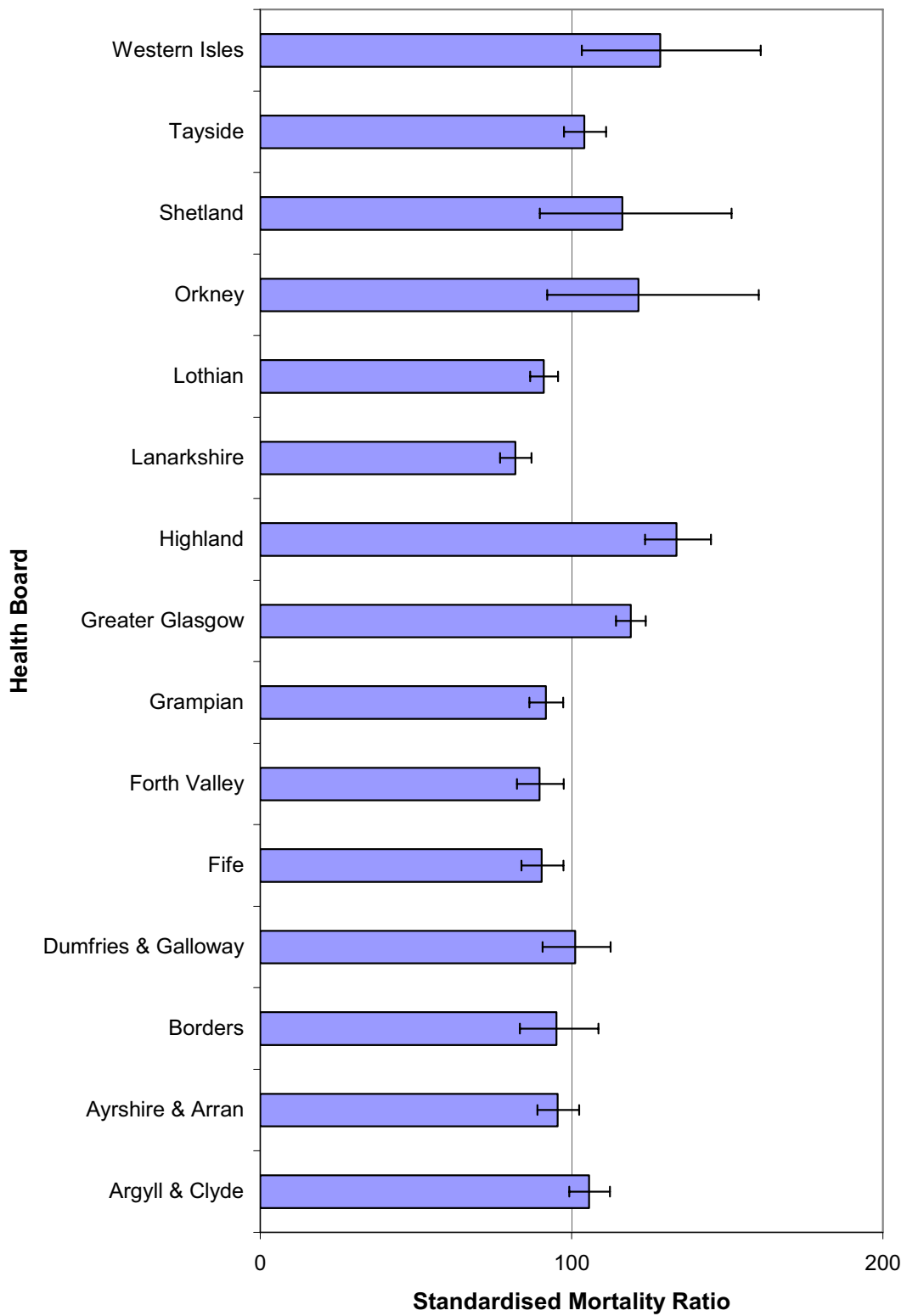


Figure 3.27 Standardised mortality ratio of suicide by health board area and sex, 1989-2002

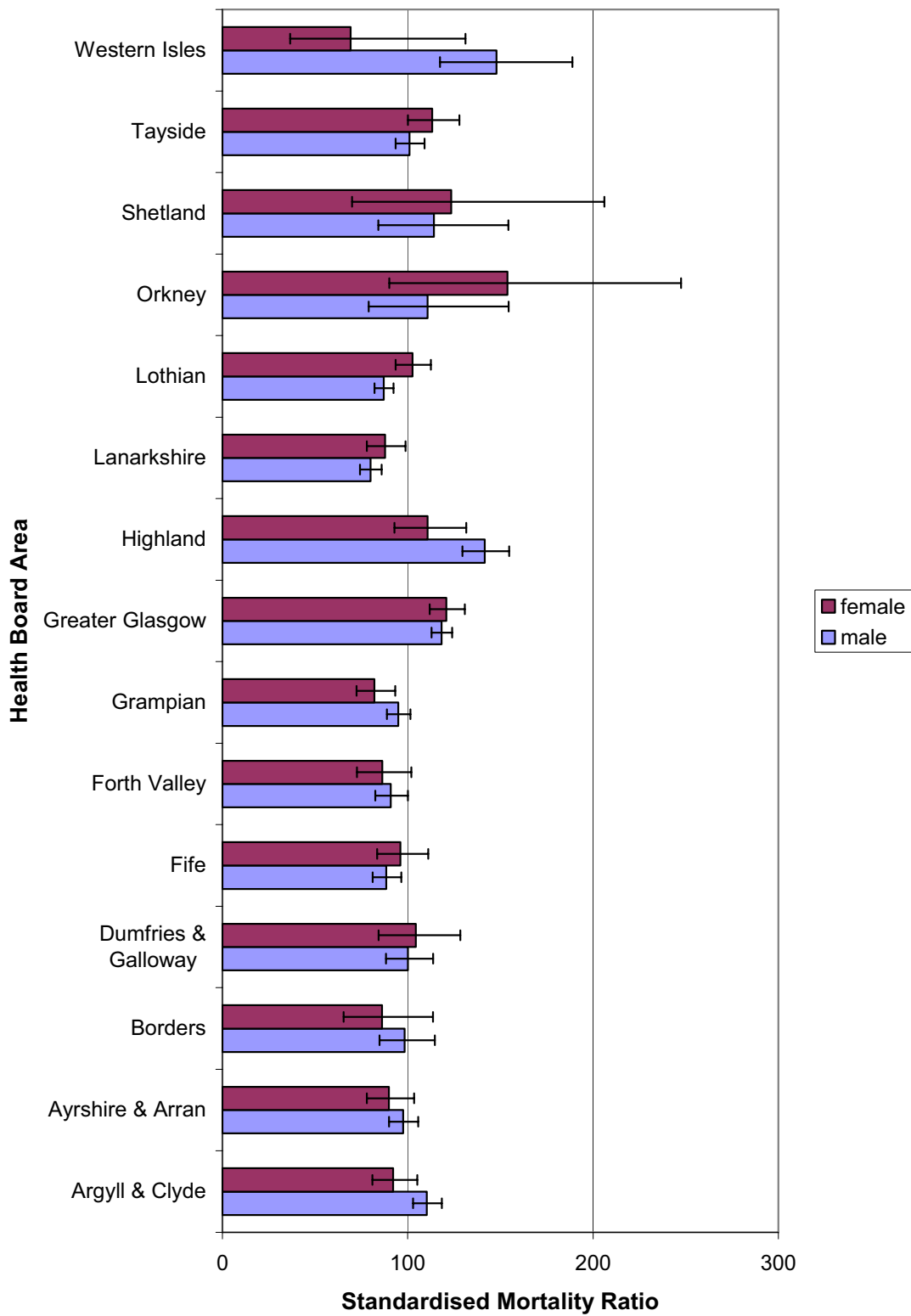


Figure 3.28 Standardised mortality ratio of suicide by health board area, males, 1989-95 and 1996-2002

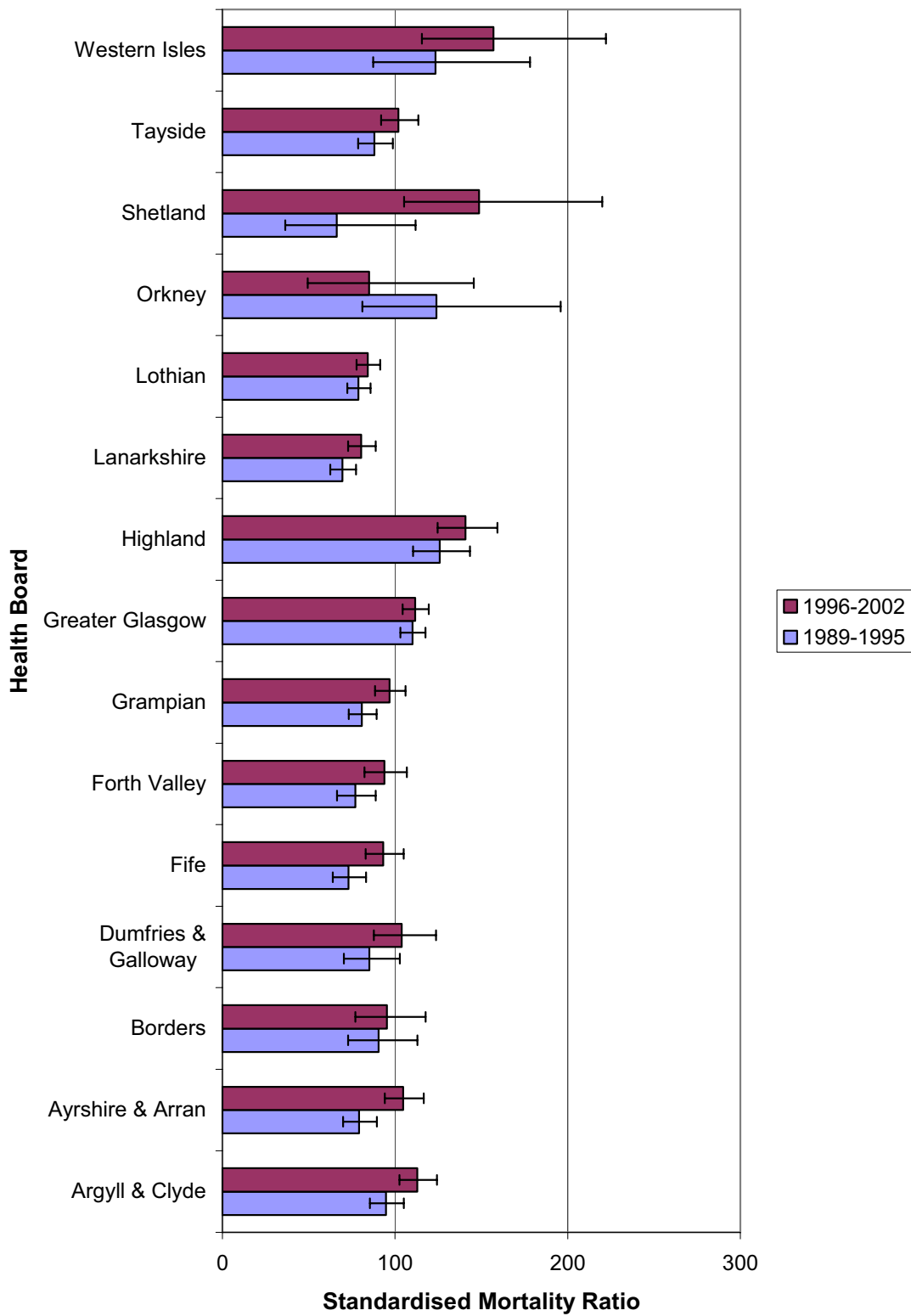
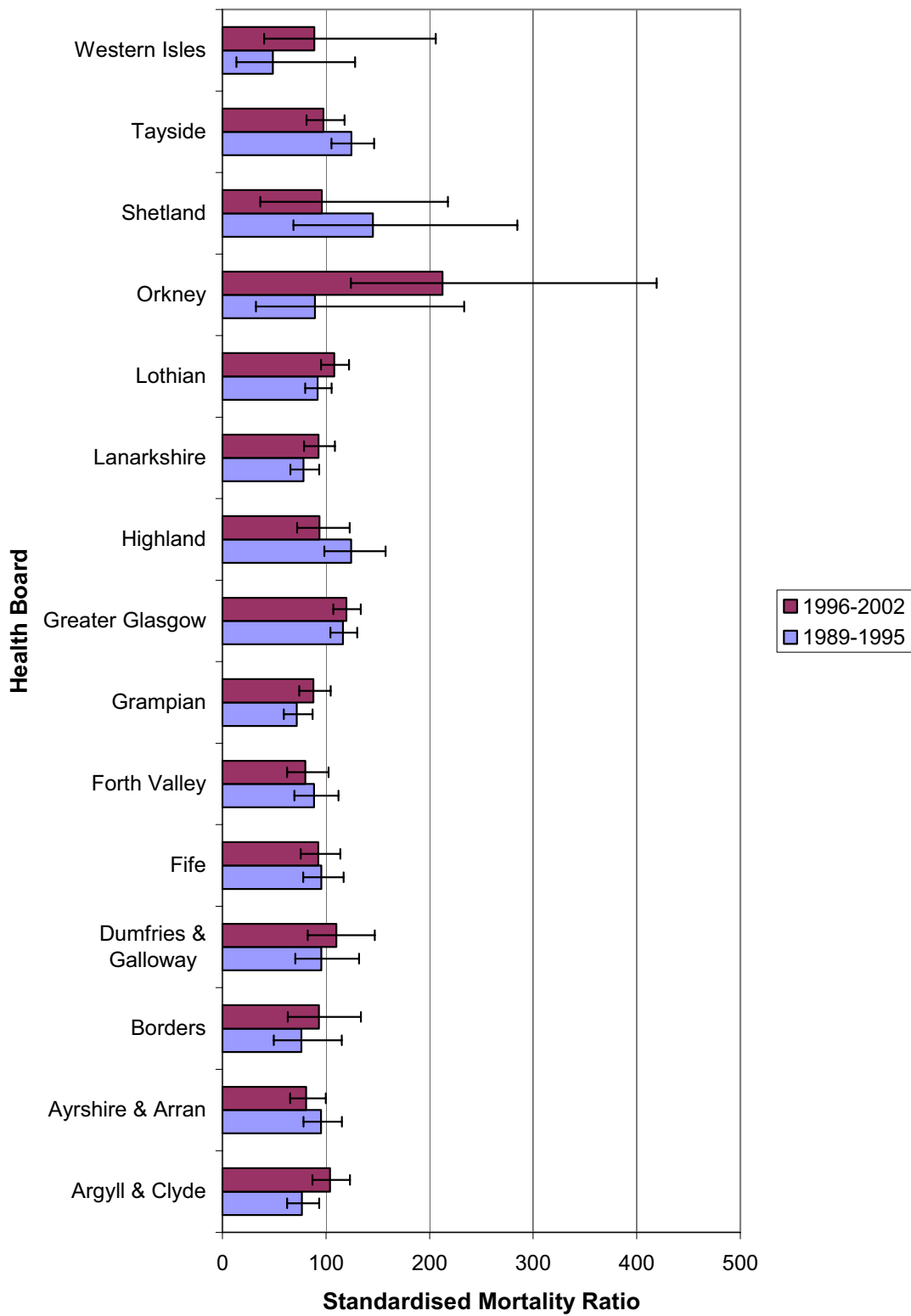


Figure 3.29 Standardised mortality ratio of suicide by health board area, females, 1989-95 and 1996-2002



3.8 Suicide rates by age and sex (objective 2)

At a national level, over the period 1989-2002, the highest male suicide rate of 40.8 per 100,000 occurred in 25-34 year age group (table 3.6). The rate in men aged 35-44 was second highest, at 36.0 per 100,000, and the rate in men aged 45-54 third highest, at 31.0 per 100,000. For women, the highest suicide rate of 11.6 per 100,000 occurred in 45-54 year age group while the second highest rate of 10.9 per 100,000 occurred in the 25-44 year age groups. The youngest age group (15-24) of men had a higher suicide rate than three old age groups of 55-64, 65-74 and 75 years and over. By contrast, the youngest age group (15-24) of women had a lower suicide rate than the three oldest age groups (55 years and over). The excess of suicide deaths among males was particularly marked in the younger age groups (15-34 years).

Table 3.6 Suicide among people aged 15 and over by sex and age, Scotland, 1989-2002

Age group	Male		Female	
	Number of deaths	Rate per 100,000	Number of deaths	Rate per 100,000
15-24	1335	27.9	321	6.8
25-34	2156	40.8	597	10.9
35-44	1800	36.0	564	10.9
45-54	1366	31.0	522	11.6
55-64	891	24.6	376	9.5
65-74	638	23.2	327	9.4
75+	390	24.5	277	8.8

The age-related pattern of suicide in 1989-95 and 1996-2002 is shown in figures 3.30 and 3.31. Among men (figure 3.30) the inverse relationship with age was more marked in the later years, with significantly higher rates in the 15-44 age groups. Among women (figure 3.31) the pattern is less clear and the only significant difference between the two time periods was a higher rate among 15-24 year olds in 1996-2002.

Annexes 7 and 8 present suicide rates by age group in 1989-95 and 1996-2002 among men and women across local authorities (annex 7) and health boards (annex 8). Broadly speaking, the age-related pattern found at national level is replicated at local level, although there are some anomalous patterns (e.g. highest rate in the oldest age group in several areas). There appears to be a trend towards a more pronounced inverse relationship between age group and suicide (highest rates in the youngest age groups) in 1996-2002 compared to the earlier period. Care needs to be taken, however, when making comparisons between local areas because of small numbers of deaths and wide confidence intervals around estimates of rates.

Figure 3.30 Suicide rates among men, by age, Scotland, 1989-95 and 1996-2002

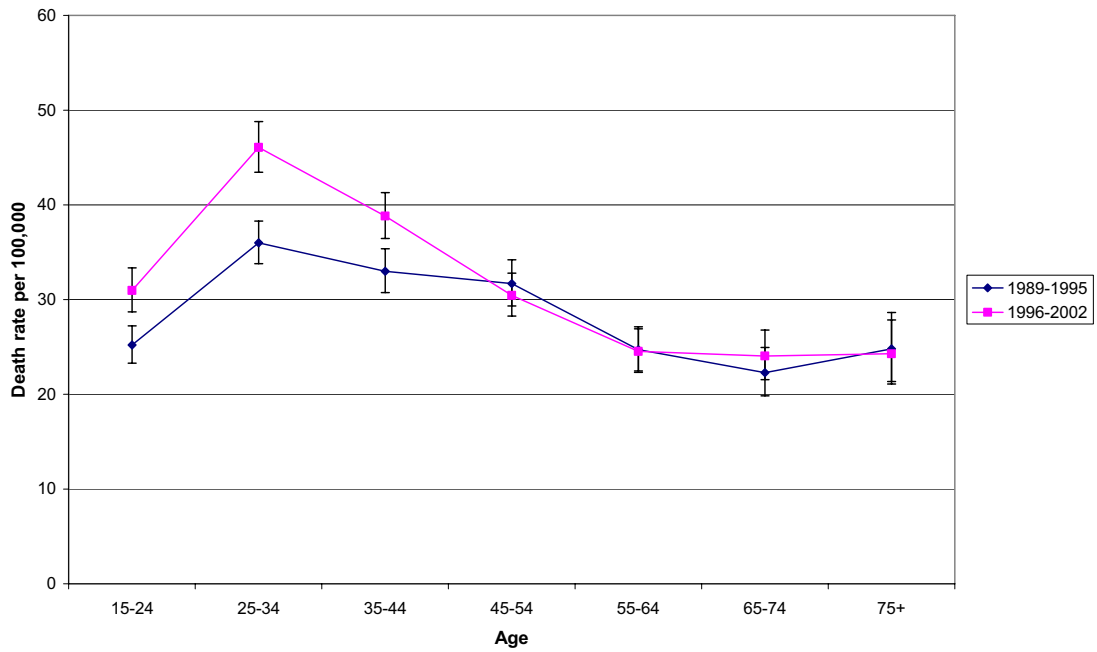
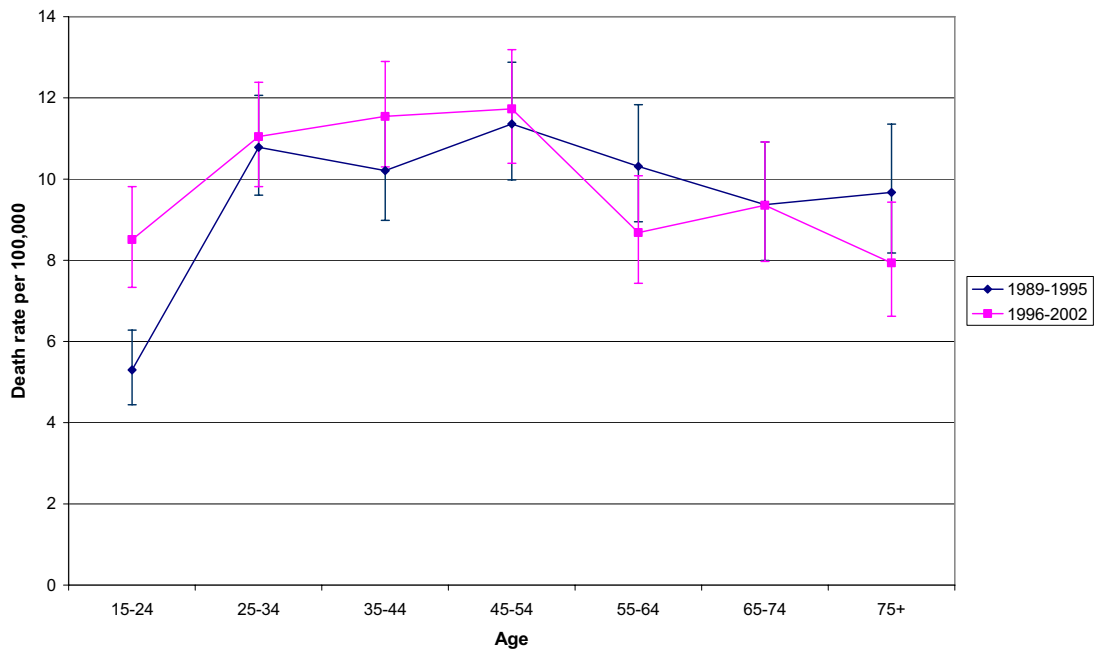


Figure 3.31 Suicide rates among women, by age, Scotland, 1989-95 and 1996-2002



3.9 Area deprivation analysis

Figure 3.32 shows suicide SMRs for all persons aged 15+ years in 1989-1995 and 1996-2002, by population weighted deprivation quintile. There was a clear social gradient ('suicide gap') during both periods, whereby suicide increased with increasing levels of area deprivation. This gradient was steeper in the later period, indicating that the association between suicide and deprivation became more pronounced over time. Differences between the two time periods in SMRs were not statistically significant in the three least deprived quintiles. However, the SMRs in the two most deprived quintiles were significantly higher in 1996-2002. The same pattern of linear trend and widening gap over time between SMRs of least deprived and most deprived areas is found among both males (figure 3.33) and females (figure 3.34), and in persons aged 15-44 years (figure 3.35) and 45+ years (figure 3.36).

Figure 3.32 SMRs by population weighted deprivation quintile, all persons, Scotland, 1989-95 to 1996-2002

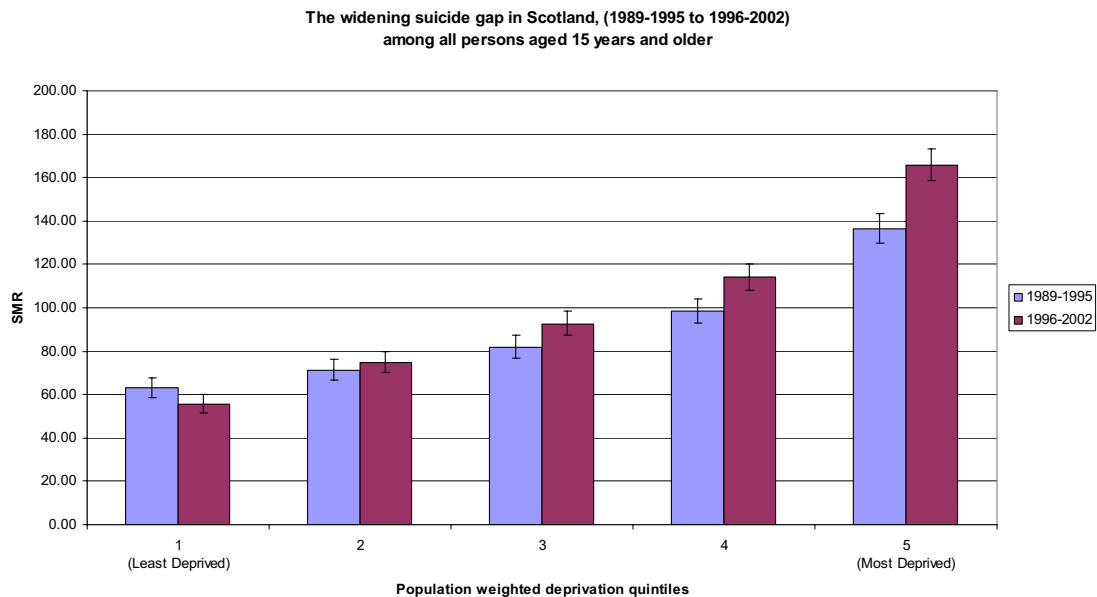


Figure 3.33 SMRs by population weighted deprivation quintile, males, Scotland, 1989-95 to 1996-2002

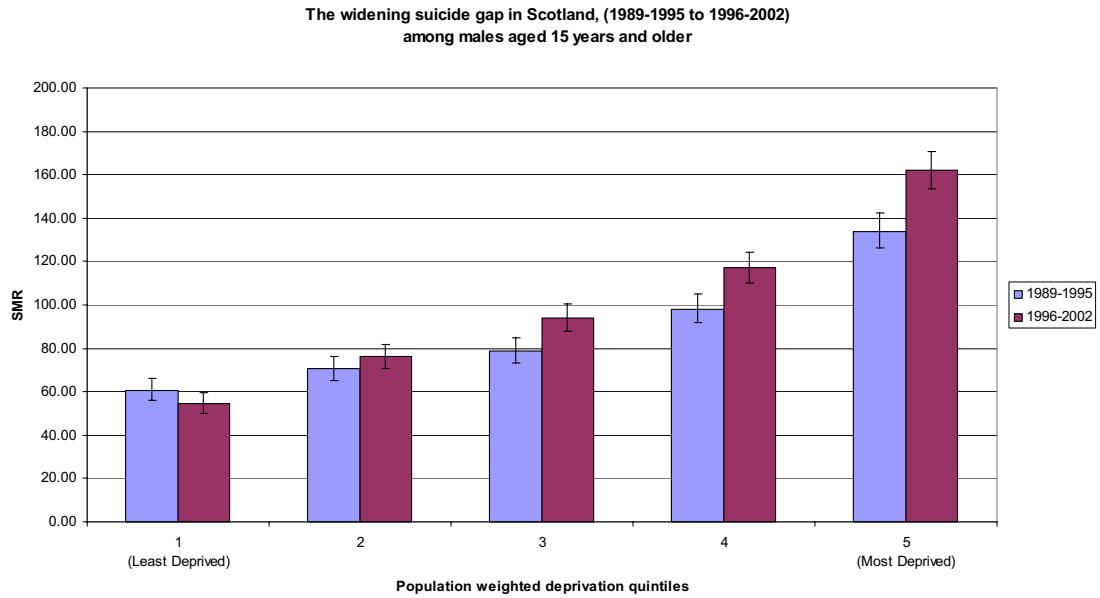


Figure 3.34 SMRs by population weighted deprivation quintile, females, Scotland, 1989-95 to 1996-2002

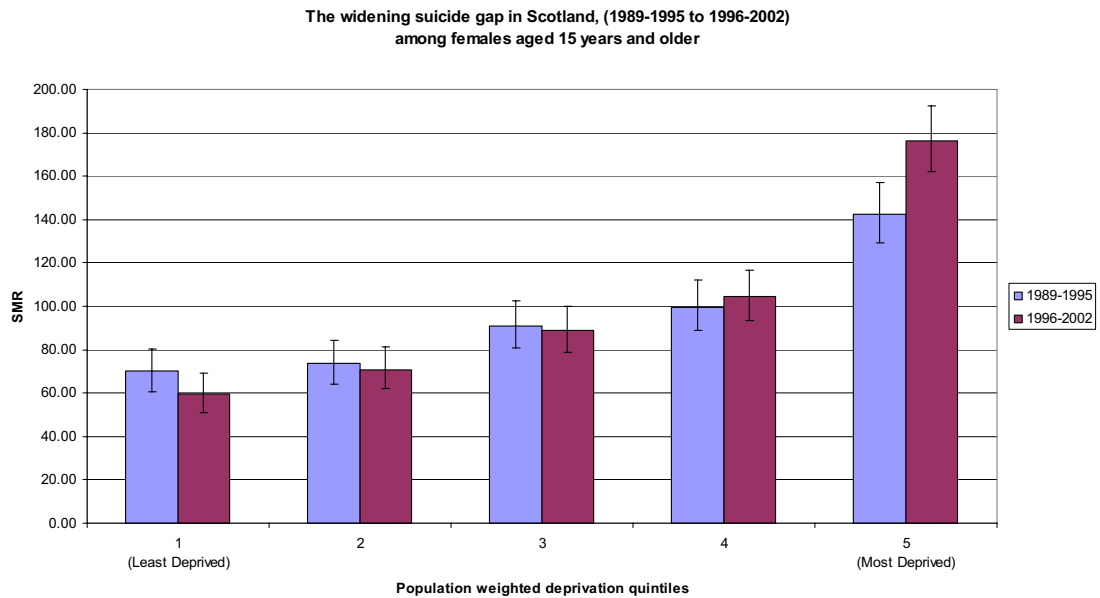


Figure 3.35 SMRs by population weighted deprivation quintile, persons aged 15-44 years, Scotland, 1989-95 to 1996-2002

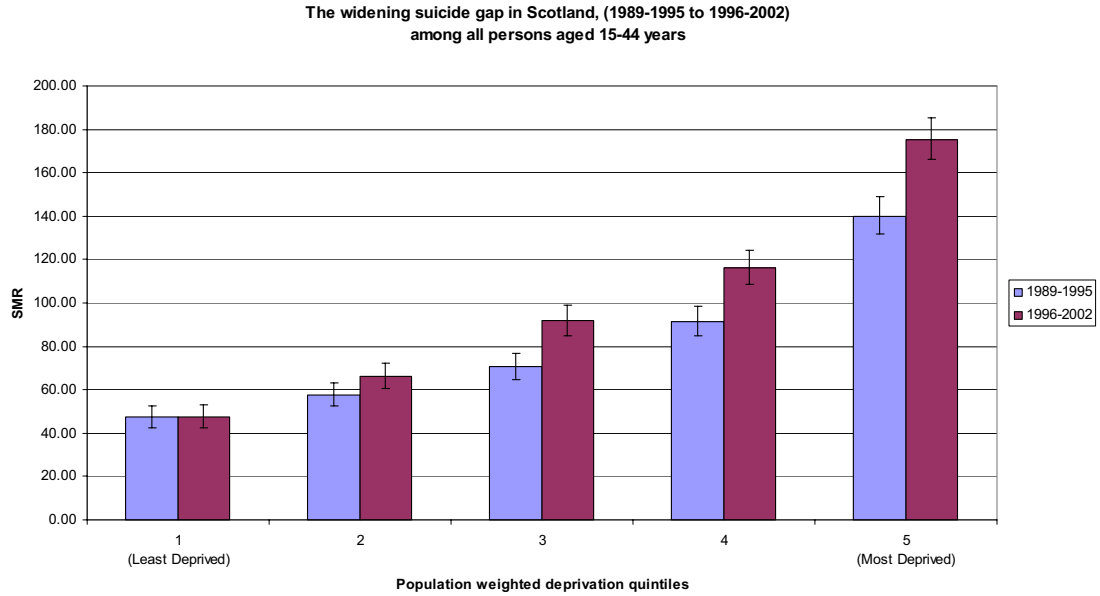
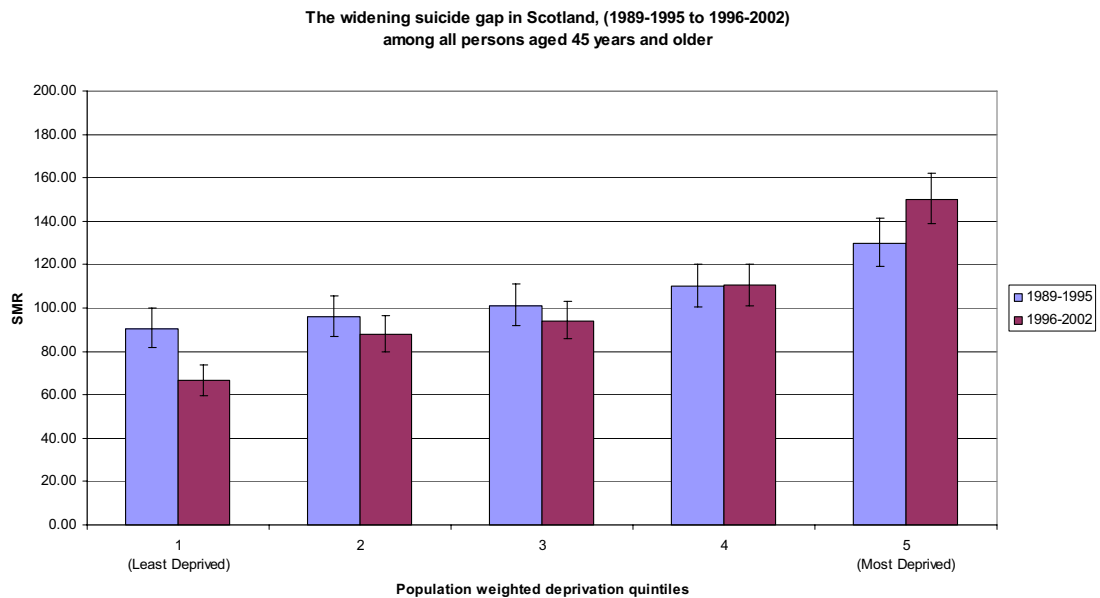


Figure 3.36 SMRs by population weighted deprivation quintile, persons aged 45+ years, Scotland, 1989-95 to 1996-2002



We formally calculated the ‘relative gap’ in suicide between the most and least deprived quintiles, for each period separately, by dividing the SMR for the most deprived quintile by the SMR for the least deprived quintile. The change in the relative gaps over time, calculated by dividing the relative gap in 1996-2002 by the relative gap in 1989-95, is referred to as the ‘widening gap’.

Table 3.7 uses data shown in figures 3.32-3.36 to calculate the relative suicide gap between the suicide rate in deprivation quintile 5 and the suicide rate in deprivation quintile 1 in each time period. The ‘widening gap’ is the ratio of the relative gap in 1996-2002 to the relative gap in 1989-1995. To illustrate the calculation of the relative suicide gap we can give as an example the data relating to all persons, all ages (top two rows of table 3.7). In 1989-1995 the suicide SMR in the most deprived quintile was 136.28, which was 2.16 times higher (‘relative gap’) than the SMR in the least deprived quintile (63.04). In the later period the relative gap increased to 2.97 (165.73/55.73). The *widening gap* was therefore 2.97/2.16, or 1.38. The magnitude of the widening gap was similar for men and women (table 3.7). Although the relative gap was higher among people aged 15-44 years (2.95 in 1989-95 and 3.70 in 1996-2002) than among people aged 45+ years (1.44 and 2.26, respectively), the widening gap was more pronounced in the older age group (1.57) than in the younger age group (1.25).

Table 3.7 The widening suicide gap in Scotland, 1989-1995 to 1996-2002

	SMR Quintile 1	SMR Quintile 5	Relative gap	Widening gap
<i>All persons, all ages</i>				
1989-1995	63.04	136.28	2.16	
1996-2002	55.73	165.73	2.97	1.38
<i>Males, all ages</i>				
1989-1995	60.76	134.08	2.21	
1996-2002	54.44	162.01	2.98	1.35
<i>Females, all ages</i>				
1989-1995	70.02	142.60	2.04	
1996-2002	59.58	176.29	2.96	1.45
<i>Persons aged 15-44 years</i>				
1989-1995	47.43	139.98	2.95	
1996-2002	47.32	175.18	3.70	1.25
<i>Persons aged 45+ years</i>				
1989-1995	90.36	129.88	1.44	
1996-2002	66.46	149.89	2.26	1.57

In addition to examining trends in the relationship between deprivation and suicide at the national level, we have undertaken a similar (but not identical) analysis at local level using population weighted terciles (rather than quintiles) due to the small number of

suicides in some areas. Annexes 9 and 10 present graphs relating to the widening suicide gap in local authorities and health boards, respectively. Tables 3.8 and 3.9 summarise the main findings. In 1989-95, evidence of a suicide gap (higher SMRs in tercile 3 compared to tercile 1) could be found in 28 out of 32 local authorities and 12 out of 15 health boards. In the later time period there was a suicide gap in 31 local authorities and 14 health boards. (It should be noted that not all differences were statistically significant due to small numbers of deaths (hence wide confidence intervals).) A widening suicide gap over time (final column of each table) was found in 24 local authorities and 12 health boards.

Table 3.8 The widening suicide gap, 1989-95 to 1996-2002, by local authority

	<i>SMR Tercile 1 1989-95</i>	<i>SMR Tercile 3 1989-95</i>	<i>Suicide gap 1989-95</i>	<i>SMR Tercile 1 1996- 2002</i>	<i>SMR Tercile 3 1996- 2002</i>	<i>Suicide gap 1996- 2002</i>	<i>Widening gap</i>
Aberdeen City	51.34	116.67	2.27	68.02	151.48	2.23	0.98
Aberdeenshire	70.86	84.59	1.19	68.65	190.98	2.78	2.33
Angus	83.41	92.98	1.11	58.98	101.40	1.72	1.54
Argyll & Bute	97.00	106.63	1.10	100.11	130.93	1.31	1.19
Clackmannanshire	52.17	68.14	1.31	69.26	131.30	1.90	1.45
Dumfries & Galloway	82.54	73.17	0.89	78.05	124.46	1.59	1.80
Dundee City	88.19	121.98	1.38	70.93	172.44	2.43	1.76
East Ayrshire	69.62	104.66	1.50	44.08	138.65	3.15	2.09
East Dunbartonshire	49.19	110.31	2.24	46.85	173.86	3.71	1.65
East Lothian	56.65	94.11	1.66	59.17	90.48	1.53	0.92
East Renfrewshire	53.24	48.14	0.90	38.75	144.67	3.73	4.13
Edinburgh, City of	67.05	148.09	2.21	59.52	172.05	2.89	1.31
Eilean Siar	83.24	151.85	1.82	145.44	165.34	1.14	0.62
Falkirk	54.96	91.98	1.67	50.38	159.85	3.17	1.90
Fife	61.95	103.47	1.67	57.16	128.76	2.25	1.35
Glasgow City	62.64	152.27	2.43	54.69	163.99	3.00	1.23
Highland	96.85	156.82	1.62	89.91	205.55	2.29	1.41
Inverclyde	52.74	121.39	2.30	43.13	152.22	3.53	1.53
Midlothian	46.69	79.85	1.71	58.28	109.34	1.88	1.10
Moray	82.52	116.44	1.41	92.69	166.25	1.79	1.27
North Ayrshire	50.43	131.47	2.61	68.64	139.23	2.03	0.78
North Lanarkshire	43.52	81.30	1.87	32.70	121.96	3.73	2.00
Orkney Islands	69.96	413.51	5.91	51.39	267.28	5.20	0.88
Perth & Kinross	77.87	84.97	1.09	72.54	168.40	2.32	2.13
Renfrewshire	56.40	119.93	2.13	46.88	154.95	3.31	1.55
Scottish Borders	98.68	65.73	0.67	102.71	102.51	1.00	1.50
Shetland Islands	81.08	---	---	116.03	141.97	1.22	---
South Ayrshire	69.05	120.43	1.74	49.70	157.35	3.17	1.82
South Lanarkshire	50.66	103.53	2.04	61.20	115.54	1.89	0.92
Stirling	86.84	111.68	1.29	56.25	105.28	1.87	1.46
West Dunbartonshire	53.90	148.37	2.75	73.48	155.12	2.11	0.77
West Lothian	63.36	65.34	1.03	53.82	113.67	2.11	2.05

* No suicide deaths were recorded. Therefore SMR, 'suicide gap' and 'widening gap' could not be calculated.

Table 3.9 The widening suicide gap, 1989-95 to 1996-2002, by health board

	<i>SMR Quintile 1 1989-95</i>	<i>SMR Quintile 3 1989-95</i>	<i>Suicide gap 1989-95</i>	<i>SMR Quintile 1 1996- 2002</i>	<i>SMR Quintile 3 1996- 2002</i>	<i>Suicide gap 1996- 2002</i>	<i>Widening gap</i>
Argyll & Clyde	66.08	119.54	1.81	66.75	156.63	2.35	1.30
Ayrshire & Arran	63.54	118.77	1.87	53.51	143.14	2.68	1.43
Borders	98.68	65.73	0.67	102.71	102.51	1.00	1.50
Dumfries & Galloway	82.54	73.17	0.89	78.05	124.46	1.59	1.80
Fife	61.95	103.47	1.67	57.16	128.76	2.25	1.35
Forth Valley	66.06	92.47	1.40	54.06	144.35	2.67	1.91
Grampian	65.16	109.72	1.68	70.90	161.64	2.28	1.35
Greater Glasgow	51.52	146.54	2.84	47.49	160.79	3.39	1.19
Highland	96.85	156.82	1.62	89.91	205.55	2.29	1.41
Lanarkshire	53.38	88.44	1.66	48.51	116.21	2.40	1.45
Lothian	63.41	119.37	1.88	58.66	143.00	2.44	1.29
Orkney	69.96	413.51	5.91	51.39	267.28	5.20	0.88
Shetland	81.08	---	---	116.03	141.97	1.22	---
Tayside	82.09	114.19	1.39	67.91	158.84	2.34	1.68
Western Isles	83.24	151.85	1.82	145.44	165.34	1.14	0.62

* No suicide deaths were recorded. Therefore SMR, 'suicide gap' and 'widening gap' could not be calculated.

3.10 Relationship between area deprivation and social class (objective 5)

The relationship between area-level socioeconomic deprivation and individual-level social class position is explored in figure 3.37 (relating to 1989-95) and figure 3.38 (1996-2002). In both time periods there are no significant differences in suicide rates between the non-manual classes in the different deprivation categories. There is a gradient, however, between the non-manual classes, on the one hand, and classes IIM, IV and V, on the other, in each deprivation category. Thus, the suicide rate is significantly higher in class V than in class IV (and all the other social classes) in all areas, irrespective of the degree of socio-economic deprivation in the areas in which people live.

In the earlier time period the patterning of social class differences does not differ markedly between categories of socioeconomic deprivation. This suggests a strong compositional effect and a very weak or non-existent area effect: that is to say, the main influence on suicide rates is at the individual, rather than area, level.

The situation changes in 1996-2002. Figure 3.38 suggests that there is an area effect as well as a compositional effect, as evidenced by the trend towards an increase in the social class gradient as the level of socioeconomic deprivation worsens: that is to say, the gap between suicide rates in the highest and lowest social classes increases as the level of socio-economic deprivation worsens. However, the compositional effect (the influence of individual social class) is undoubtedly far stronger than the area effect (the influence of the level of socio-economic deprivation in the locality).

Figure 3.37 Suicide rates by deprivation quintile and social class, 1989-1995, Scotland, males

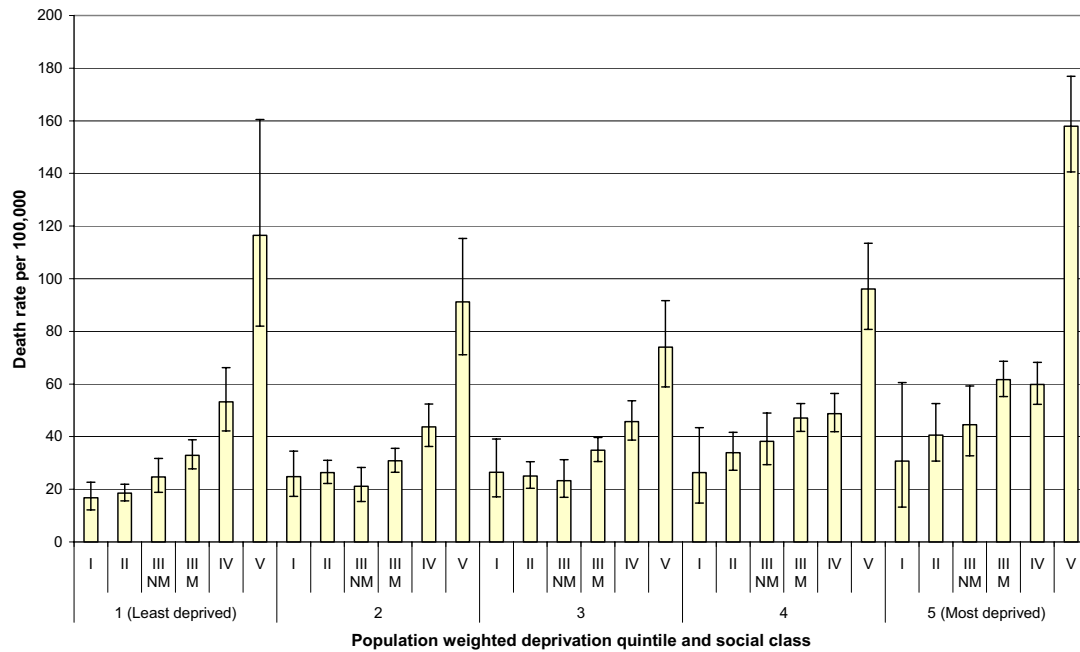
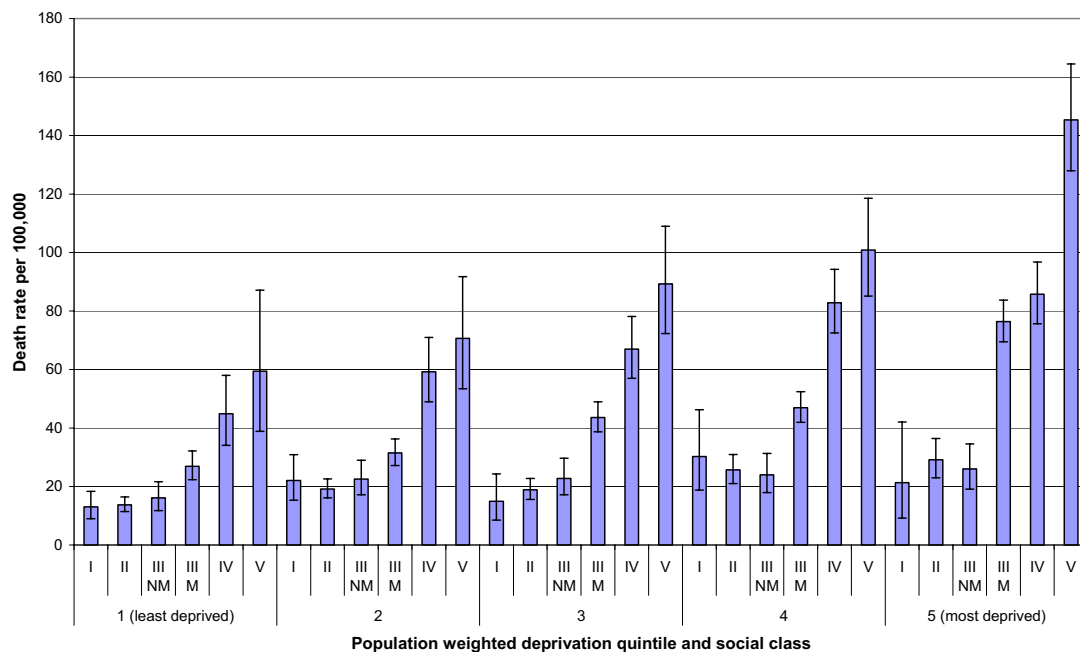


Figure 3.38 Suicide rates by deprivation quintile and social class, 1996-2002, Scotland, males



4. CONCLUSIONS

4.1 Key findings

This report has explored the epidemiology of suicide in Scotland over the period 1989 to 2004, at national and local levels. Among key findings the following should be noted:

- Across the country as a whole male suicide rates increased by 22 percent and female suicide rates by 6 percent over the period 1989-2004 (single years).
- In about half the local areas suicide incidence over the whole period was not significantly different to national suicide incidence. However, in Glasgow City, the suicide rate was significantly higher than the Scottish average in all years among both men and women. In Glasgow City and a few other local authorities (West Dunbartonshire, Highland, Eilean Siar, Dundee City and Argyll & Bute) all-person standardised suicide mortality ratios (SMRs) were significantly elevated (compared to Scotland as a whole). In West Lothian, South Lanarkshire, North Lanarkshire, Fife, Falkirk, East Renfrewshire, East Lothian, East Dunbartonshire, Angus and Aberdeenshire all-person SMRs were significantly lower than the national average.
- There was no clear temporal trend in suicide at the local level. Rates tended to fluctuate or exhibit irregular patterns over time.
- Male suicide rates were approximately three times higher than female suicide rates over the period. There was some variation in the male: female suicide ratio between local areas, with a suggestion that male vulnerability to suicide was greater in the more rural and remote areas of the country.
- Across Scotland as a whole male suicide rates tended to decline with age, whereas among women there was an inverse U-shaped relationship (lower rates in youngest and oldest age groups). The highest suicide rate among men (40.8 per 100,000) occurred in 25-34 year age group. High rates were also evident among men aged 35-54 years. Among women, the highest suicide rate (11.6 per 100,000) was found in the 45-54 year age group, with high rates also in the 25-44 year age groups. The excess of suicide deaths among males (approximately fourfold) was particularly marked in the younger age groups (15-34 years). The age-related pattern found at national level is replicated at local level, although there are some anomalous patterns also (e.g. highest rate in the oldest age group in a few areas).
- The most common method of suicide among males in Scotland were hanging (7.9 per 100,000), self-poisoning (6.1), drowning (3.1) and gassing (3.0). Among females the most common method of suicide was self-poisoning (4.4 per 100,000). Hanging suicide rates have significantly increased over time for both men and women, while death rates by gassing (mainly carbon monoxide [car exhaust] poisoning) have significantly decreased. In most local areas the rank ordering of methods and trends over time are similar to what is found at national level. The main difference is the greater popularity of drowning as a method of suicide in Highland and the islands.

- At the national level there was a marked variation in male suicide rates by social class. Differences between rates in the non-manual groups were not statistically significant. However, there were significant differences between rates in the non-manual groups and social class IIIM, between IIIM and IV, and between IV and V. The slope of the social class gradient was more pronounced in 1996-2002 than in 1989-1995. Similar patterns and trends were found in local areas.
- Across Scotland there was a strong relationship between suicide and socio-economic deprivation: the higher the level of deprivation, the higher the standardised suicide mortality ratio (SMR). The relative gap between SMRs in the most and least deprived quintiles was larger ('widening gap') in 1996-2002 compared to 1989-1995. The magnitude of the widening gap was similar for men and women. Although the relative gap was higher among people aged 15-44 years than among people aged 45+ years, the widening gap was more pronounced in the older age group than in the younger age group. An analysis of suicide and socio-economic deprivation *within* local areas reveals evidence of a relative suicide gap in all but a few local authorities and health boards. A widening suicide gap over time was found in 24 (out of 32) local authorities and 12 (out of 15) health boards.
- The suicide rate was found to be significantly higher in class V than in other social classes in all local areas, irrespective of the degree of socio-economic deprivation. In 1989-1995 the patterning of social class differences did not differ markedly between categories of socioeconomic deprivation. This suggests that the main influence on suicide rates is at the individual, rather than area, level. In 1996-2002, however, there is evidence of a trend towards an increase in the social class gradient with worsening level of socioeconomic deprivation: that is to say, the gap between suicide rates in the highest and lowest social classes increases as socio-economic deprivation worsens. However, the compositional effect (the influence of individual social class) is undoubtedly far stronger than the area effect (the influence of the level of socio-economic deprivation in the locality).

4.2 Implications

4.2.1 Social class and socio-economic deprivation

- The study findings suggest the need to give greater priority to the effects of social class (at individual level) and socio-economic deprivation (at area level) in local and national suicide prevention strategy and action plans.
- Targeted action is warranted in areas with high suicide rates where there is evidence of impact of socio-economic deprivation (eg Glasgow).
- However, according to the analyses reported here, it is not enough to target suicide prevention activities exclusively on areas of social disadvantage, because this will not meet the needs of people who are in the lowest social classes but who live outside areas of economic deprivation. The analyses indicate that the influence of individual social class is far stronger than the influence of the level of socio-economic deprivation in the area.

- Addressing higher suicide risk in lower socio-economic groups would be consistent with SE's wider strategies on promoting social justice and social inclusion, reducing social inequality and tackling health inequalities
- In addition to considerations of social class and socio-economic deprivation, the ratio of male to female age-adjusted suicide rates indicates a higher level of vulnerability to suicide among men in the more rural and remote areas in the country.

4.2.2 Supporting the national suicide reduction target

- If the recent reduction in suicide incidence is to be sustained in years to come, the public, government, policy makers, agencies, planners, academics, mass media and practitioners need to understand the role that suicide prevention activity in general, and *Choose Life* in particular, is playing and has played. In this context, it is important to note that in Scotland *Choose Life* sits in the broader context of health improvement, public health work and wider work on social justice (as part of the Executive's National Programme for Improving Mental Health and Well-being). Initiatives such as 'Scottish Mental Health First Aid', the 'Breathing Space' telephone line, the 'see me' anti-stigma campaign, work on recovery and social inclusion are all likely to be contributing to the recent reduction in the suicide rate in Scotland. Work on improving health and social care services, such as the recent emphasis on addressing depression and improving the delivery of mental health services (Delivering for Mental Health) may also be impacting on the suicide rate, as well as wider social, economic and public policy factors.
- To support the implementation of *Choose Life*, more detailed and up to date information about the epidemiology of suicide is needed, both nationally and locally. GROS has collected and collated a considerable amount of information on each suicide (or possible suicide) death in Scotland, but relatively little has been published to date. An in-depth exploration of these data would help to inform planners and practitioners about the suicide situation in Scotland.

4.2.3 Links with the evaluation of the first phase of *Choose Life*

This study was commissioned as part of a wide programme of research and evaluation to support the implementation of *Choose Life*. The evaluation of the first phase of *Choose Life* was published in September 2006 and members of the evaluation team also worked on this project. Findings from this study reinforce several of the recommendations made by the evaluation team. In particular:

- *Enhanced focus on inequalities.* The evaluation highlighted the omission of socio-economic deprivation and low socio-economic status from priority groups in the *Choose Life* strategy.
- *Targets at local levels.* Because the number of suicides and undetermined deaths fluctuates annually, it is not easy to translate a 10 year national target into meaningful local area targets, particularly in areas where the number of suicide deaths per annum is small. To maximise the engagement and continuing contribution of local areas towards the national 10 year target, it may be worthwhile considering the introduction of local targets.

- *Possible 'proxy' target.* One possible candidate would be non-fatal self harm incidence, operationally defined as admissions to hospital following self-poisoning and/or self-injury, although admissions to hospital and medical or psychosocial 'seriousness' are not perfectly correlated. Many (perhaps even the majority) of those treated in hospital will not represent a high suicide risk, and a small but significant minority of those who do not attend hospital (not referred or refusing to attend) will be high risk and will go on to die by suicide.

5. GLOSSARY

Confidence interval	A range of values – expressed as a lower and an upper limit – within which the unknown ‘true’ value of an estimated quantity (such as an average) is expected to fall. Confidence intervals are expressed in terms of specific levels of uncertainty. For example, a 95% confidence interval indicates a 95% probability that the true value will lie within the stated lower and upper limits.
Epidemiology	The study of the distribution and determinants of health-related states and events in populations, and the application of this study to control of health problems
Incidence	Number of events (suicides) expressed in relation to a population denominator over a specified time interval (e.g. 10 per 100,000 people aged 20-24 years per annum)
Indirect standardisation	Standardisation is the process by which adjustments are made to take account of differences in the age structures of populations. Indirect standardisation is the procedure for adjusting rates in which the specific rates in a standard population are averaged using as weights the distribution of the study population (see <i>standardised mortality ratio</i>).
Population weighted	Adjusted to take account of the proportion of population living in each geographical area
Rate	See <i>incidence</i>
Standardised mortality ratio (SMR)	The ratio of actual (or observed) deaths to the expected deaths. The expected deaths are calculated by multiplying the national age- and sex-specific death rate (known as the ‘standard population’) by the age- and sex-specific population of a study group (defined, for example, by age, sex, occupation, level of area deprivation). The mean SMR is 100. A value >100 means that there are more deaths than expected: a value <100, that there are fewer deaths than expected.
Time/temporal trend	Direction of change (e.g. in a rate) over time

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APPENDIX TECHNICAL ASPECTS OF THE RESEARCH METHODS

A1. Implications of using two ICD systems for reliability of classification of deaths

During the selected time period two different ICD systems were in operation: ICD9 until 1999 and ICD10 from 2000. It is therefore important to consider the comparability (reliability) of coding between ICD9 and ICD10, in terms of both the gross distinction *between* suicide and undetermined deaths, and the specific cause *within* the suicide and undetermined categories. A bridge coding exercise, conducted in 2000, which examined the correspondence between ICD9 and ICD10 coding systems, found only minor discrepancies (Rooney and Smith, 2000); none is considered to be sufficiently serious as to invalidate the use of a combined dataset covering the period under review in this study.

A2. Derivation of pseudo Health Boards

There are 10,058 CATTs in Scotland. However, because CATTs do not necessarily fall completely within the boundaries of the 2001 Health Boards, the research team assigned each record to a pseudo Health Board using a point in polygon process within a geographical information system (GIS). The creation of pseudo health boards was necessary to ensure that data were reliable throughout the study period. Table A1 shows there was very little difference in the population distribution of the ‘official’ health boards and the pseudo health boards derived from CATTs (Exeter 2004).

Table A1 Summary statistics for official health boards in 2001 and pseudo health boards derived from CATTs

<i>Population</i>	<i>2001 health boards</i>	<i>2001 pseudo health boards</i>
Minimum	19,245	19,245
Maximum	867,150	862,873
Mean	337,467	337,647
Std Deviation	263,775	263,289

Source: Exeter (2004)

A3. The Carstairs index of deprivation

The Carstairs index of deprivation was first developed following the 1981 census to identify the level of socioeconomic deprivation within postcode sectors in Scotland (Carstairs and Morris 1991). The index comprises four dimensions (unemployment, overcrowding, lack of car ownership, and low social class). Since 1981 there have been a number of changes to the questions asked in the Census. While these had little impact on the definition of variables used for the construction of the Carstairs index in 1991, there were significant alterations to the definition of the unemployment and low social class dimensions of the Carstairs index in 2001 (table A2).

We downloaded the necessary census data from CASWEB²¹ for Census Output Areas²², which were then aggregated to CATTs. In 1991, the Carstairs index ranged from -5.28 in

²¹ <http://census.ac.uk/casweb/>

the least deprived CATTs to 16.06 in the most deprived CATTs, while the 2001 index ranged from -5.94 to 17.47.

Table A2 The definitions of the four variables used to construct the Carstairs index of deprivation: 1991 and 2001 censuses

<i>Variable</i>	<i>Definitions in 1991 and 2001</i>
Unemployment	1991: Unemployed male residents aged 16 and over as a proportion of all economically active male residents aged 16 and over. 2001: Unemployed male residents aged 16–74 as a proportion of all economically active male residents aged 16–74.
Overcrowding	1991: Households with 1 and more persons per room as a proportion of all households. 2001: Households with 1 and more persons per room as a proportion of all households.
Non car ownership	1991: All people in households with no car as a proportion of all people in households. 2001: All people in households with no car as a proportion of all people in households.
Low social class	1991: Economically active head of household in social class IV or V as a proportion of all economically active people. 2001: Persons aged 16–74 in social class IV or V (estimated by using NS-SEC groups 11.2, 12.2, 12.4, 12.5, 12.7, 13.1, 13.2, 13.4 and 13.5) as a proportion of all persons aged 16–74.

Appendix A4. Suicide rates by social class

Before 2001, Registrar General’s Social Class (SC) was adopted by the government as the measure of socio-economic status in official surveys and censuses. Since the classification was based on occupation, people who were retired, in full time education, in the armed forces or looking after family were not classified. Since 2001, a new classification system, the National Statistics Socio-Economic Classification (NS-SEC), has been adopted (see table A3). This replaces SC in all national surveys and the 2001 census.

The NS-SEC is also an occupationally based classification but has rules to provide coverage of the whole adult population. The information required to create the NS-SEC is occupation coded to the unit groups (OUG) of the standard occupational classification 2000 (SOC2000) and details of employment status (whether an employer, self-employed or employee; whether a supervisor; and number of employees at the workplace).

²² the Census Output Area is the smallest unit of geography in the Scottish Census (average of 50 households)

“In order to improve population coverage, the NS-SEC treats those who are not currently in paid employment by allocating them via their last main paid job. Thus, for most non-employed persons (the unemployed, the retired, those looking after a home, those on government employment or training schemes, the sick and disabled etc), the normal procedure is to classify them according to their last main job. The main exception to this rule is for full-time students and the long-term unemployed.”

“Full-time students are recognised as a category in the full classification for reasons of completeness. Nevertheless, since many students will have or had paid occupations, they could be classified by current or last main job if the user wished to do so. Normally, however, we would not expect full-time students to be classified in this way. Conventionally, where full-time students are included in analyses (e.g. in research on education), they are normally allocated a position through their family household.”

“Those who have 'never worked' but are seeking, or would like paid work, should be allocated to operational category L14.1. In the case of the 'long-term unemployed', there is an argument that they should not be classified according to their last job, but should be assigned to category L14.2 of the classification (on the grounds that they are excluded from employment relations). Thus, they should be included with the 'never worked' when the NS-SEC is collapsed to an analytic variable.”

<http://www.statistics.gov.uk/methods_quality/ns_sec/cat_desc_op_issue.asp>

The version of the classification which is used for most analyses (the analytic version) has eight classes, the first of which can be subdivided. The most detailed version has 17 types with further subdivisions, called operational categories (see below).

Table A3 Analytic classes and operational categories and sub-categories of NS-SEC

<i>Analytic Classes</i>	<i>Operational Categories and Sub-Categories</i>	
1.1	<u>L1</u>	Employers in large organisations
	<u>L2</u>	Higher managerial occupations
1.2	<u>L3</u>	Higher professional occupations
	L3.1	'Traditional' employees
	L3.2	'New' employees
	L3.3	'Traditional' self-employed
	L3.4	'New' self-employed
2	<u>L4</u>	Lower professional and higher technical occupations
	L4.1	'Traditional' employees
	L4.2	'New' employees
	L4.3	'Traditional' self-employed
	L4.4	'New' self-employed
	<u>L5</u>	Lower managerial occupations
	<u>L6</u>	Higher supervisory occupations
3	<u>L7</u>	Intermediate occupations
	L7.1	Intermediate clerical and administrative
	L7.2	Intermediate sales and service
	L7.3	Intermediate technical and auxiliary
	L7.4	Intermediate engineering
Analytic Classes	Operational Categories and Sub-Categories	
4	<u>L8</u>	Employers in small organisations
	L8.1	Employers in small organisations (non-professional)
	L8.2	Employers in small organisations (agriculture)
	<u>L9</u>	Own account workers
	L9.1	Own account workers (non-professional)
	L9.2	Own account workers (agriculture)
5	<u>L10</u>	Lower supervisory occupations
	<u>L11</u>	Lower technical occupations
	L11.1	Lower technical craft
	L11.2	Lower technical process operative

<i>Analytic Classes</i>	<i>Operational Categories and Sub-Categories</i>	
6	<u>L12</u>	Semi-routine occupations
		L12.1 Semi-routine sales
		L12.2 Semi-routine service
		L12.3 Semi-routine technical
		L12.4 Semi-routine operative
		L12.5 Semi-routine agricultural
		L12.6 Semi-routine clerical
		L12.7 Semi-routine childcare
7	<u>L13</u>	Routine occupations
		L13.1 Routine sales and service
		L13.2 Routine production
		L13.3 Routine technical
		L13.4 Routine operative
		L13.5 Routine agricultural
8	<u>L14</u>	Never worked and long-term unemployed
		L14.1 Never worked
		L14.2 Long-term unemployed
*	<u>L15</u>	Full-time students
*	<u>L16</u>	Occupations not stated or inadequately described
*	<u>L17</u>	Not classifiable for other reasons

<http://www.statistics.gov.uk/methods_quality/ns_sec/analytic_operation_cat_subcat.asp#opcat>

The implementation of the new socio-economic classification results in some problems in analysis by social class in surveys/censuses relating to the year 2001. Fortunately the detailed operational categories of NS-SEC can be aggregated approximately to SC. According to the ONS, the approximation achieves a continuity level of 87 percent for SC.

For the first period (1989-1995), counts of people by social class from the 1991 census were extracted. For the second period (1996-2002), counts of people by NS-SEC from the 2001 census were extracted and converted into counts of people by SC using the lookup table provided by ONS.

Caution is required when comparing results using the 1991 and 2001 census data as population denominators. The table in the 1991 census was based on a 10 percent sample while the table in the 2001 census was based on a full 100 percent sample. In addition,

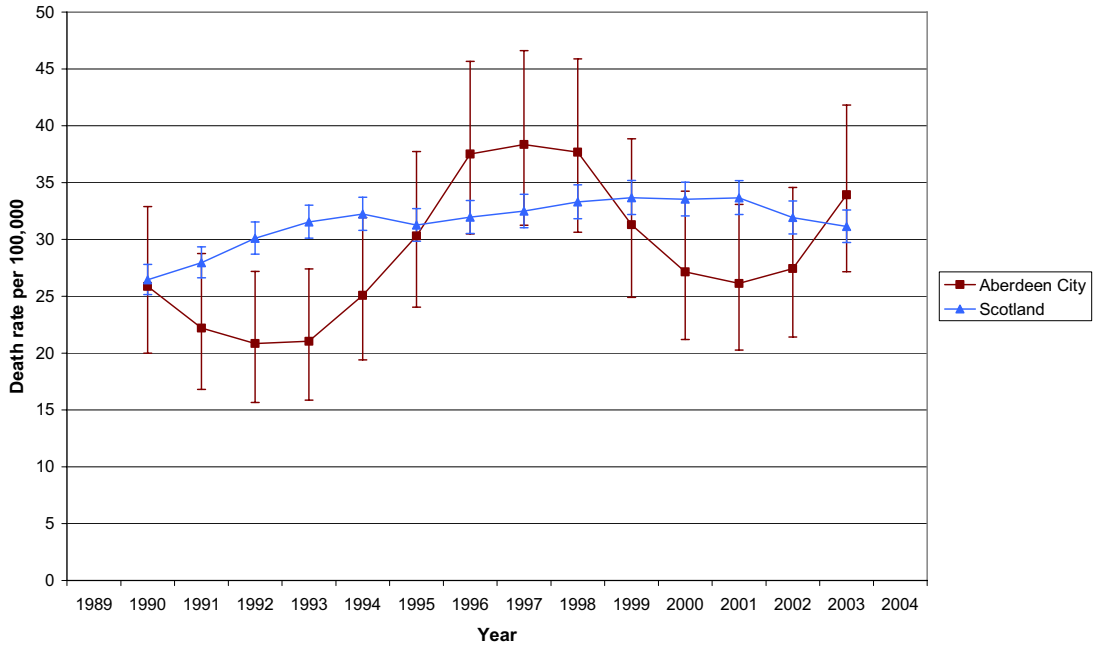
the 1991 census table provides counts of persons aged 16 and over by social class. In contrast the 2001 census table provides counts of persons aged 16 to 74 years only by social class. For the second period analysis, persons over 74 who died by suicide were removed from the analysis (n=328). The extent to which these differences in the calculation of denominators affect the reliability of inter-censal comparisons is unknown.

The epidemiology of suicide in Scotland 1989-2004: an examination of temporal trends and risk factors at national and local levels

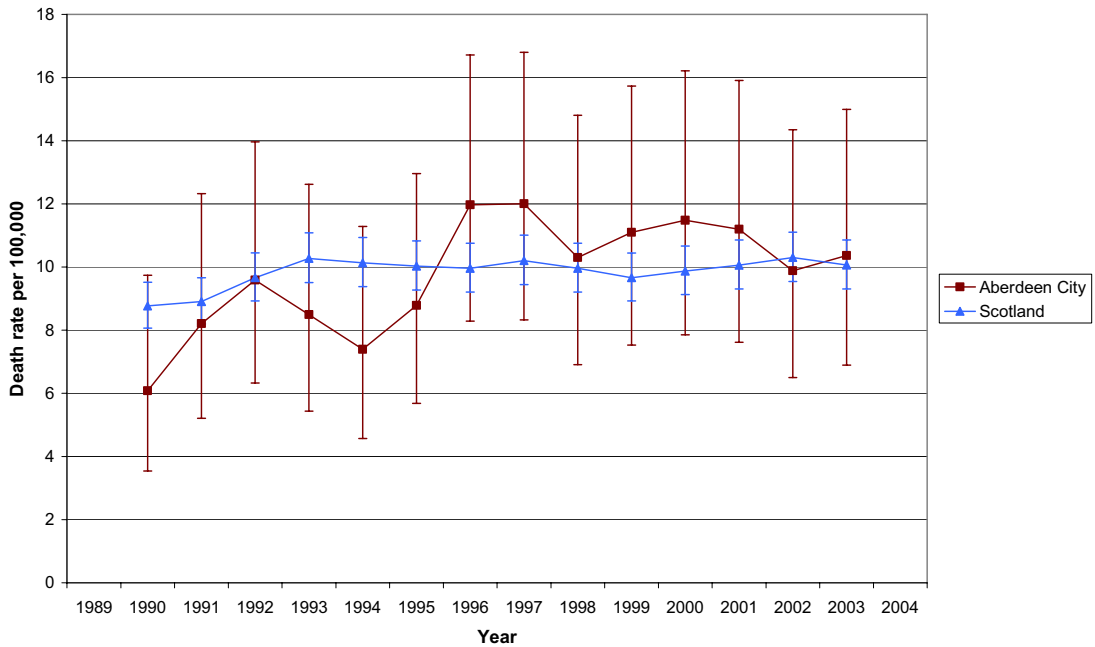
Annexes

		<i>Page</i>
Annex 1	Three year moving average of suicide rates centred on the middle year, by sex, separately for each local authority, 1989-2004	65
Annex 2	Three year moving average of suicide rates centred on the middle year, by sex, separately for each health board, 1989-2004	98
Annex 3	Male suicide rates by social class, separately for each local authority, 1989-1995 and 1996-2002	114
Annex 4	Male suicide rates by social class, separately for each health board, 1989-1995 and 1996-2002	131
Annex 5	Suicide rates by method of suicide and sex, separately for each local authority, 1989-1995 and 1996-2002	141
Annex 6	Suicide rates by method of suicide and sex, separately for each health board, 1989-1995 and 1996-2002	173
Annex 7	Suicide rates by age group and sex, separately for each local authority, 1989-95 and 1996-2002	189
Annex 8	Suicide rates by age group and sex, separately for each health board, 1989-95 and 1996-2002	222
Annex 9	SMRs by population weighted deprivation tercile, all persons, separately for each local authority, 1989-95 and 1996-2002	238
Annex 10	SMRs by population weighted deprivation tercile, all persons, separately for each health board, 1989-95 and 1996-2002	255

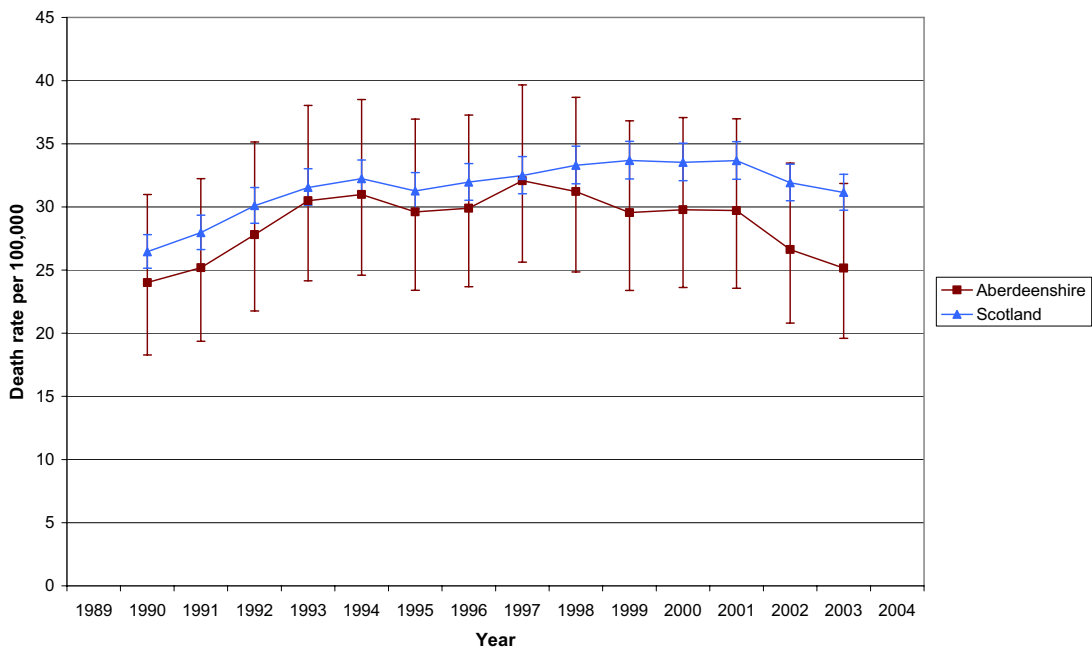
Annex 1 Three year moving average of suicide rates centred on the middle year, by sex, separately for each local authority, 1989-2004



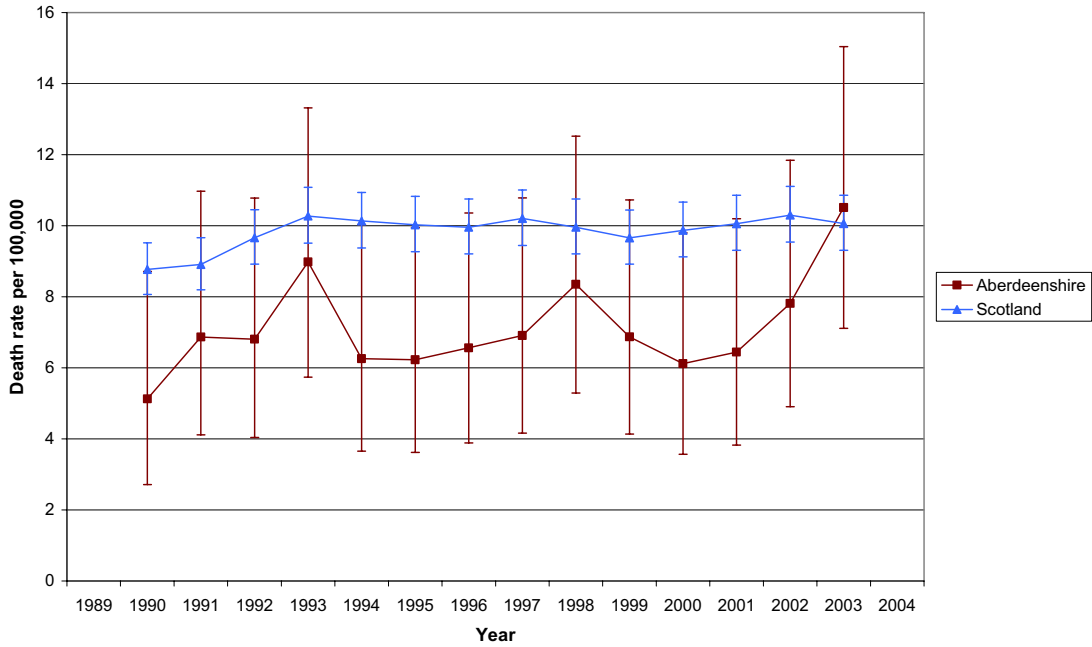
Three year moving average of death rates centred on the middle year, Aberdeen City, 1989-2004, males



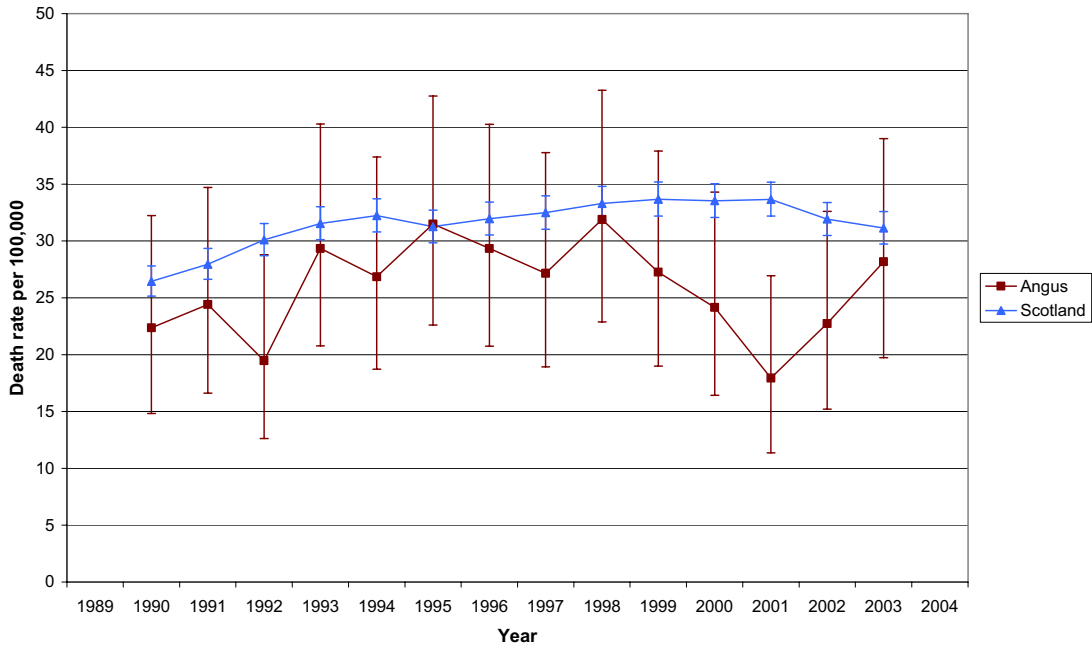
Three year moving average of death rates centred on the middle year, Aberdeen City, 1989-2004, females



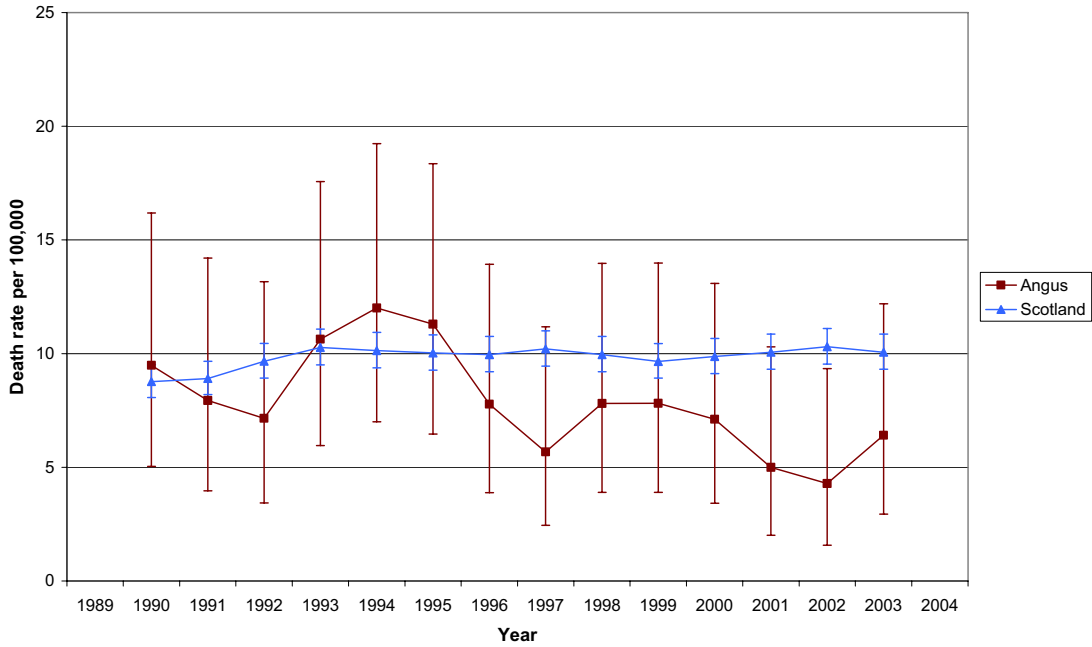
Three year moving average of death rates centred on the middle year, Aberdeenshire, 1989-2004, males



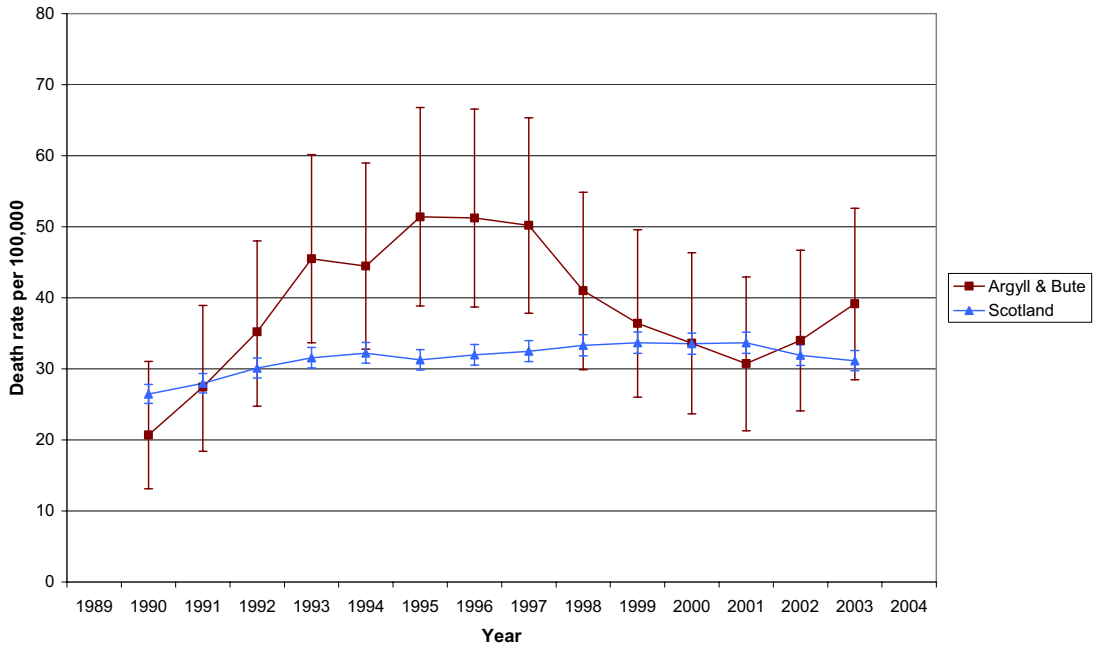
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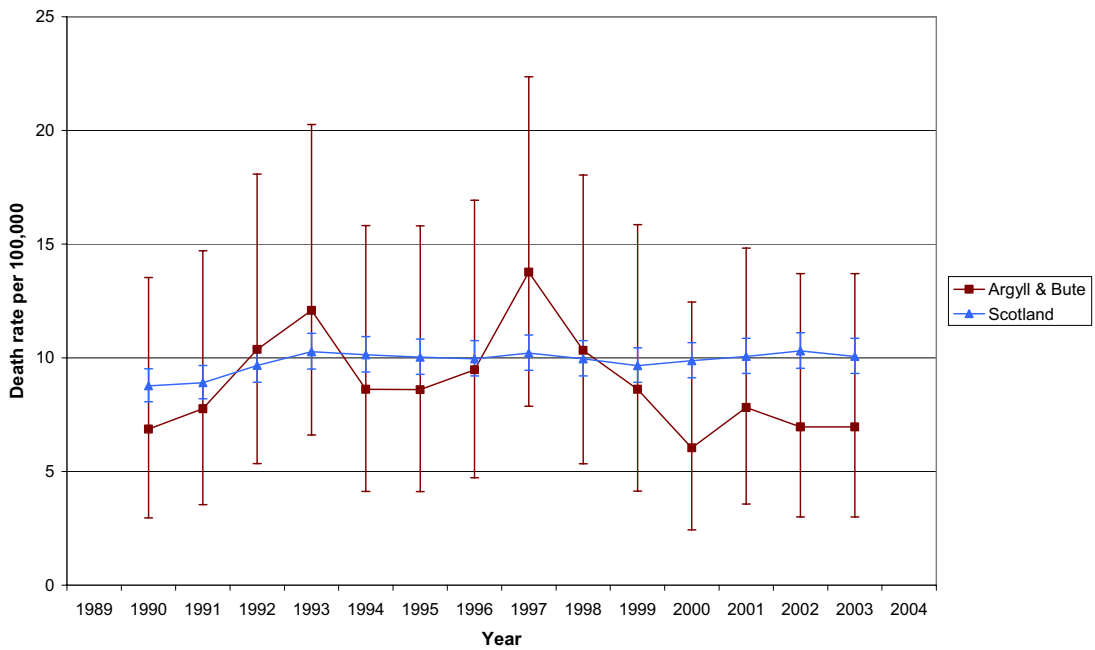
Three year moving average of death rates centred on the middle year, Angus, 1989-2004, males



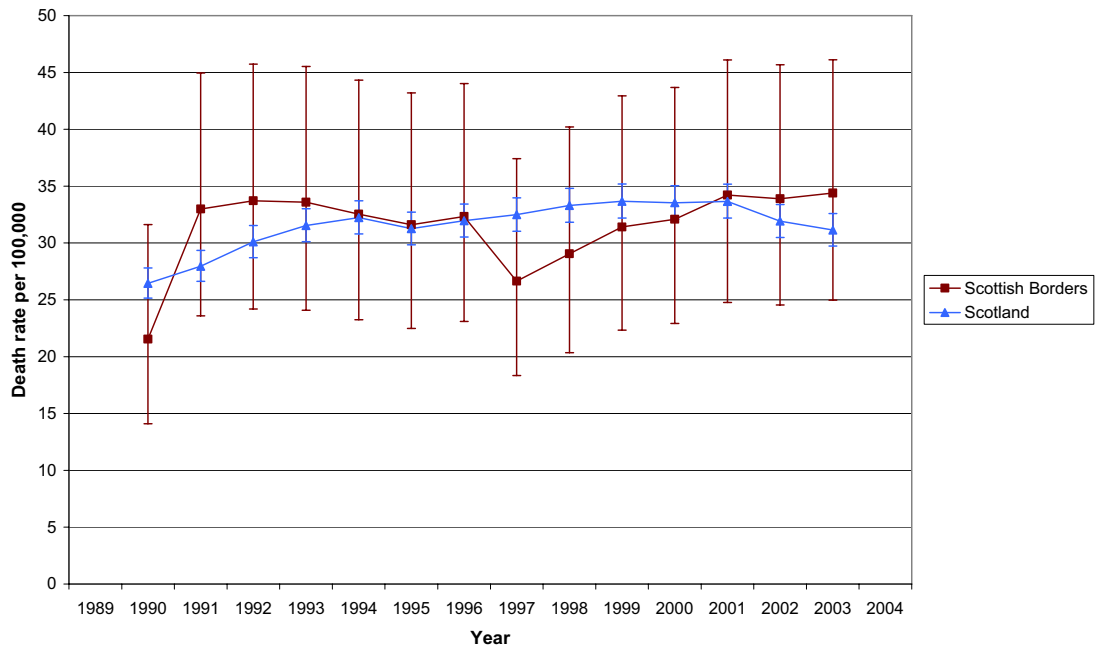
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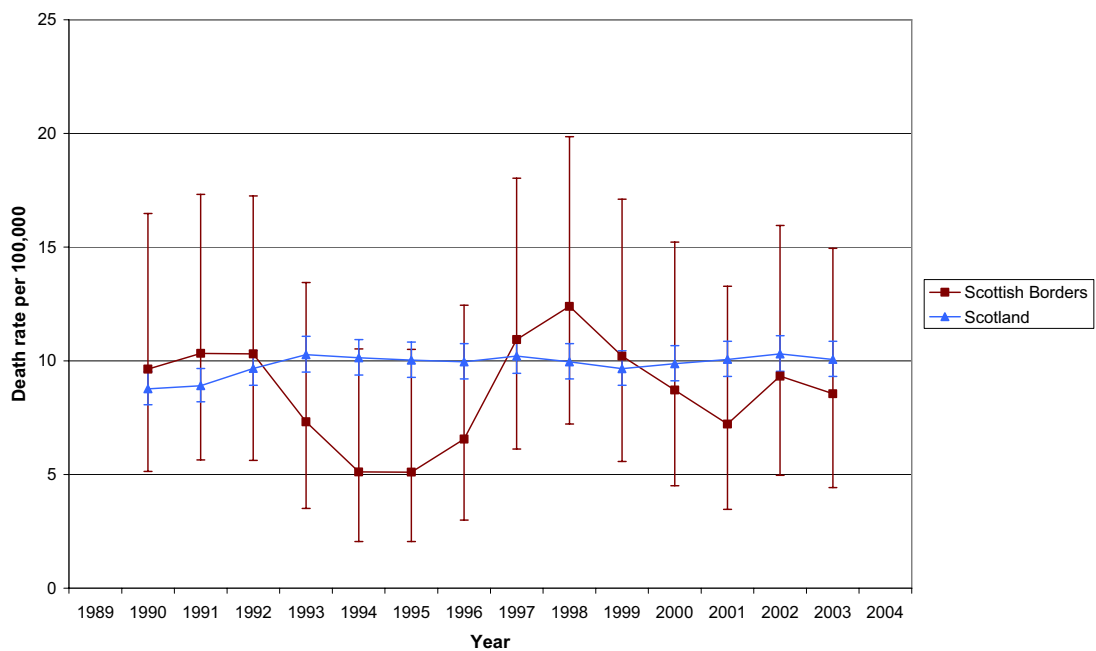
Three year moving average of death rates centred on the middle year, Argyll & Bute, 1989-2004, males



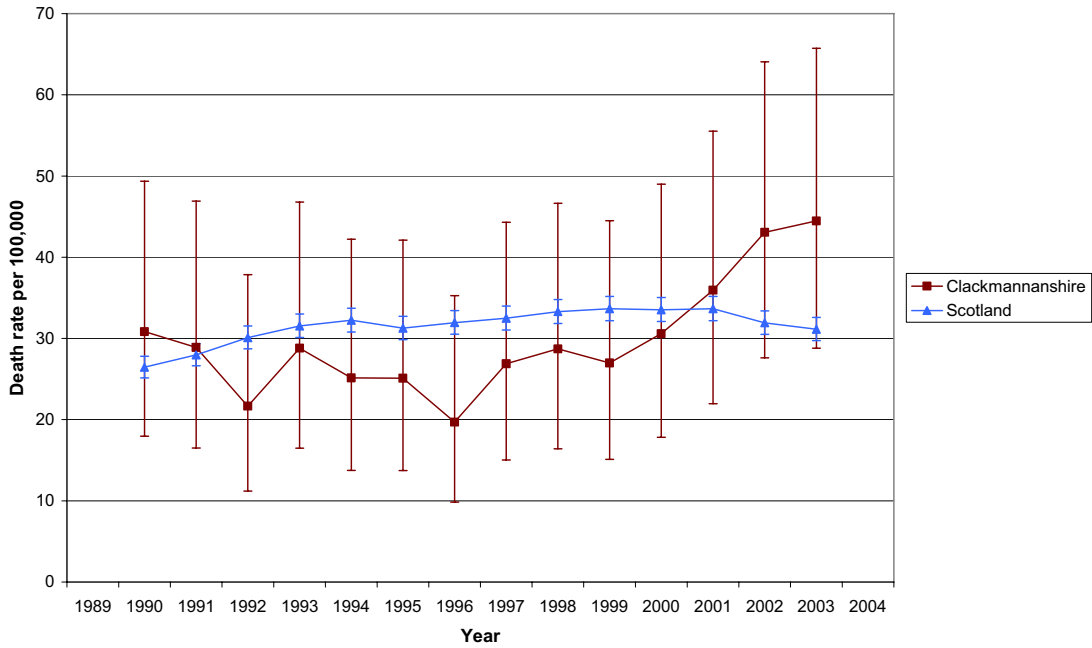
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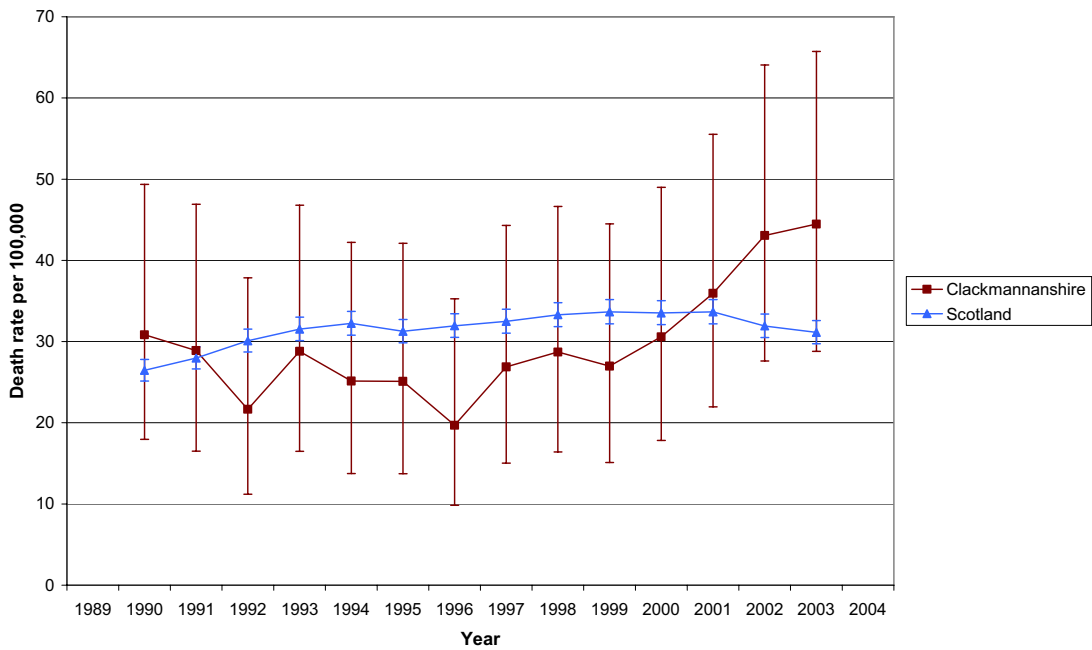
Three year moving average of death rates centred on the middle year, Scottish Borders, 1989-2004, males



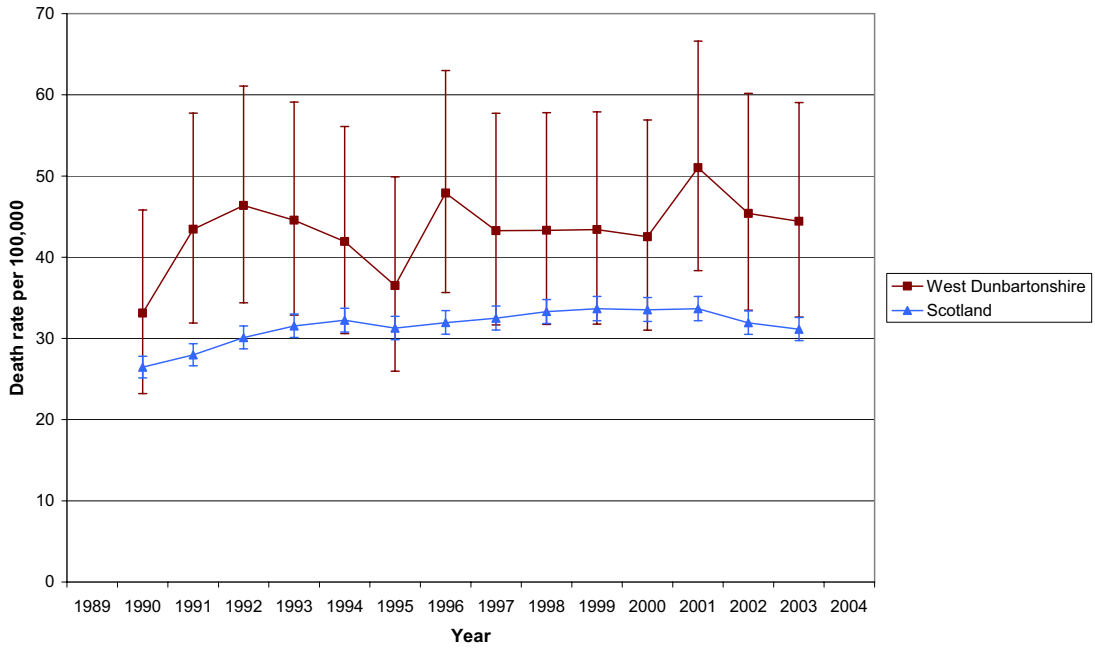
Three year moving average of death rates centred on the middle year, Scottish Borders, 1989-2004, females



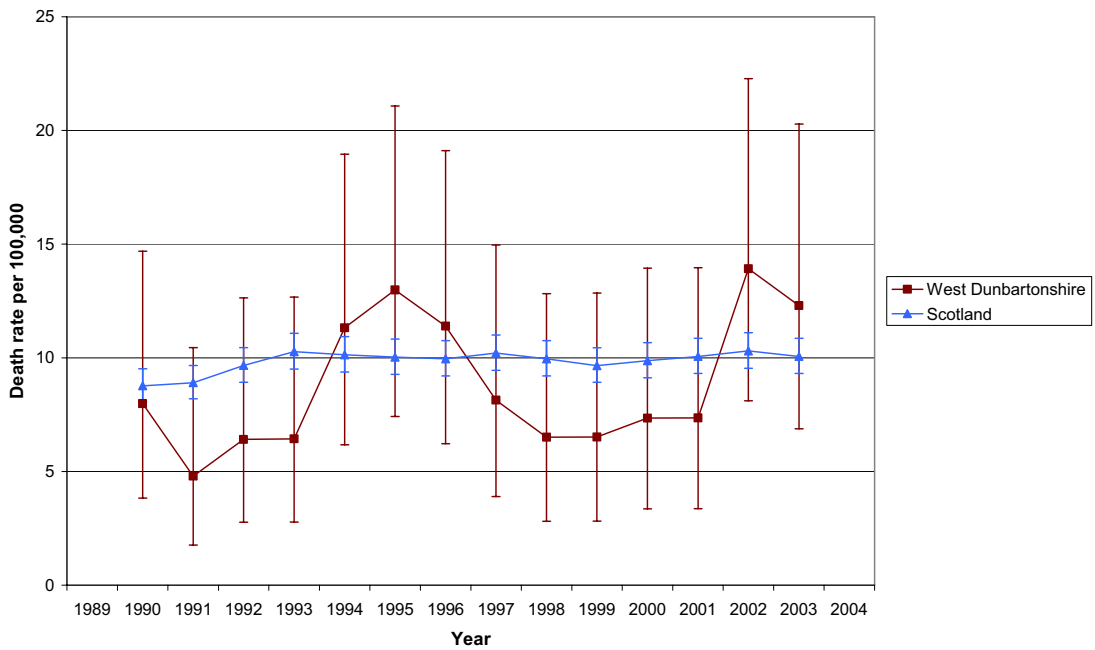
Three year moving average of death rates centred on the middle year, Clackmannanshire, 1989-2004, males



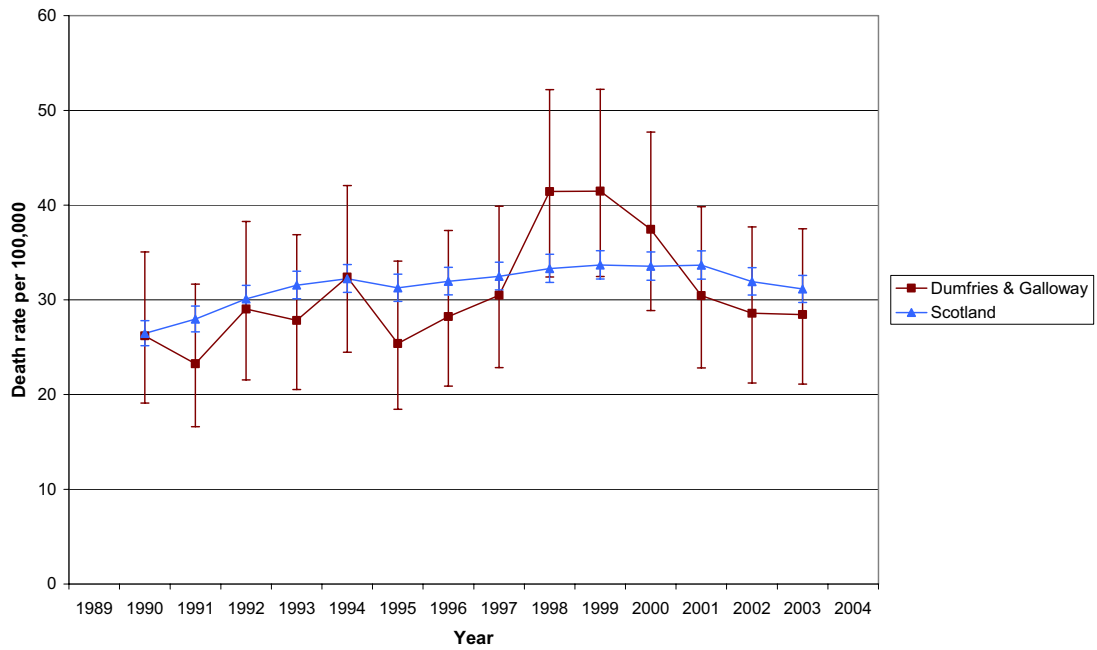
Three year moving average of death rates centred on the middle year, Clackmannanshire, 1989-2004, females



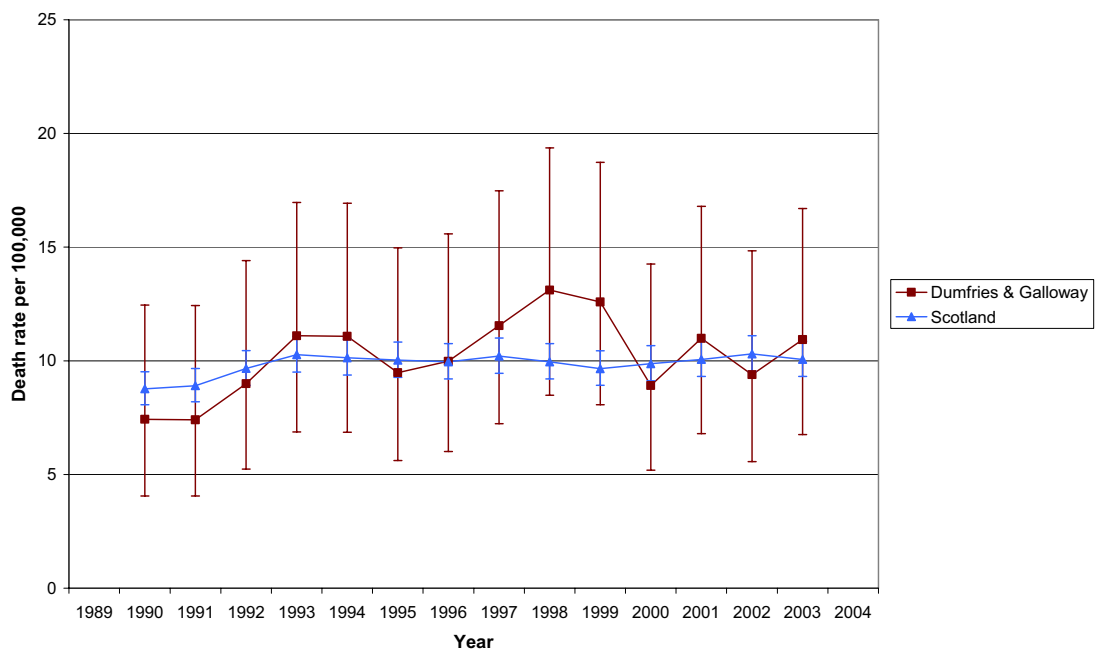
Three year moving average of death rates centred on the middle year, Western Dunbartonshire, 1989-2004, males



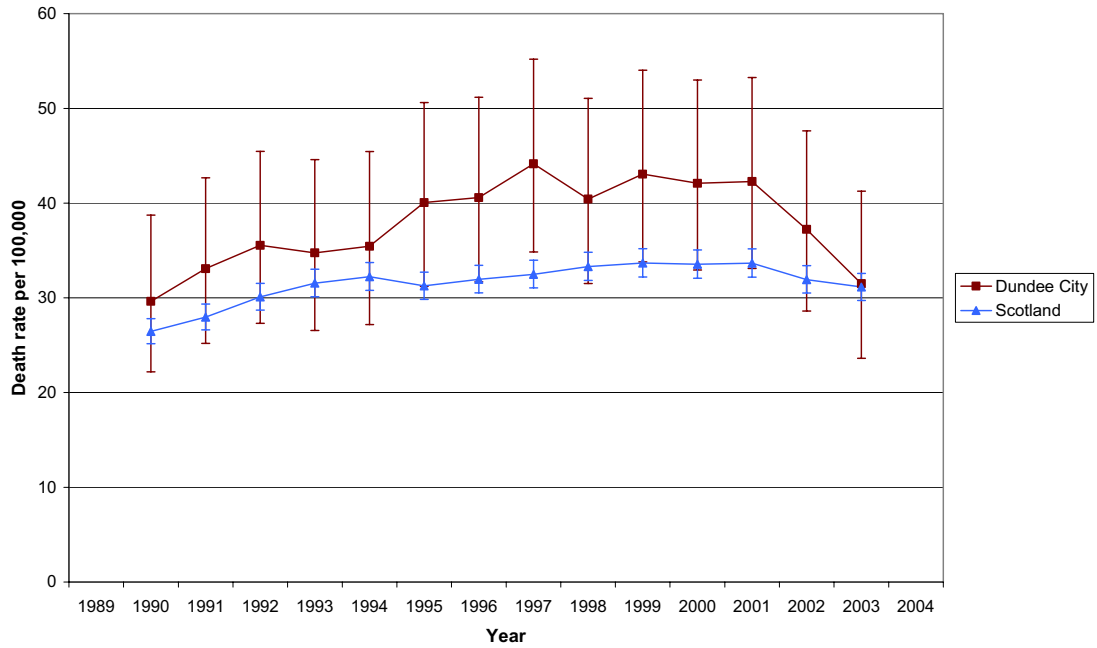
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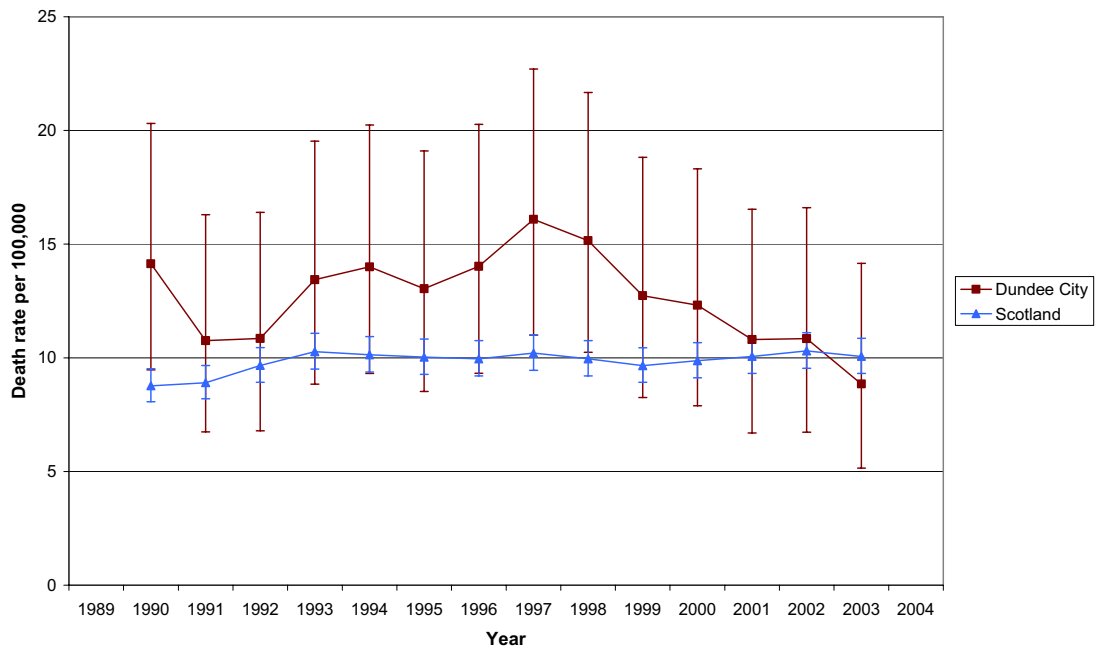
Three year moving average of death rates centred on the middle year, Dumfries & Galloway, 1989-2004, males



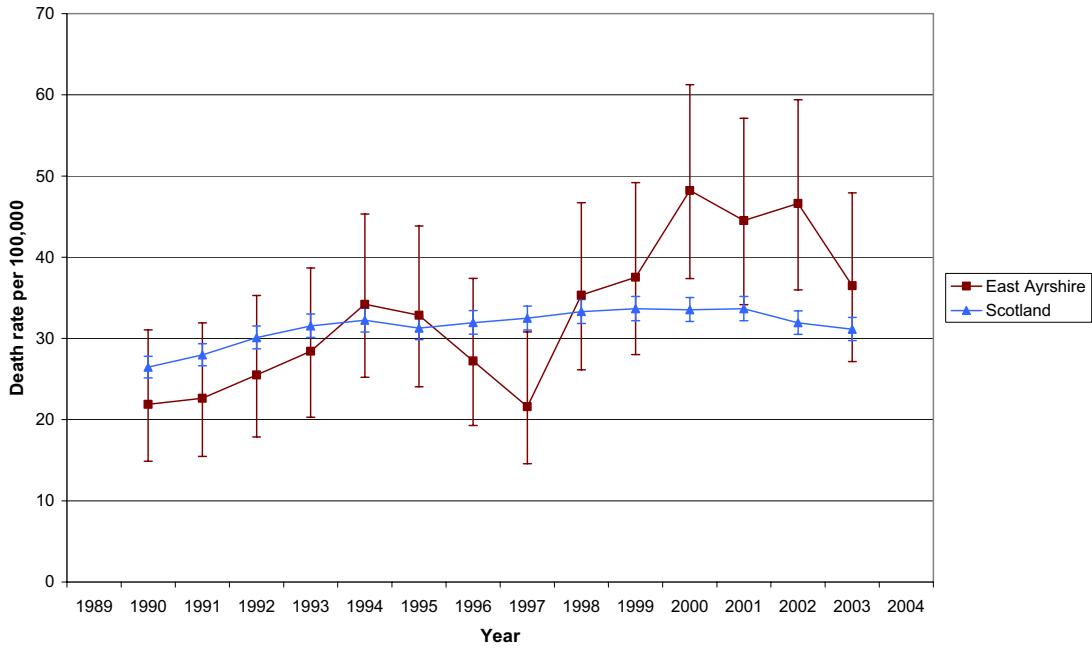
Three year moving average of death rates centred on the middle year, Dumfries & Galloway, 1989-2004, females



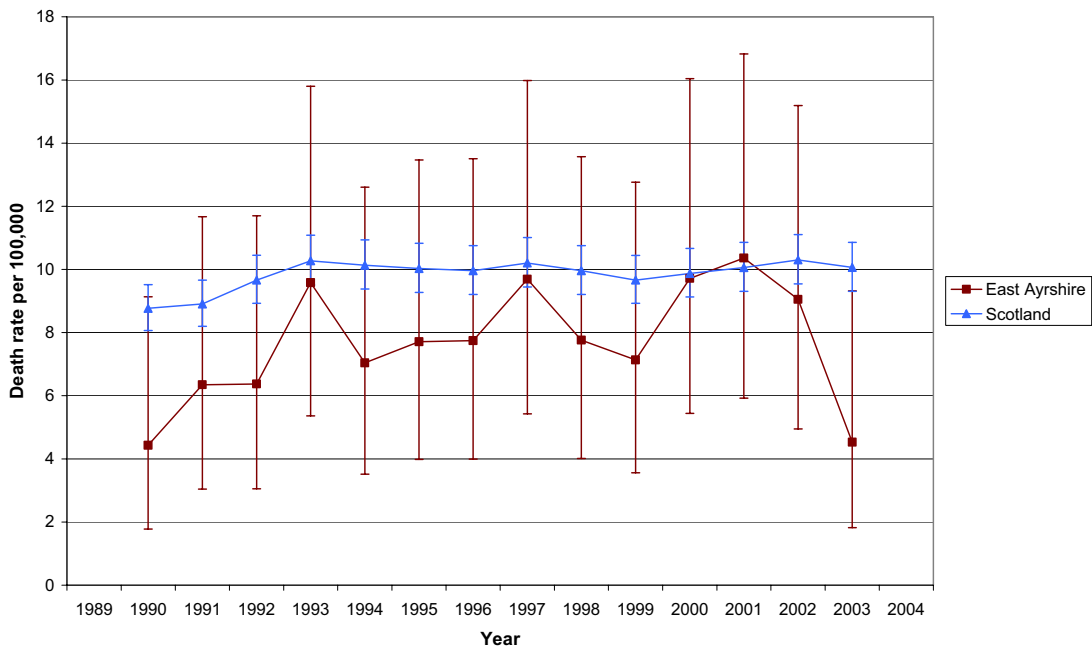
Three year moving average of death rates centred on the middle year, Dundee City, 1989-2004, males



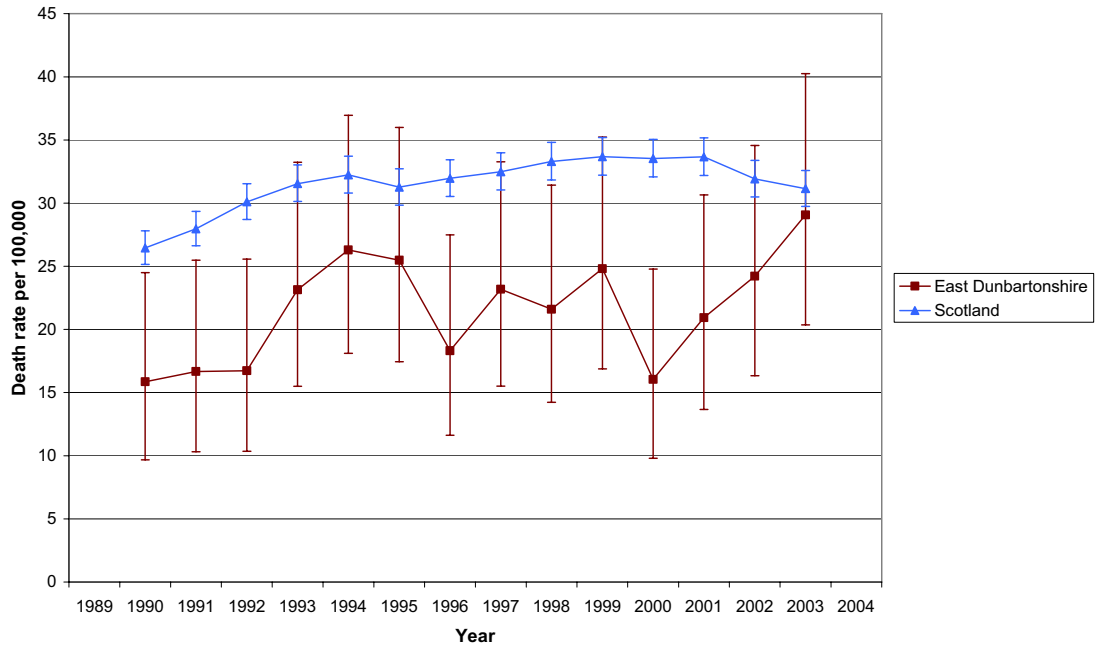
Three year moving average of death rates centred on the middle year, Dundee City, 1989-2004, females



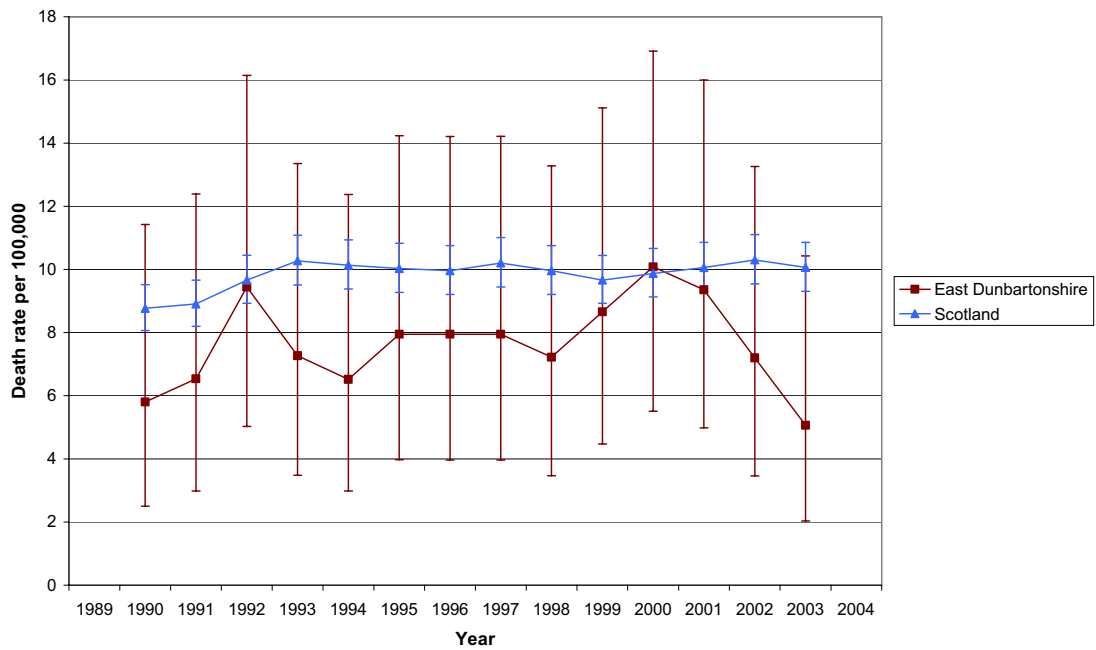
Three year moving average of death rates centred on the middle year, East Ayrshire, 1989-2004, males



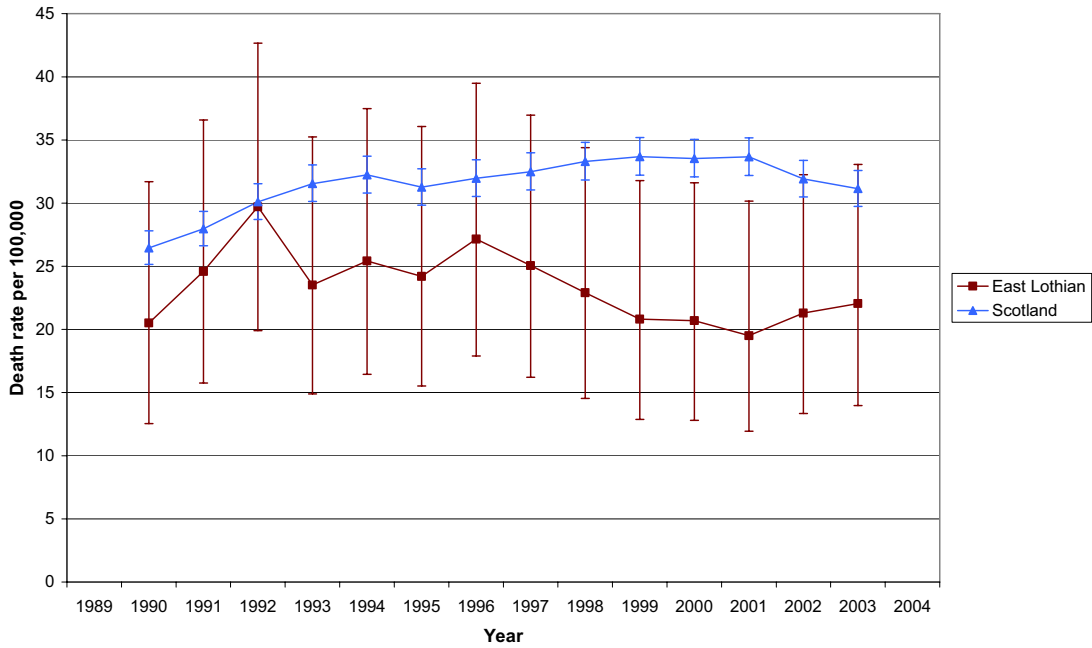
Three year moving average of death rates centred on the middle year, East Ayrshire, 1989-2004, females



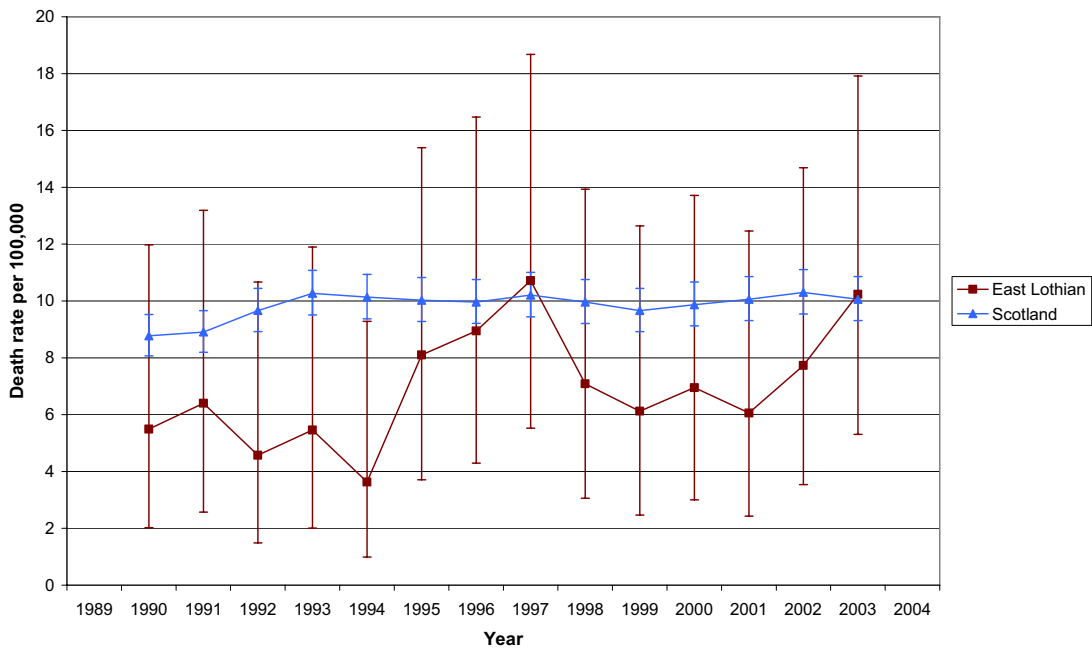
Three year moving average of death rates centred on the middle year, East Dunbartonshire, 1989-2004, males



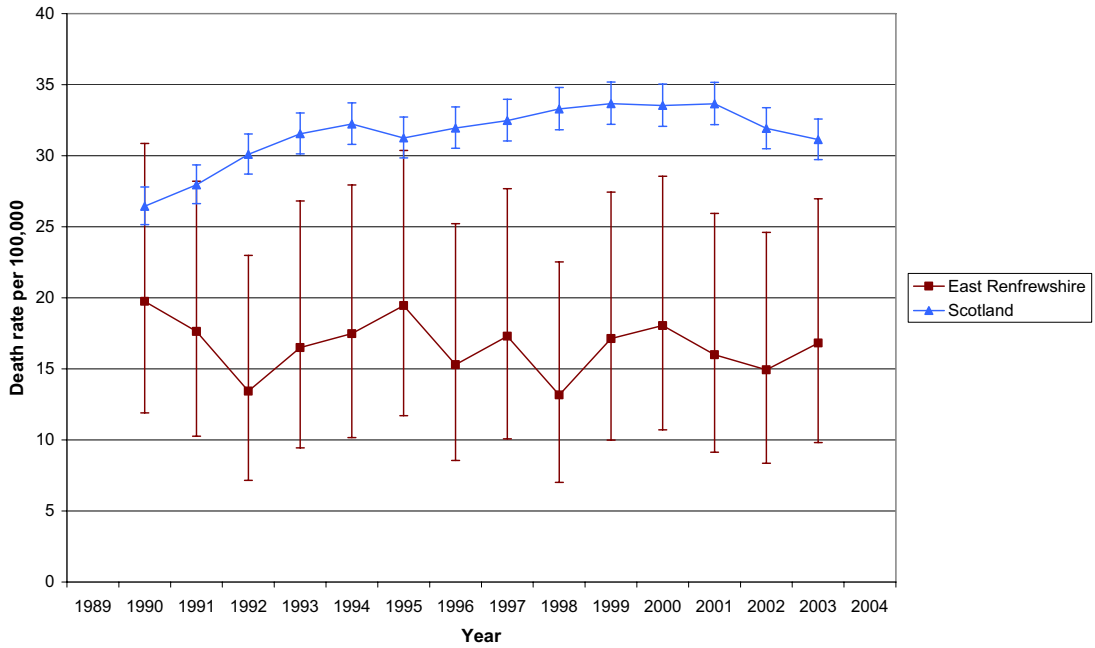
Three year moving average of death rates centred on the middle year, East Dunbartonshire, 1989-2004, females



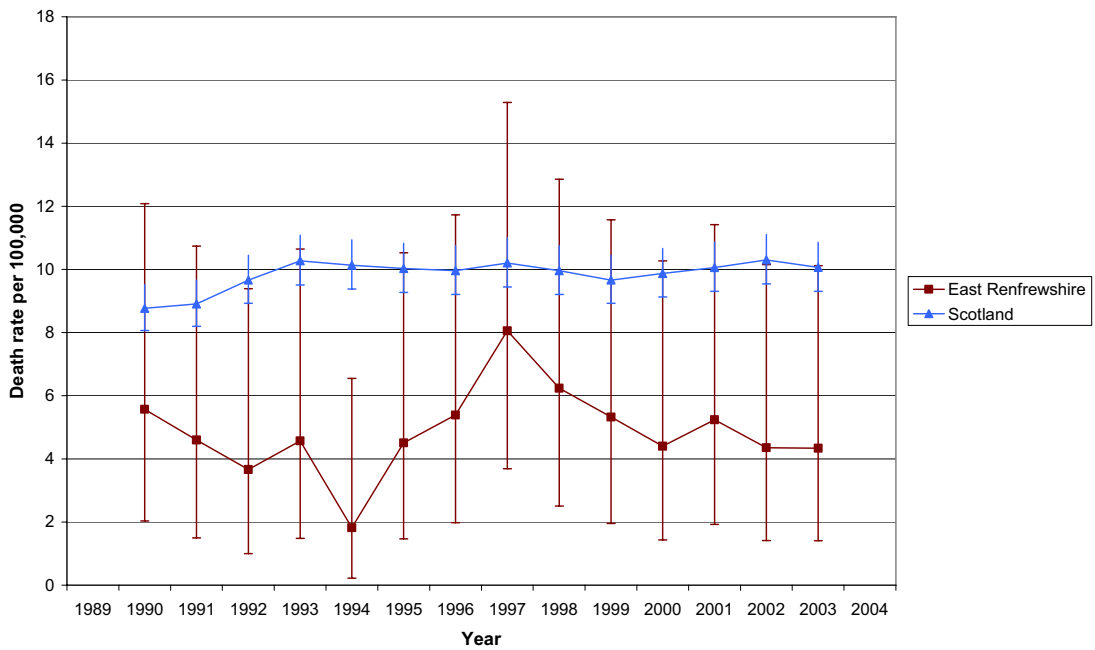
Three year moving average of death rates centred on the middle year, East Lothian, 1989-2004, males



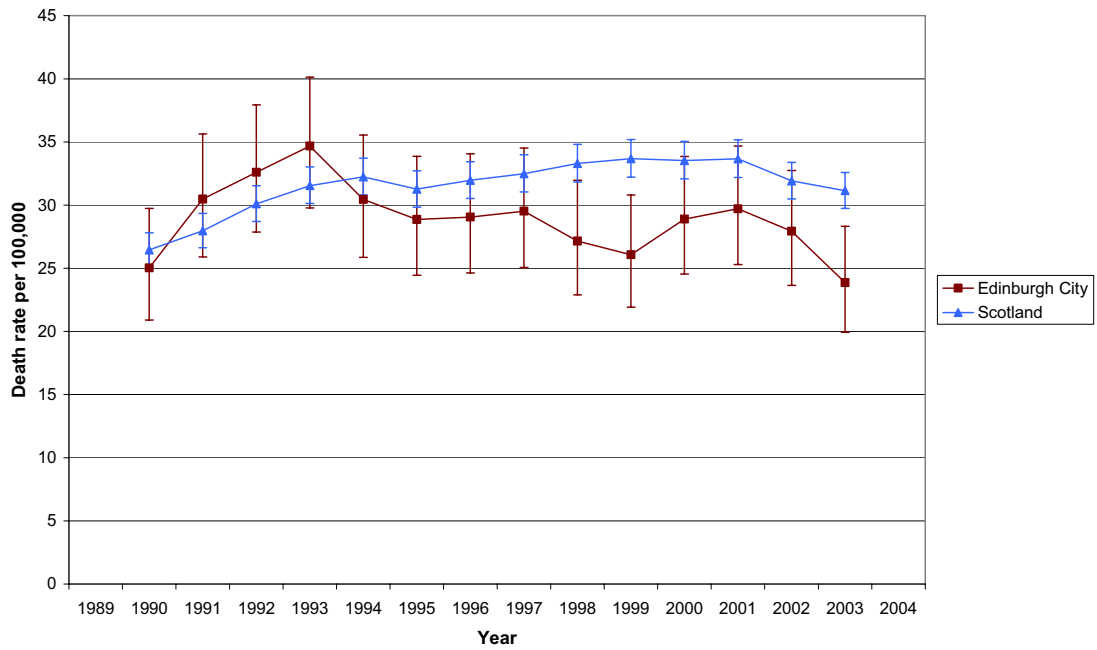
Three year moving average of death rates centred on the middle year, East Lothian, 1989-2004, females



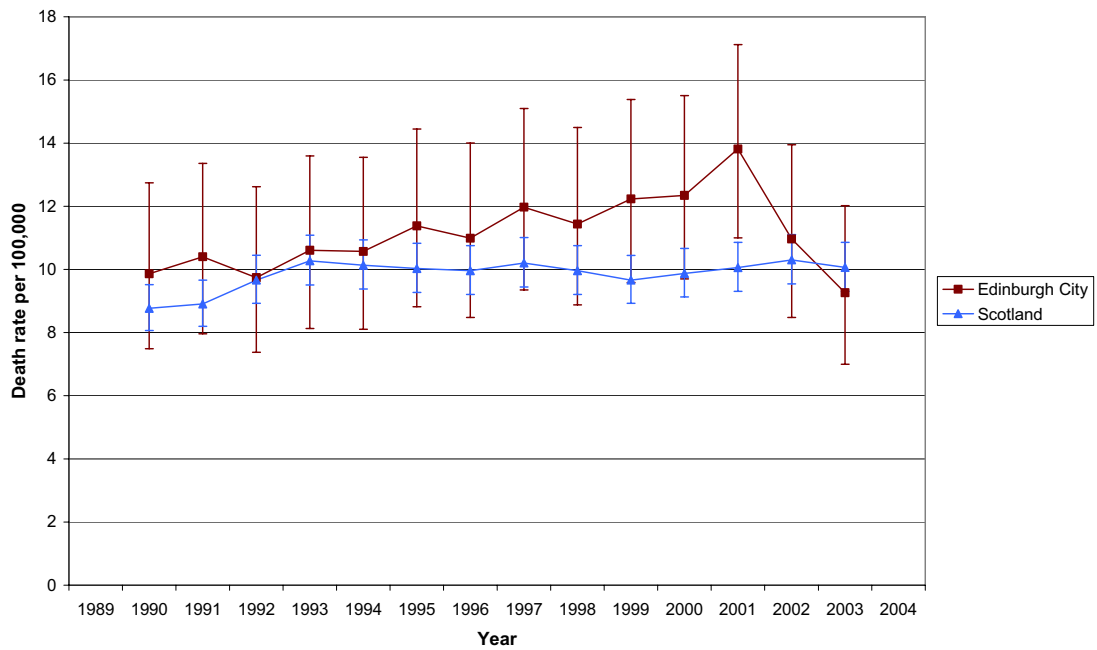
Three year moving average of death rates centred on the middle year, East Renfrewshire, 1989-2004, males



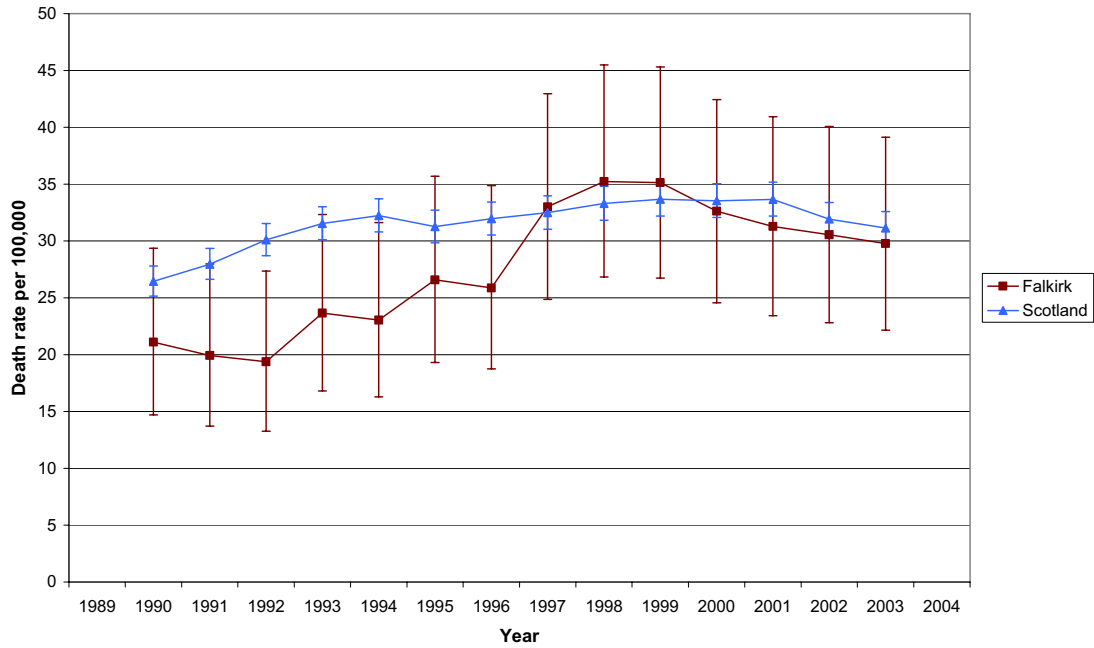
Three year moving average of death rates centred on the middle year, East Renfrewshire, 1989-2004, females



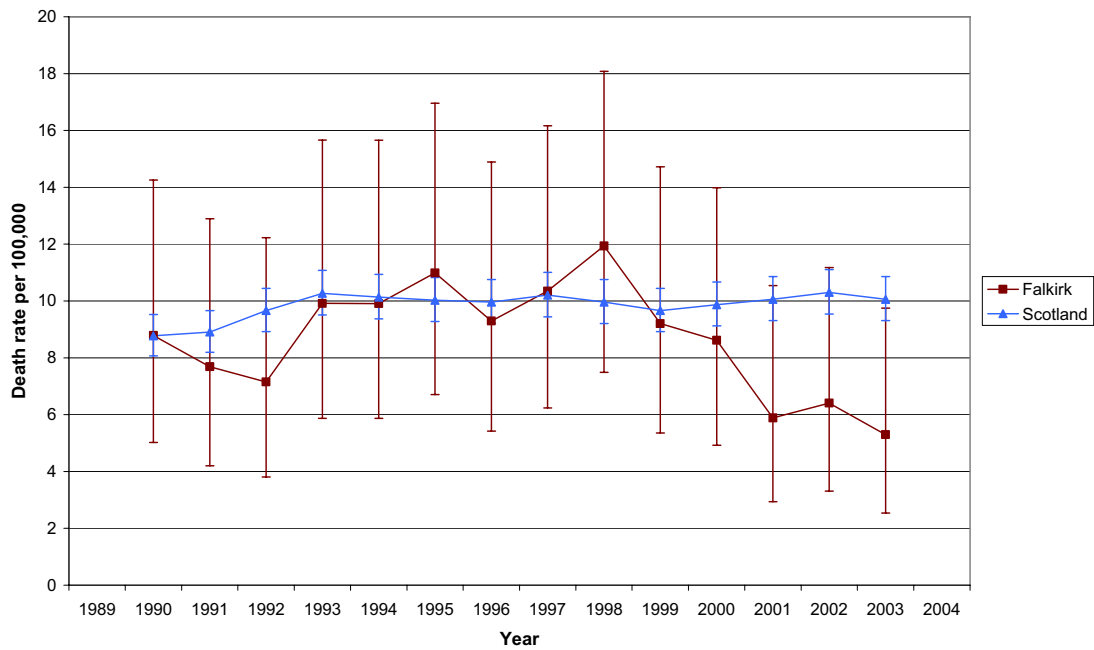
Three year moving average of death rates centred on the middle year, Edinburgh City, 1989-2004, males



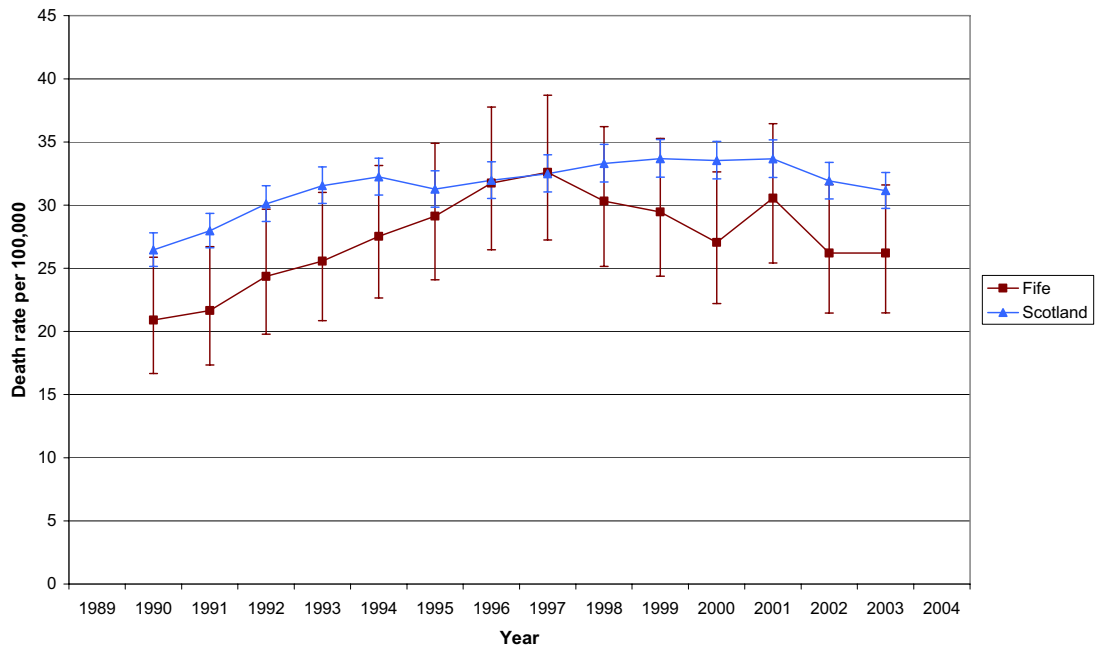
Three year moving average of death rates centred on the middle year, Edinburgh City, 1989-2004, females



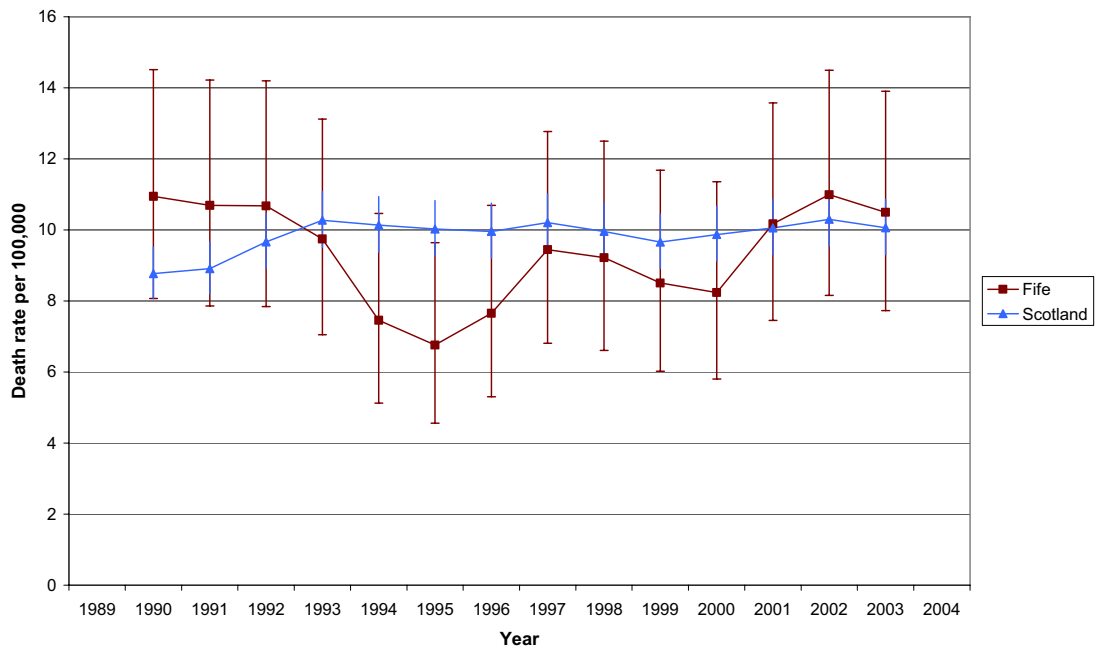
Three year moving average of death rates centred on the middle year, Falkirk, 1989-2004, males



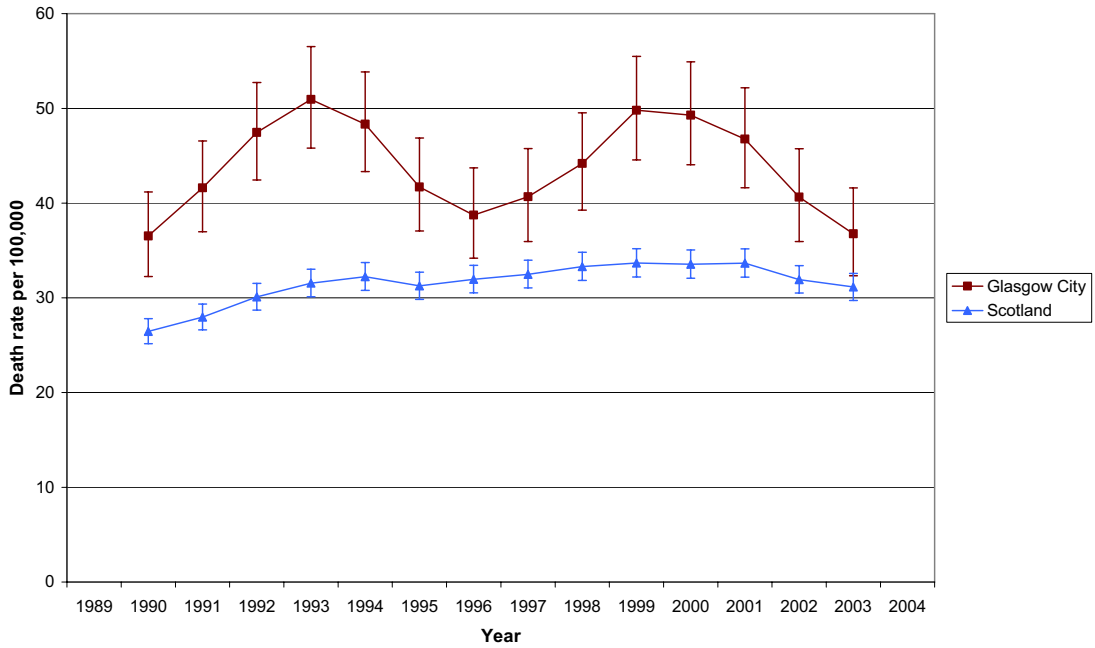
Three year moving average of death rates centred on the middle year, Falkirk, 1989-2004, females



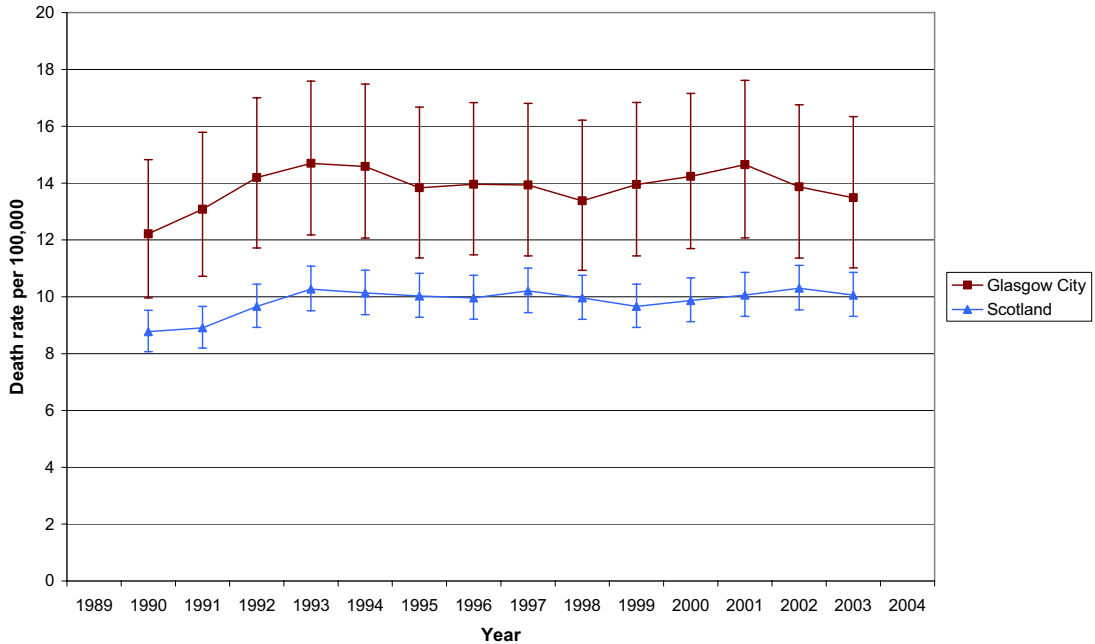
Three year moving average of death rates centred on the middle year, Fife, 1989-2004, males



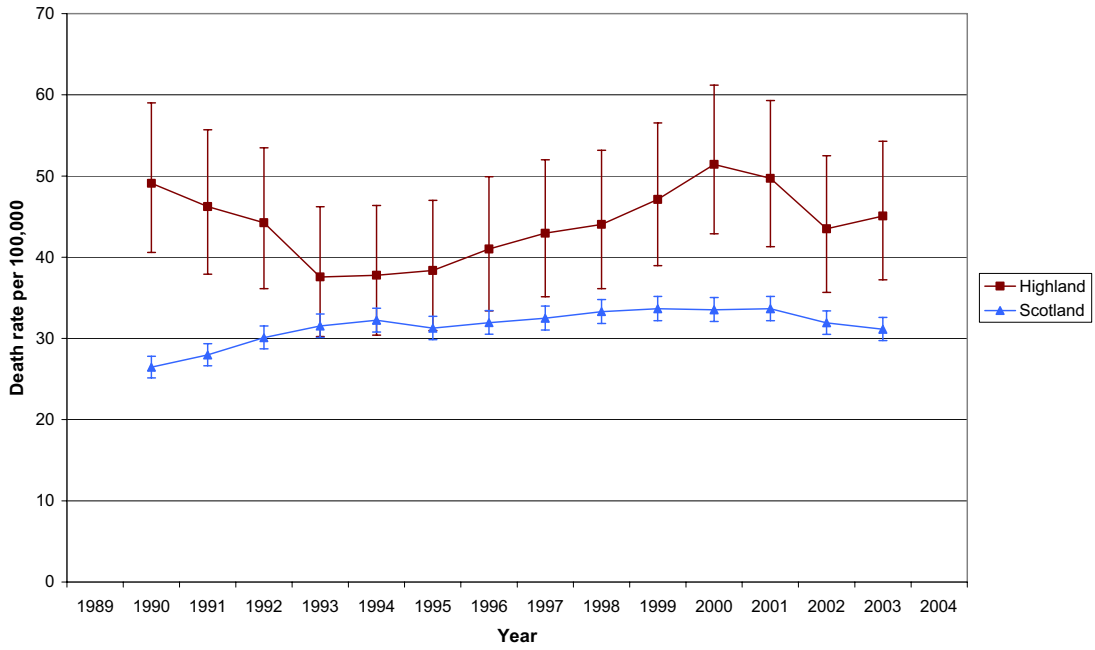
Three year moving average of death rates centred on the middle year, Fife, 1989-2004, females



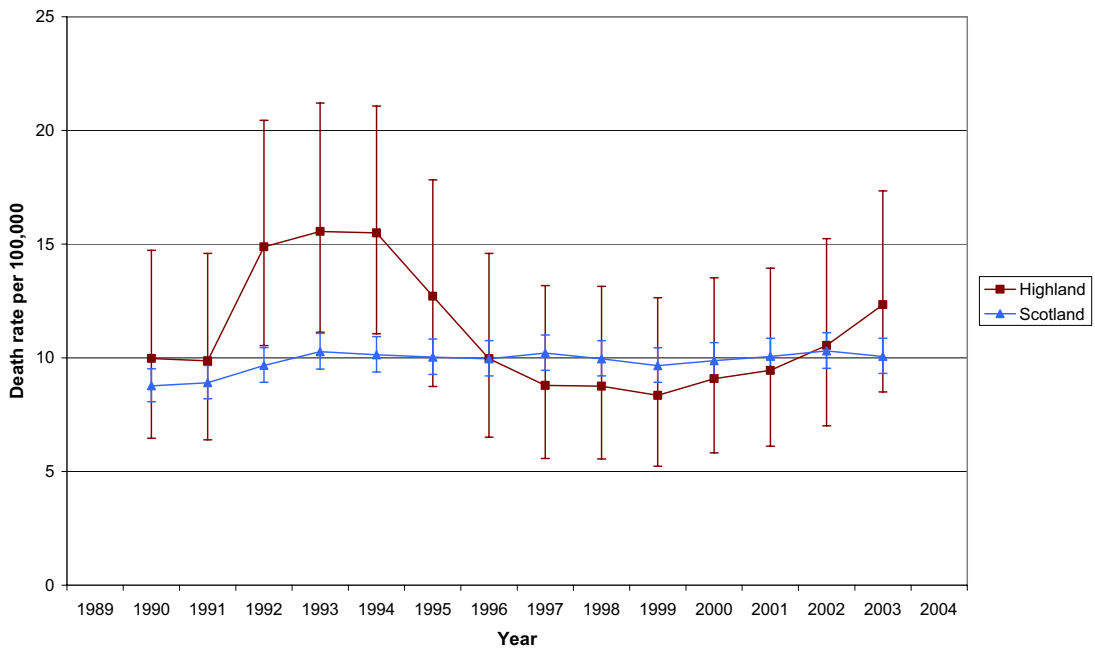
Three year moving average of death rates centred on the middle year, Glasgow City, 1989-2004, males



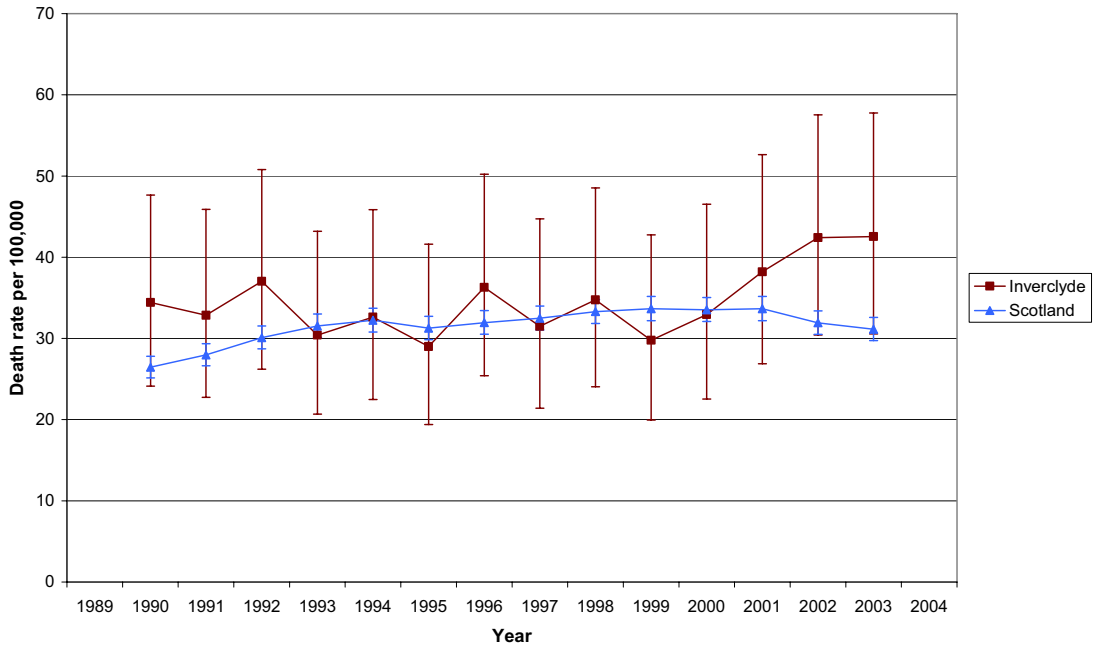
Three year moving average of death rates centred on the middle year, Glasgow City, 1989-2004, females



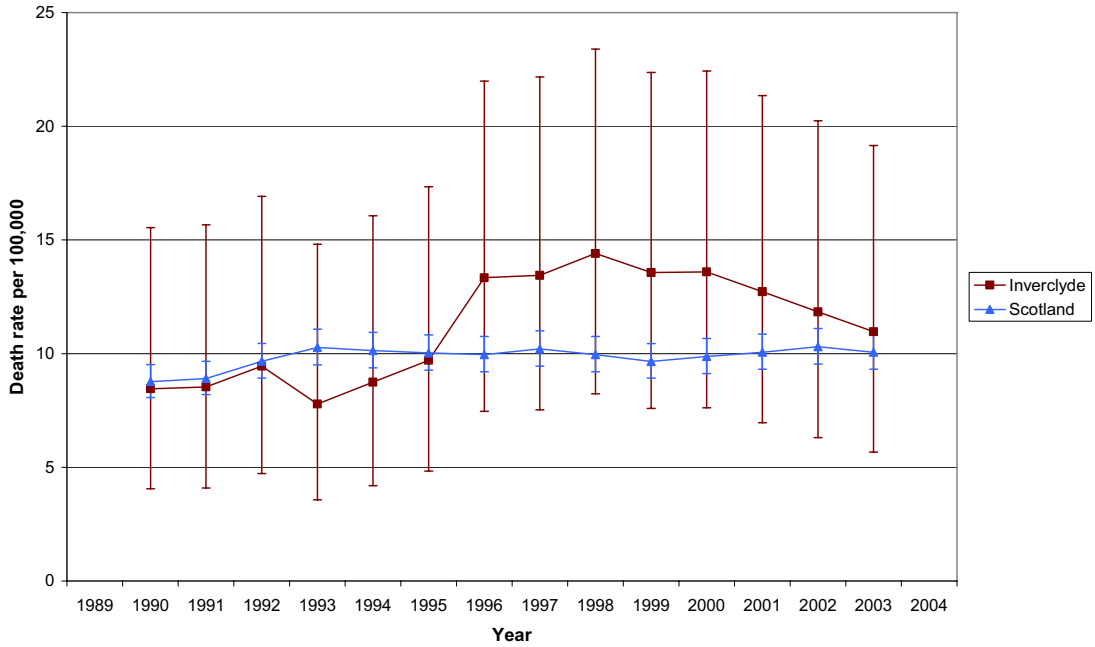
Three year moving average of death rates centred on the middle year, Highland, 1989-2004, males



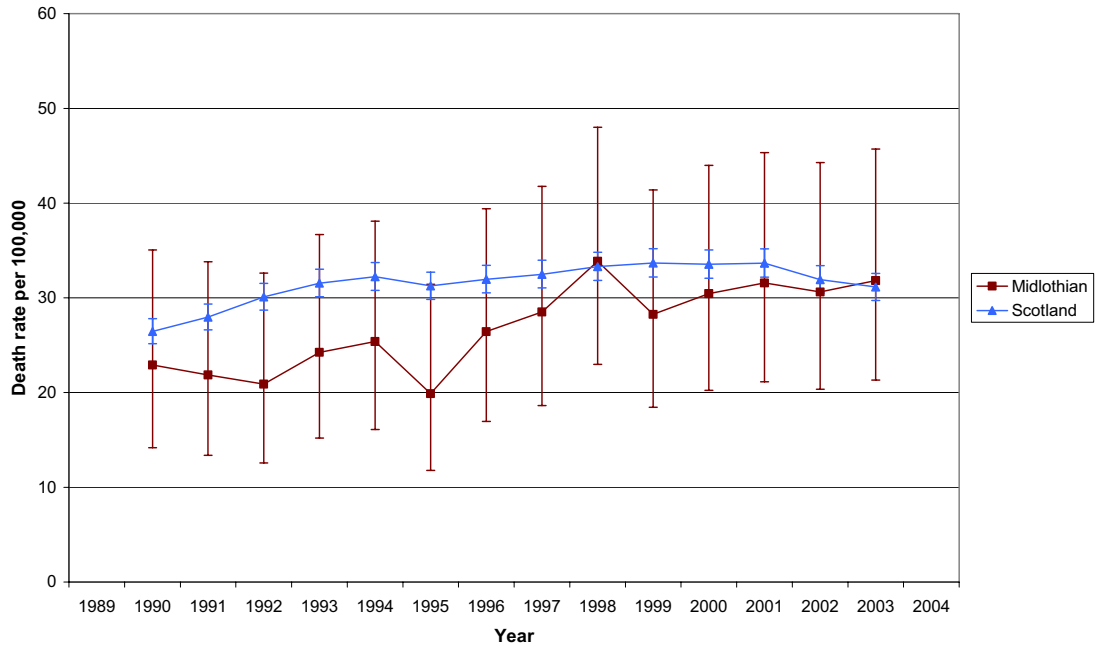
Three year moving average of death rates centred on the middle year, Highland, 1989-2004, females



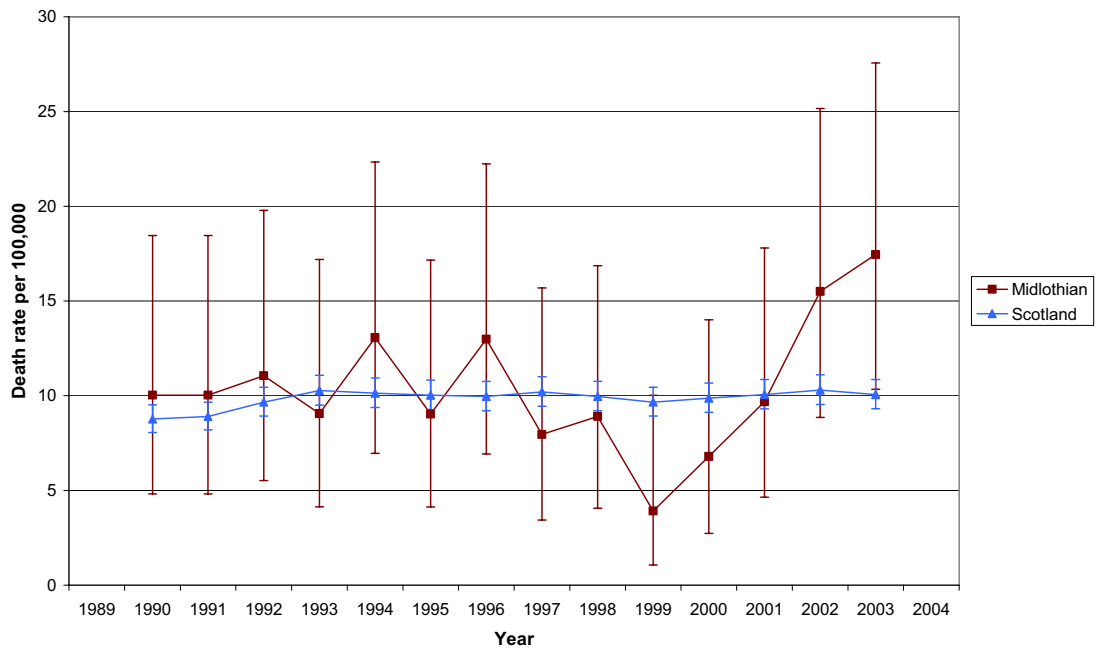
Three year moving average of death rates centred on the middle year, Inverclyde, 1989-2004, males



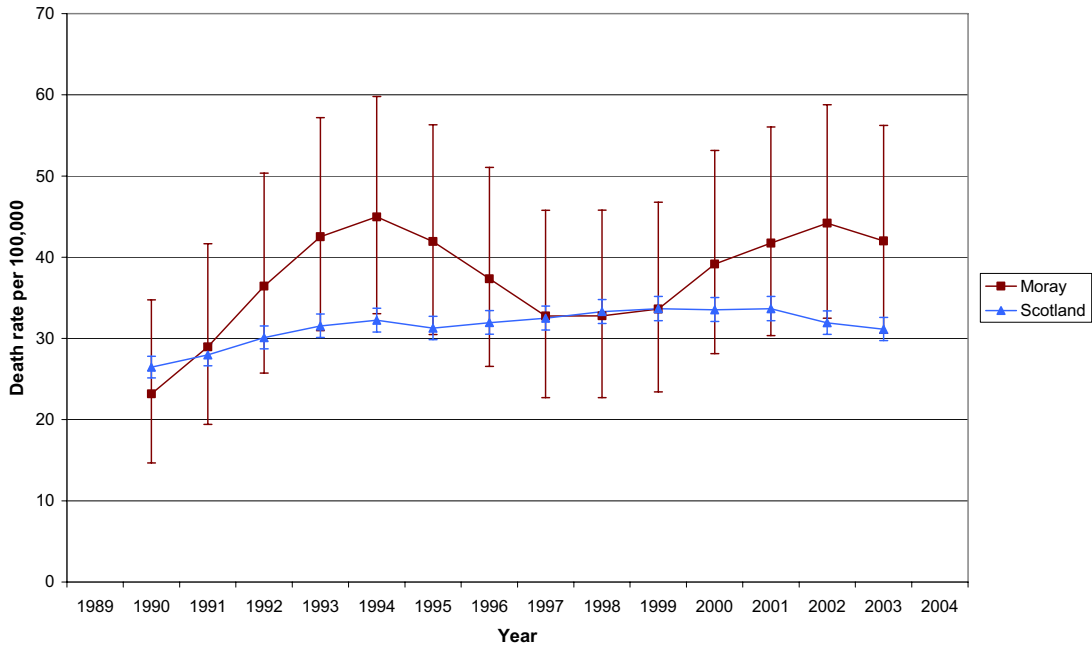
Three year moving average of death rates centred on the middle year, Inverclyde, 1989-2004, females



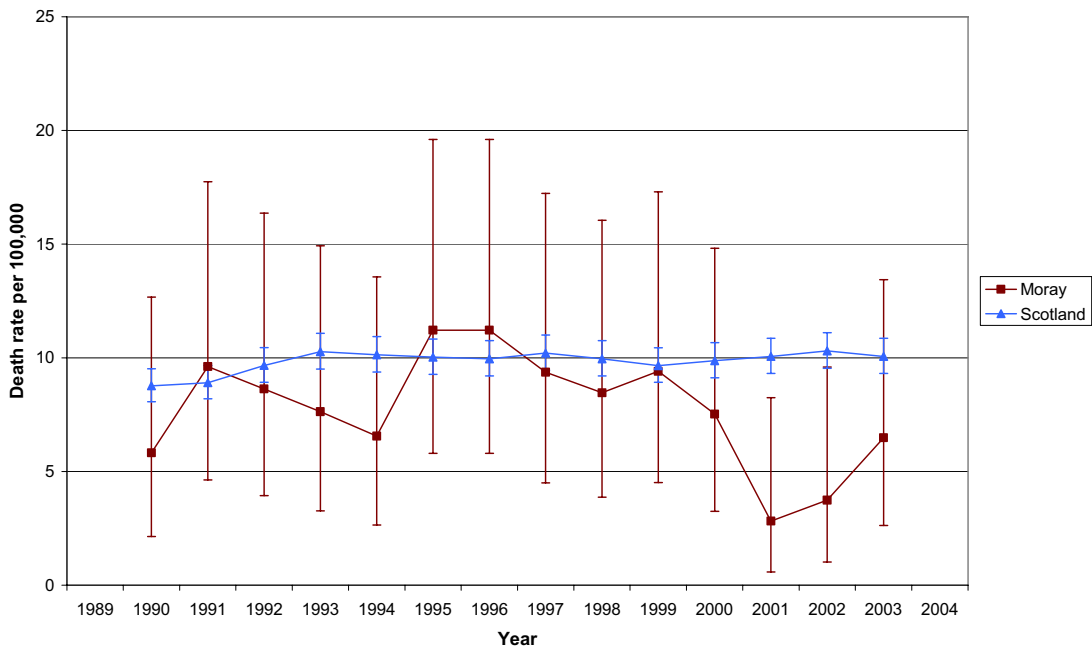
Three year moving average of death rates centred on the middle year, Midlothian, 1989-2004, males



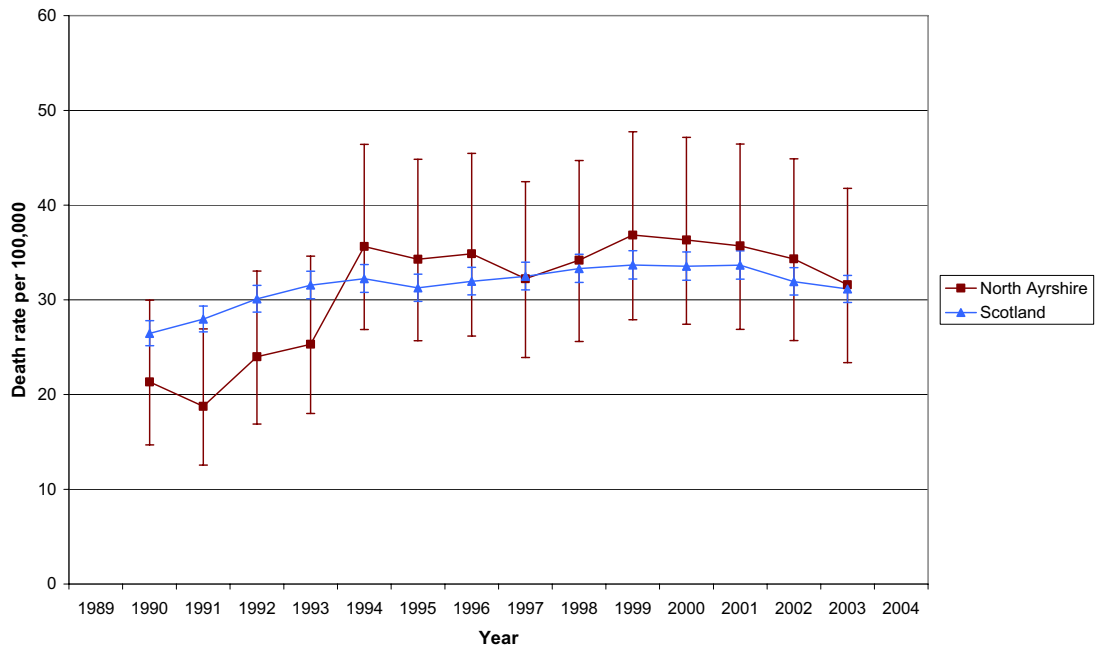
Three year moving average of death rates centred on the middle year, Midlothian, 1989-2004, females



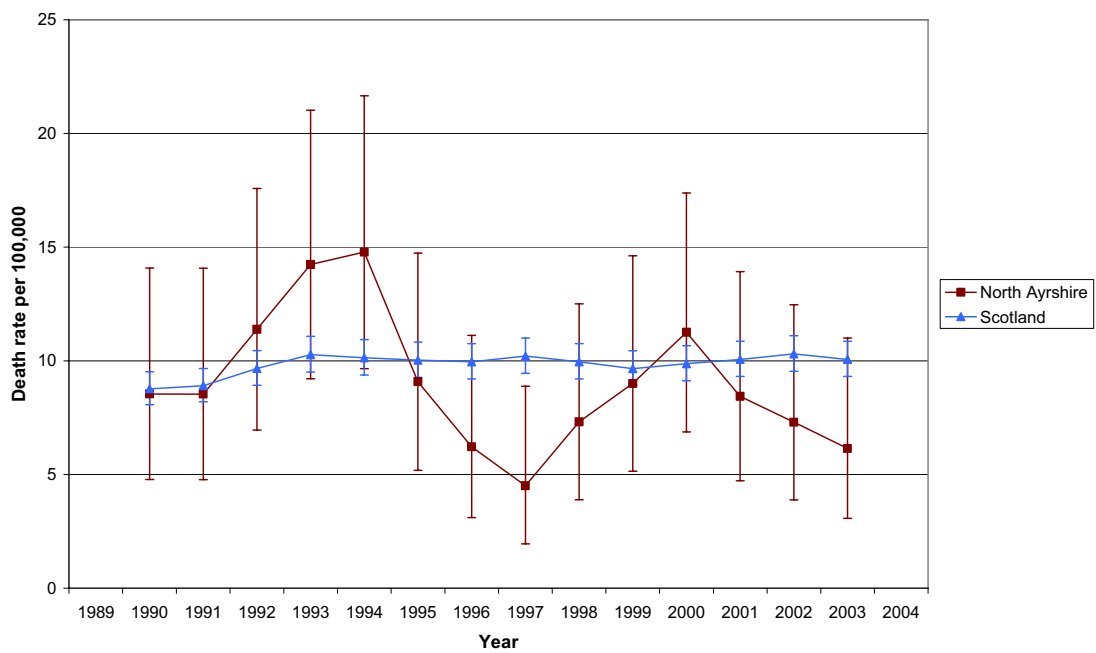
Three year moving average of death rates centred on the middle year, Moray, 1989-2004, males



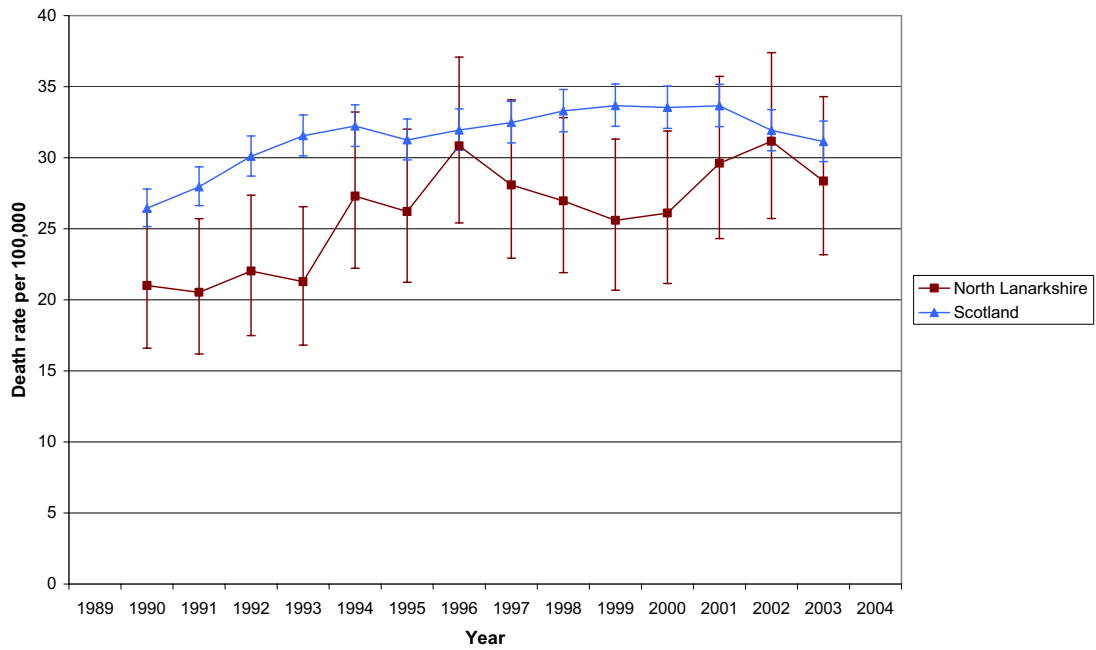
Three year moving average of death rates centred on the middle year, Moray, 1989-2004, females



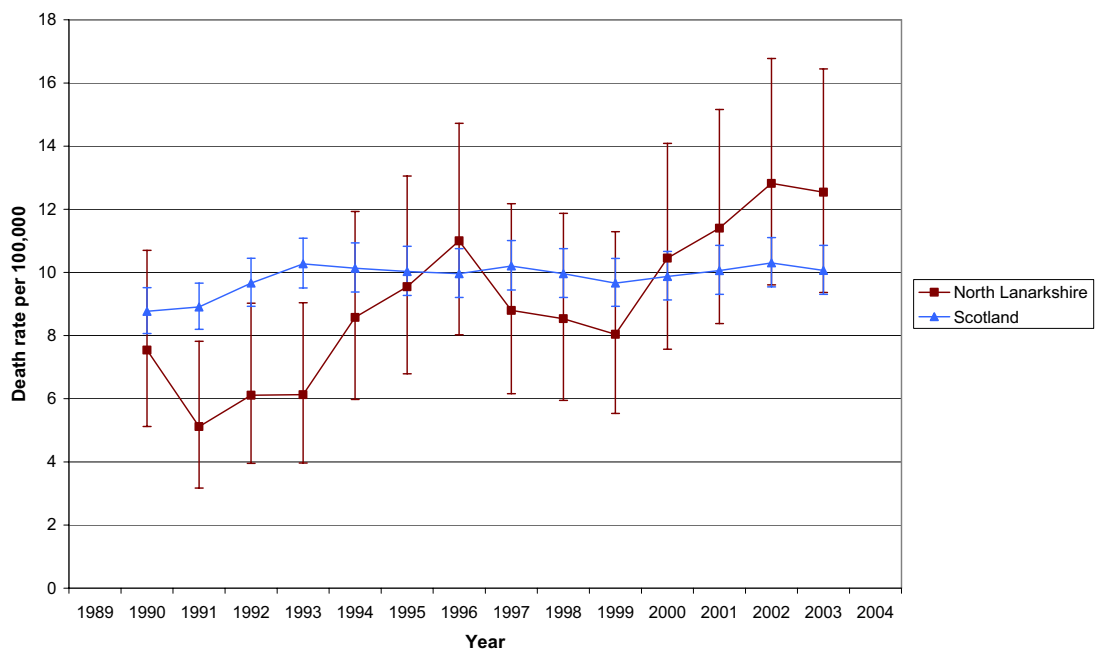
Three year moving average of death rates centred on the middle year, North Ayrshire, 1989-2004, males



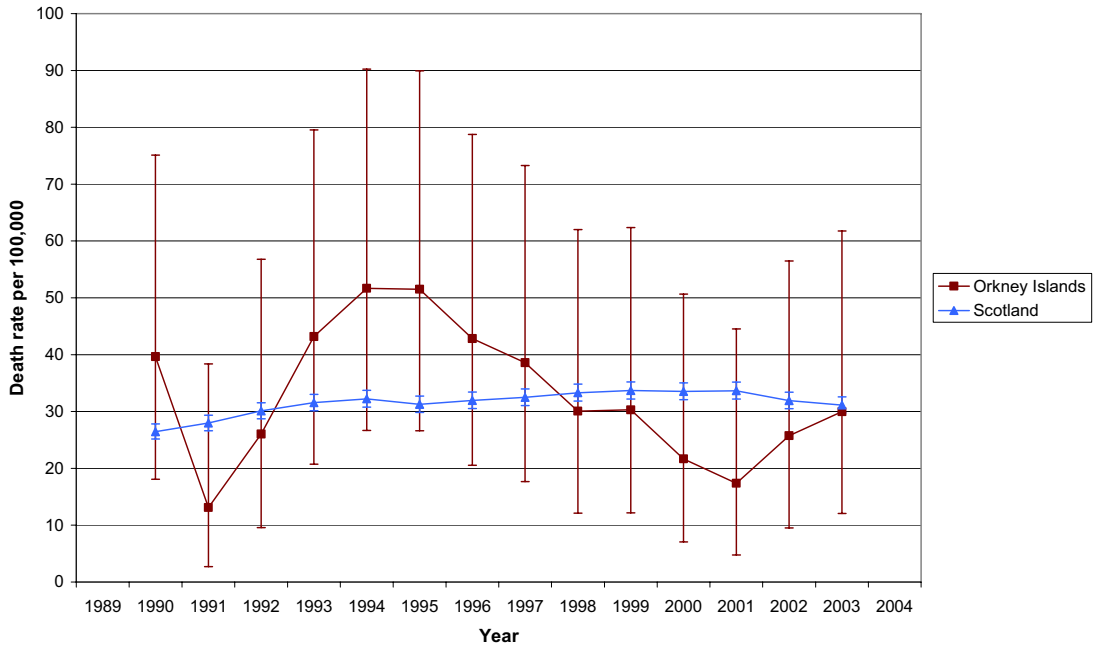
Three year moving average of death rates centred on the middle year, North Ayrshire, 1989-2004, females



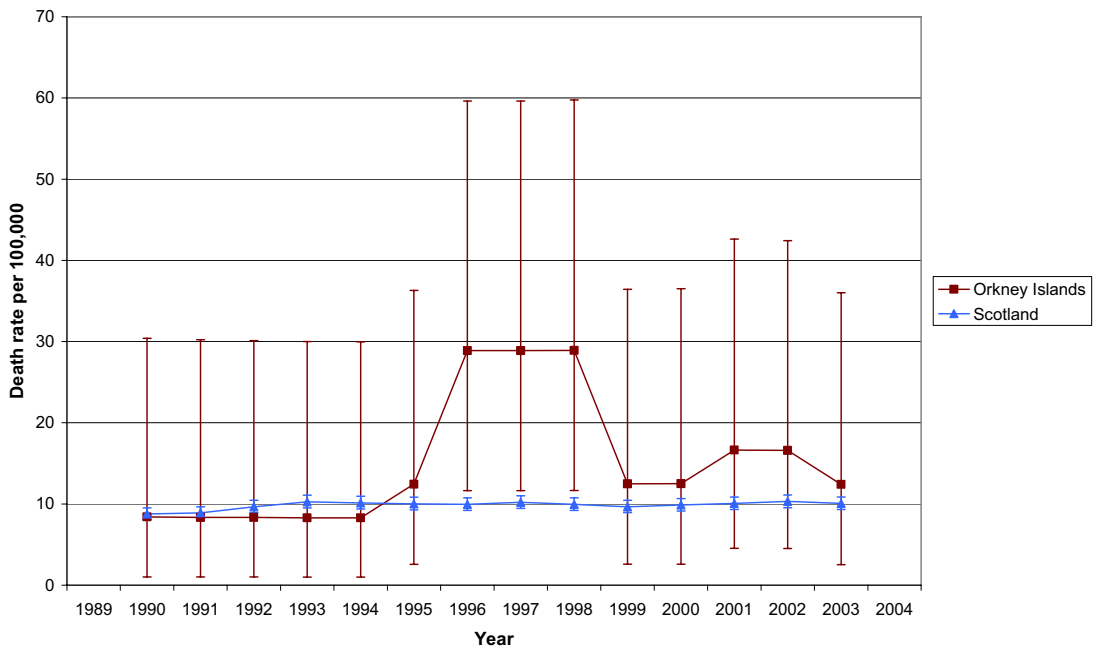
Three year moving average of death rates centred on the middle year, North Lanarkshire, 1989-2004, males



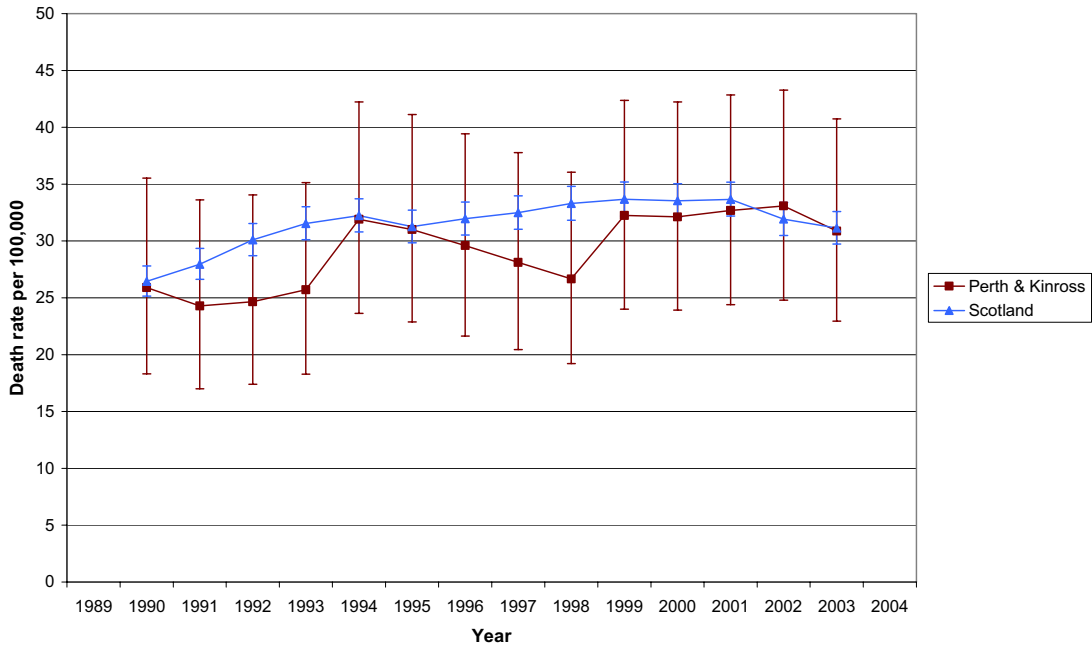
Three year moving average of death rates centred on the middle year, North Lanarkshire, 1989-2004, females



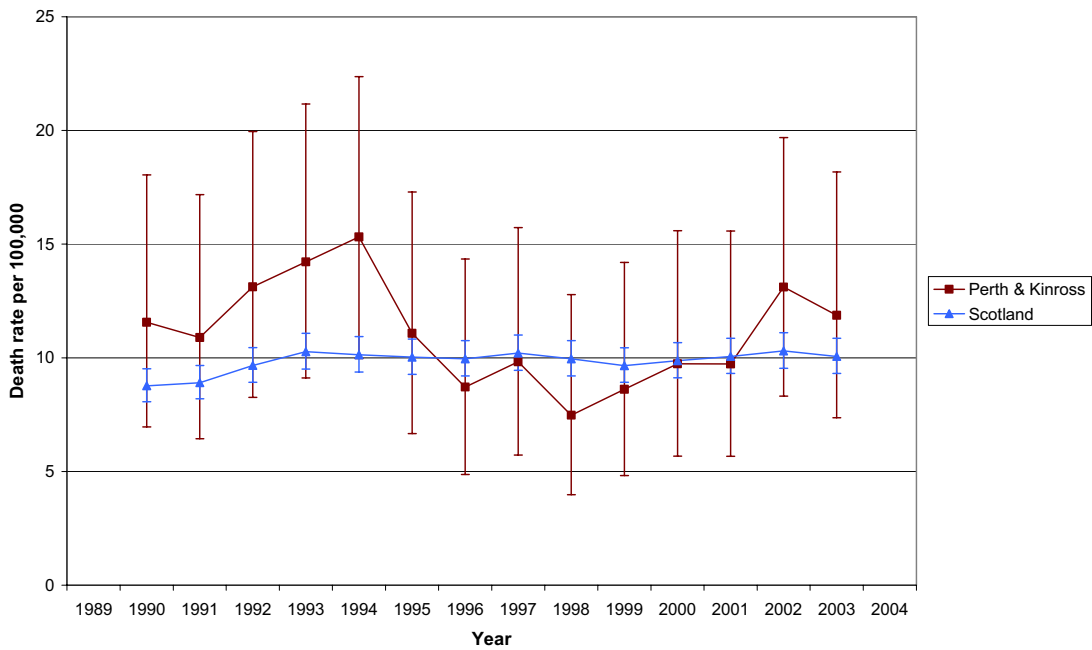
Three year moving average of death rates centred on the middle year, Orkney, 1989-2004, males



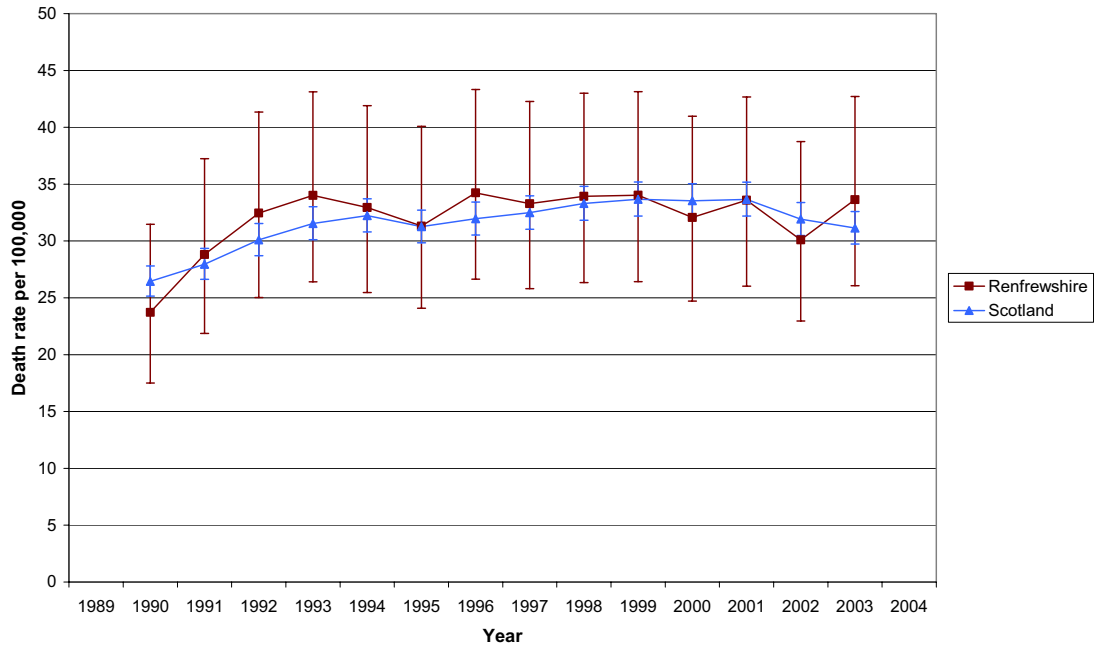
Three year moving average of death rates centred on the middle year, Orkney, 1989-2004, females



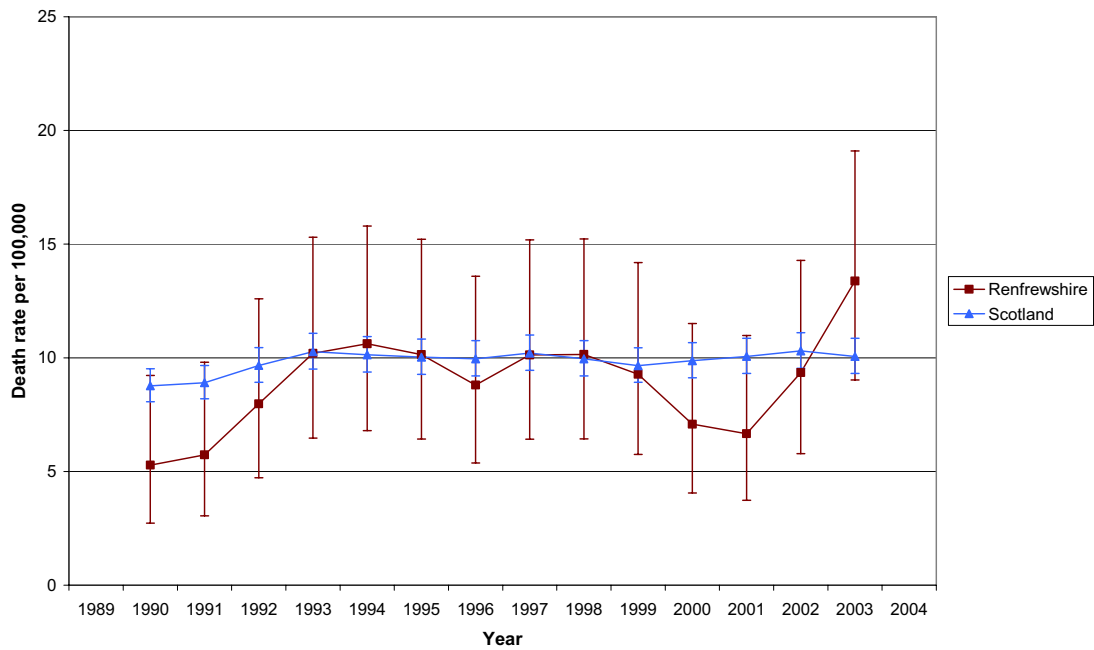
Three year moving average of death rates centred on the middle year, Perth & Kinross, 1989-2004, males



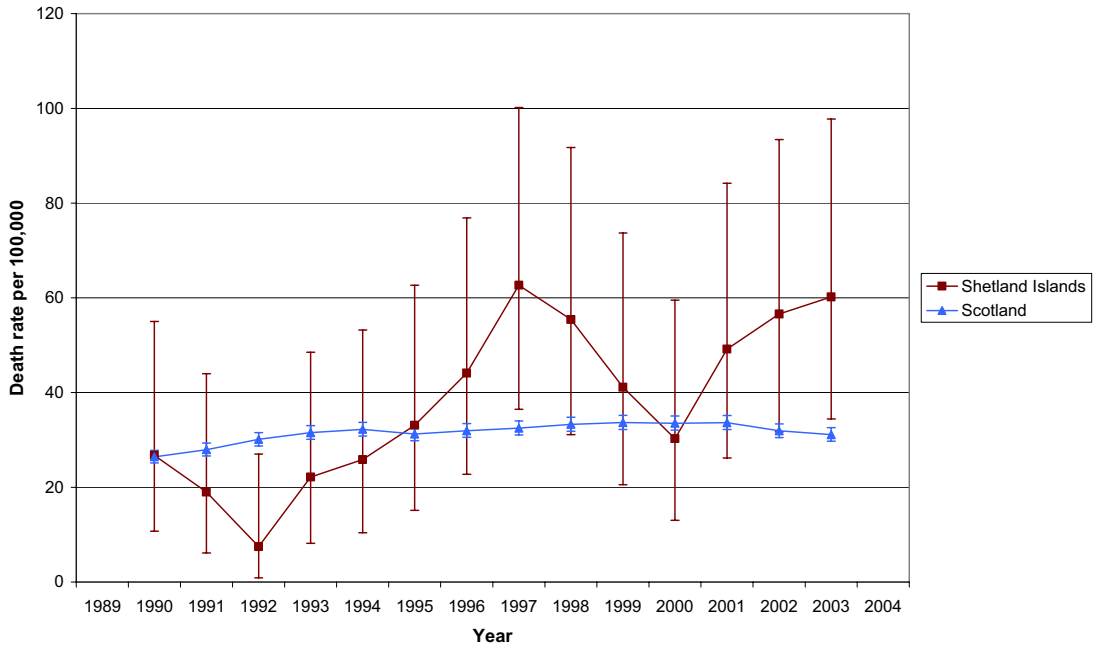
Three year moving average of death rates centred on the middle year, Perth & Kinross, 1989-2004, females



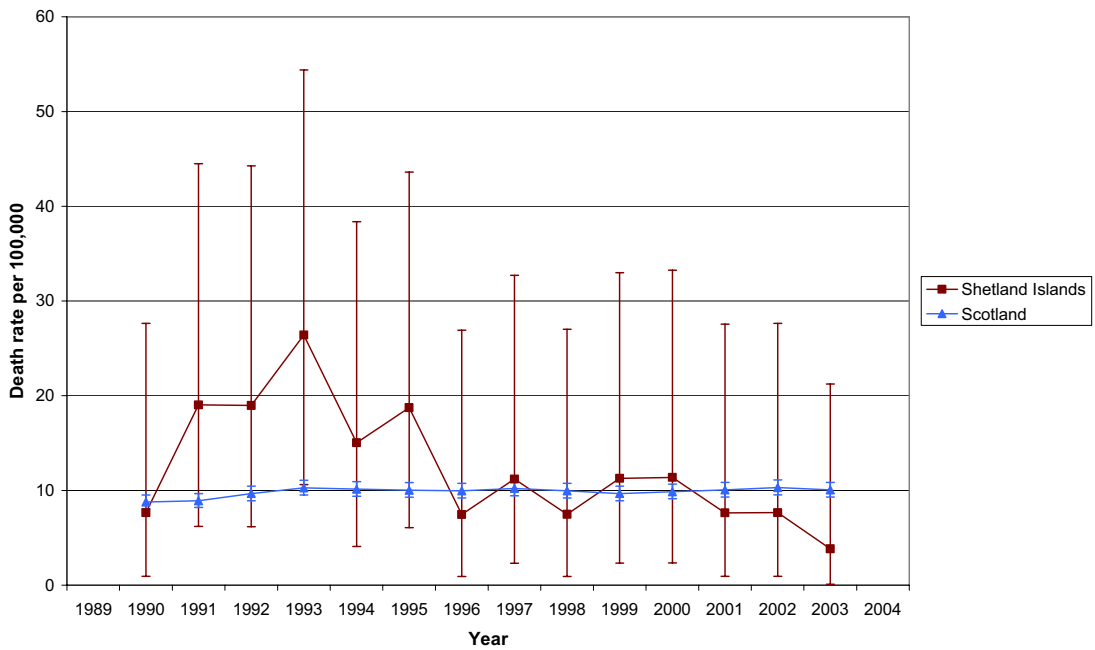
Three year moving average of death rates centred on the middle year, Renfrewshire, 1989-2004, males



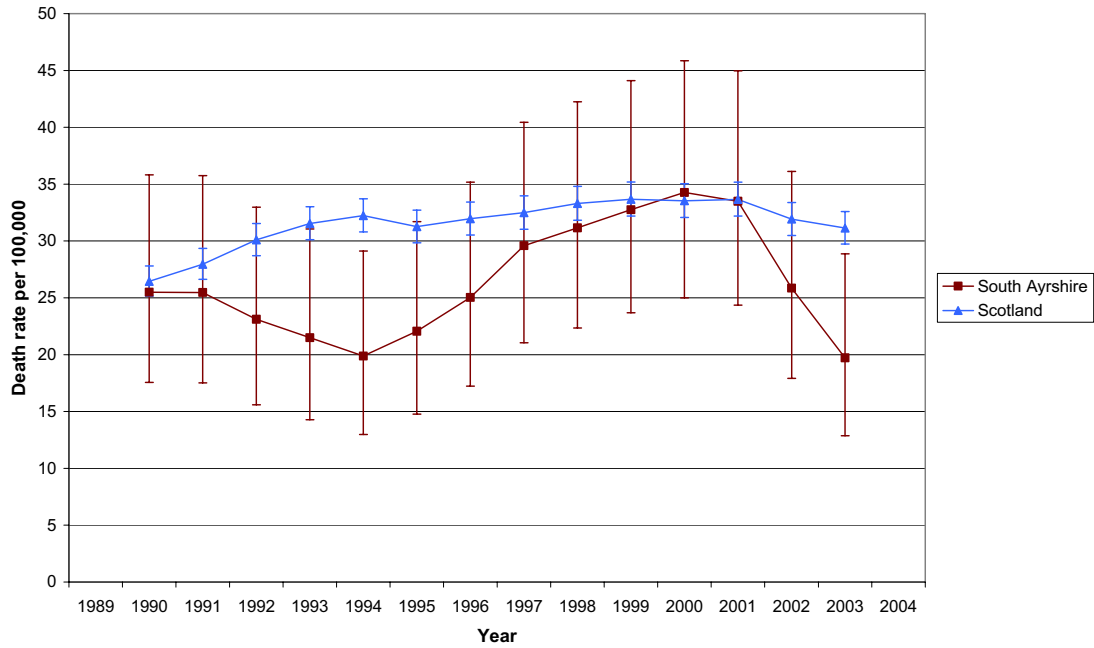
Three year moving average of death rates centred on the middle year, Renfrewshire, 1989-2004, females



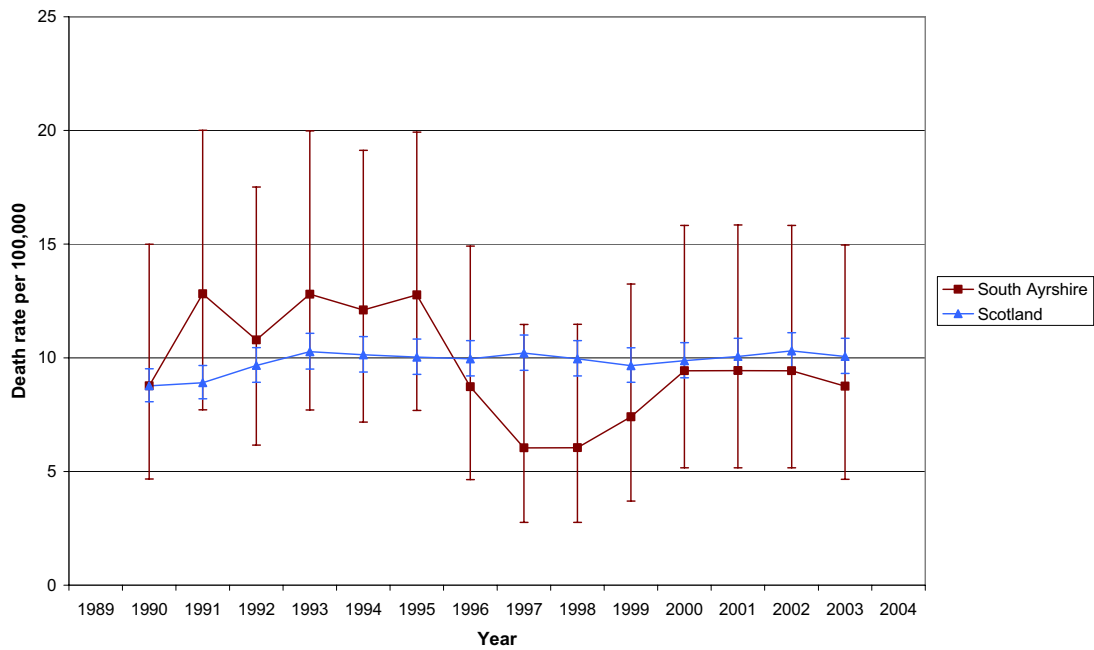
Three year moving average of death rates centred on the middle year, Shetland, 1989-2004, males



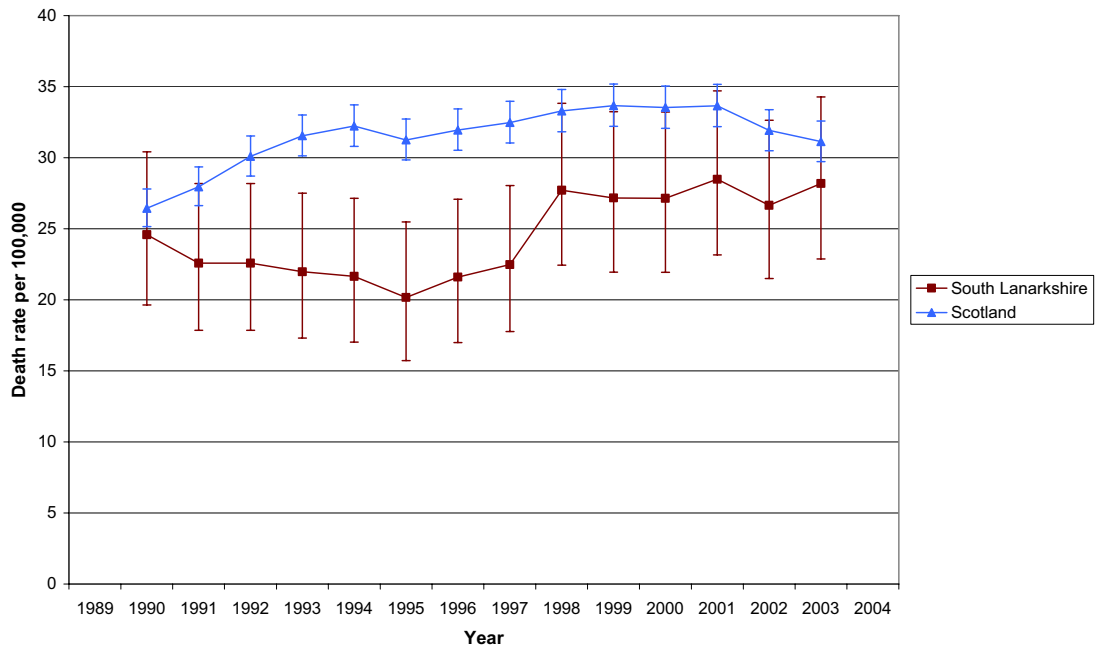
Three year moving average of death rates centred on the middle year, Shetland, 1989-2004, females



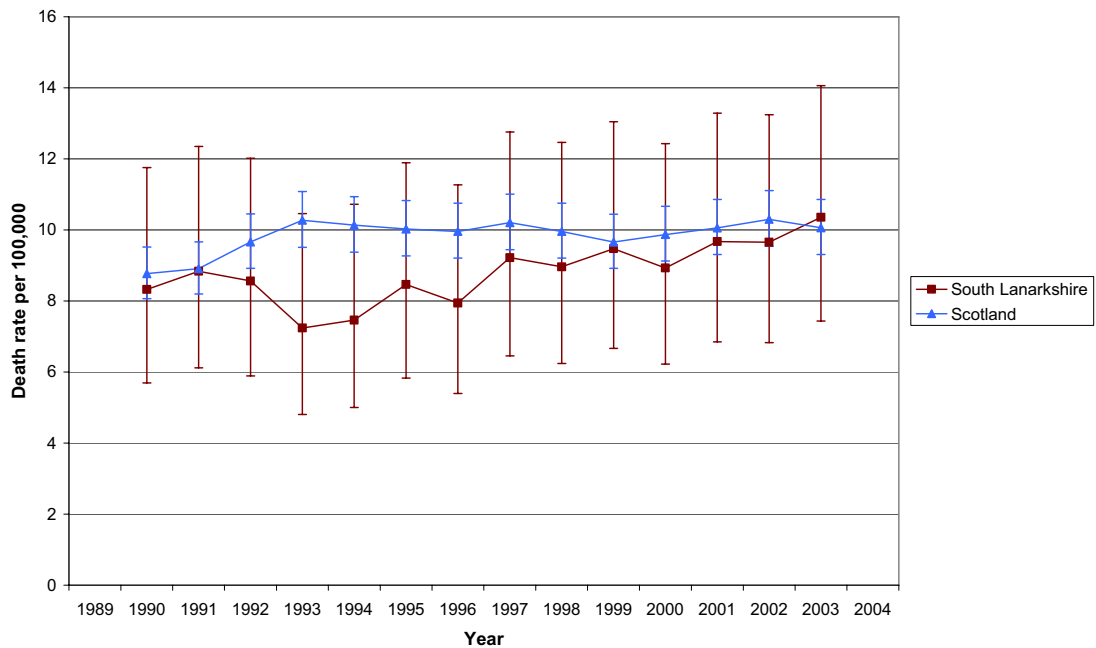
Three year moving average of death rates centred on the middle year, South Ayrshire, 1989-2004, males



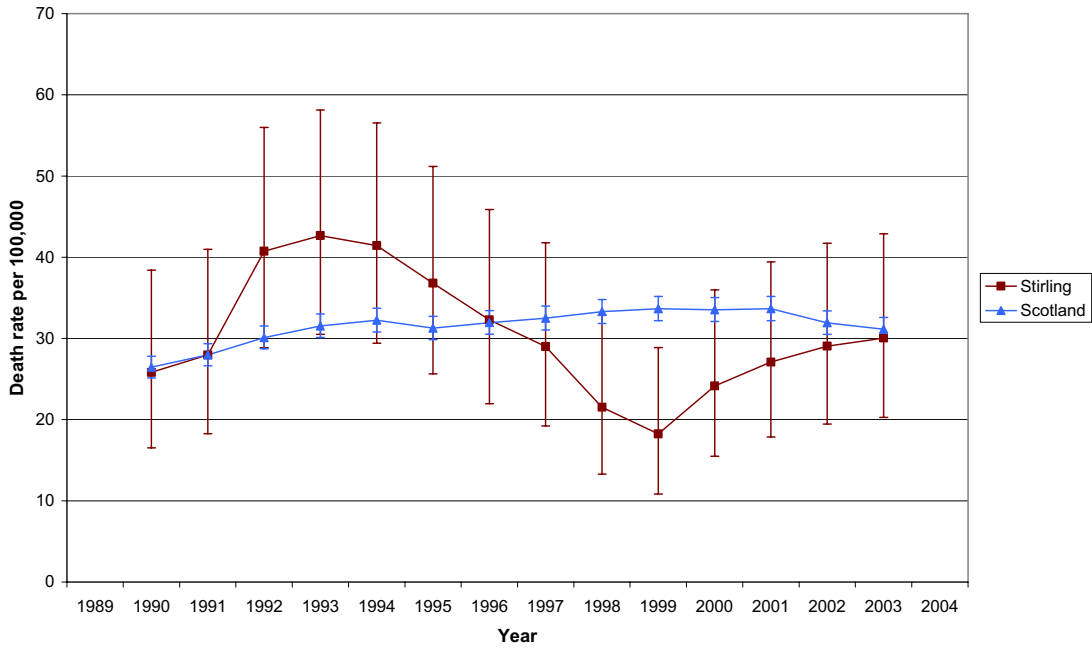
Three year moving average of death rates centred on the middle year, South Ayrshire, 1989-2004, females



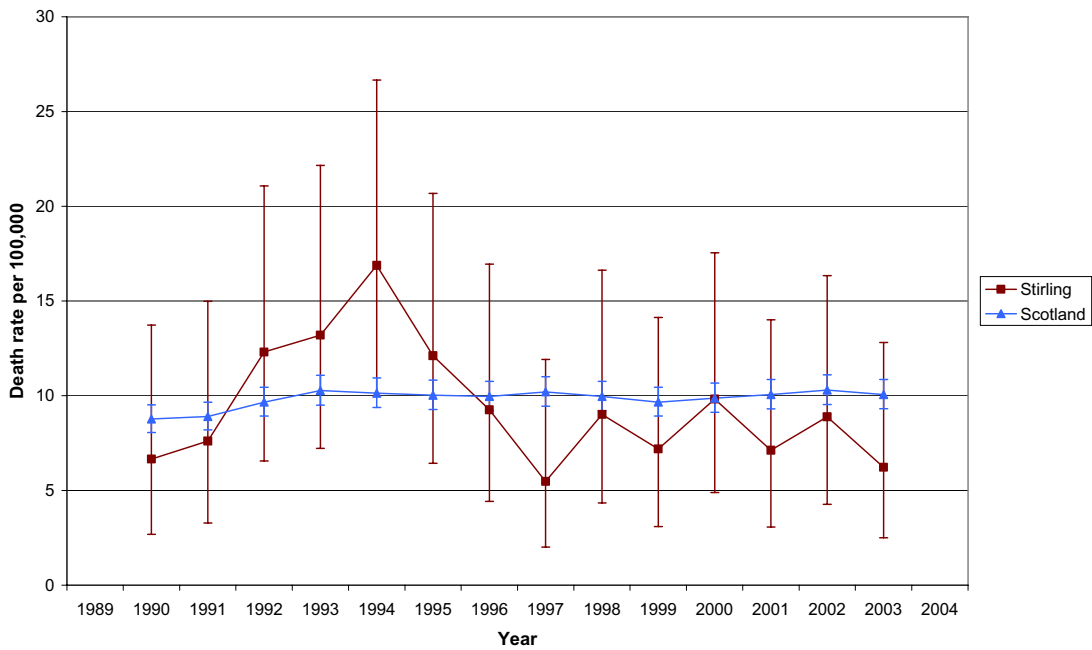
Three year moving average of death rates centred on the middle year, South Lanarkshire, 1989-2004, males



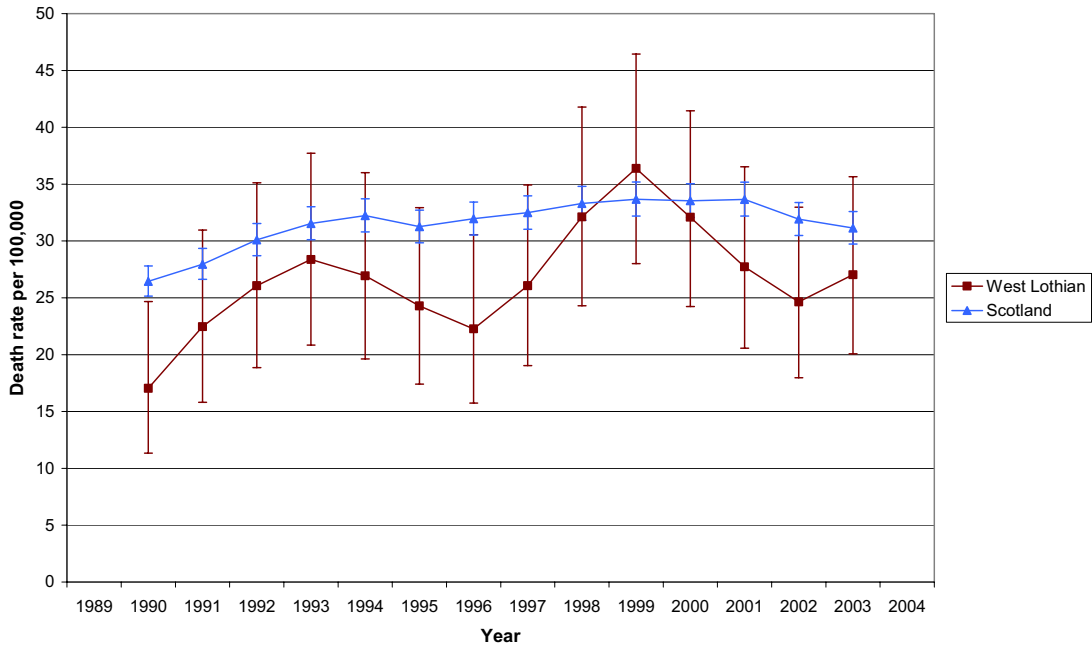
Three year moving average of death rates centred on the middle year, South Lanarkshire, 1989-2004, females



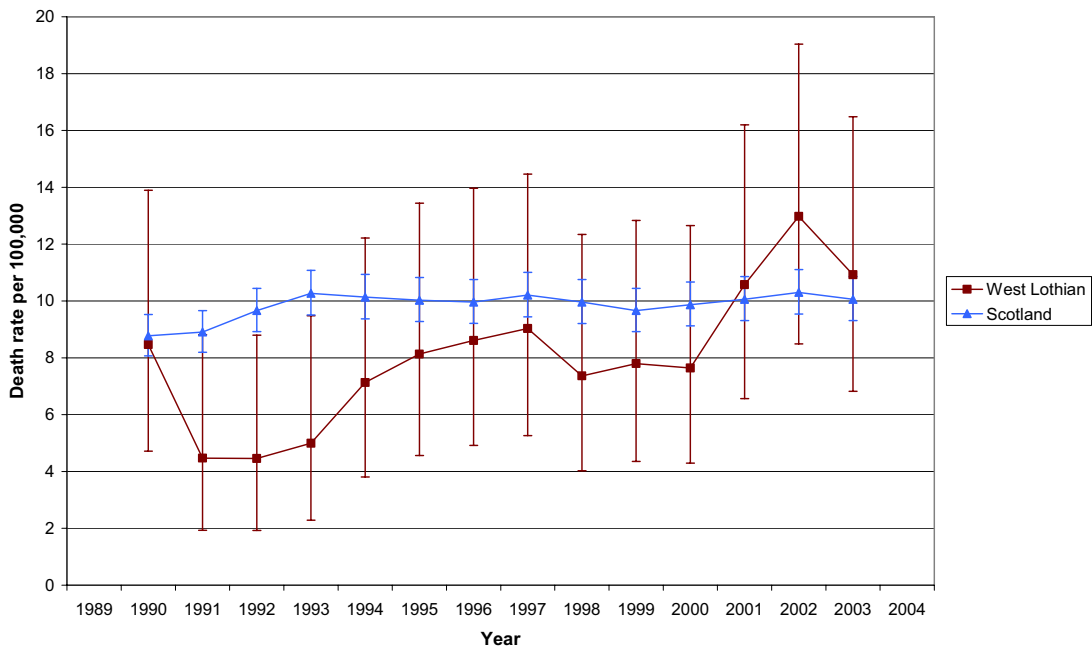
Three year moving average of death rates centred on the middle year, Stirling, 1989-2004, males



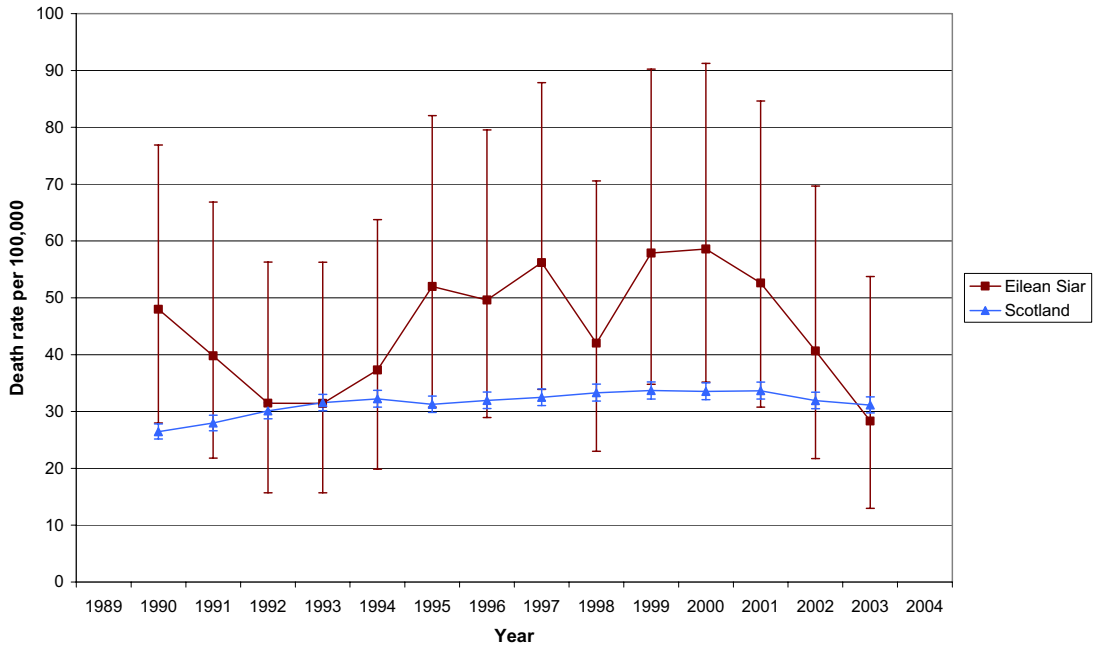
Three year moving average of death rates centred on the middle year, Stirling, 1989-2004, females



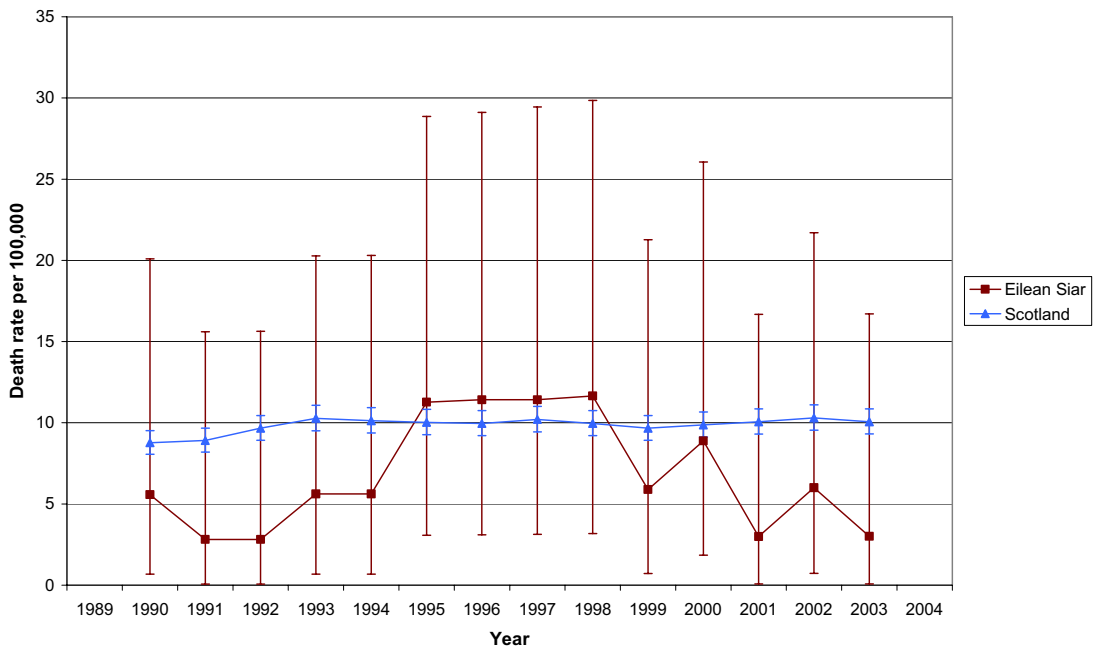
Three year moving average of death rates centred on the middle year, West Lothian, 1989-2004, males



Three year moving average of death rates centred on the middle year, West Lothian, 1989-2004, females

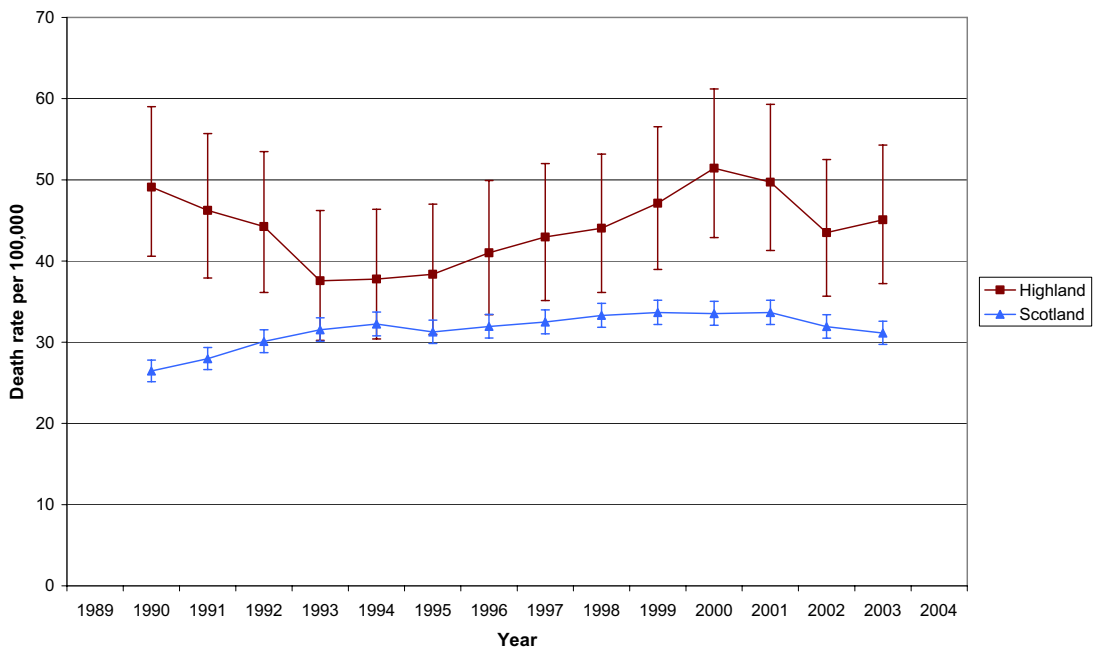


Three year moving average of death rates centred on the middle year, Eilean Siar, 1989-2004, males

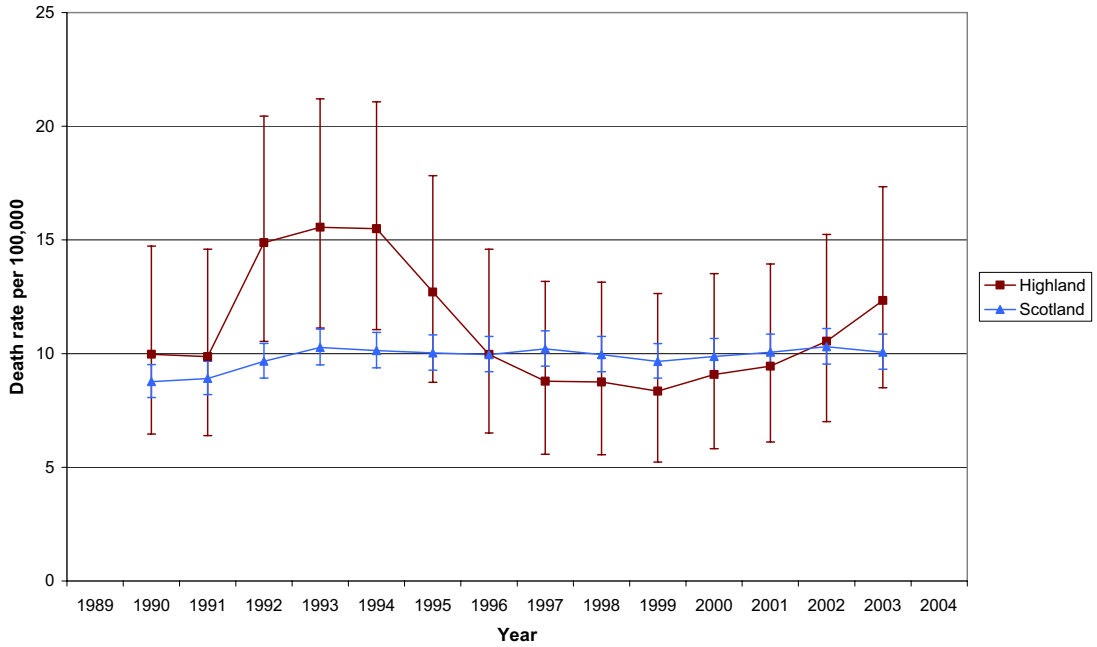


Three year moving average of death rates centred on the middle year, Eilean Siar, 1989-2004, females

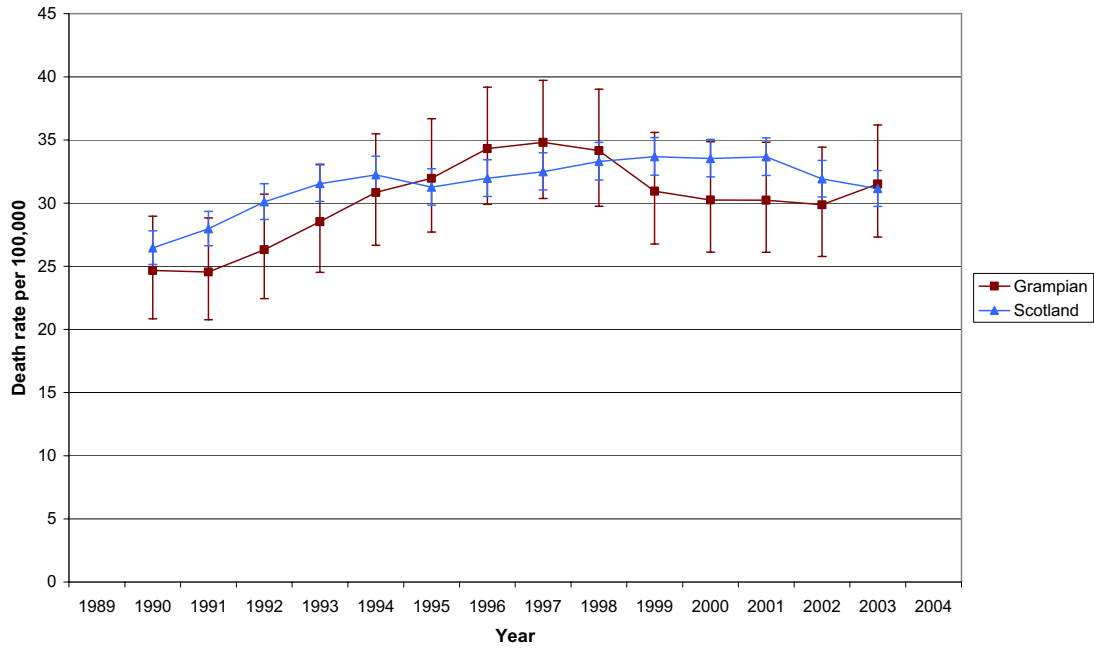
Annex 2 Three year moving average of suicide rates centred on the middle year, by sex, separately for each health board, 1989-2004



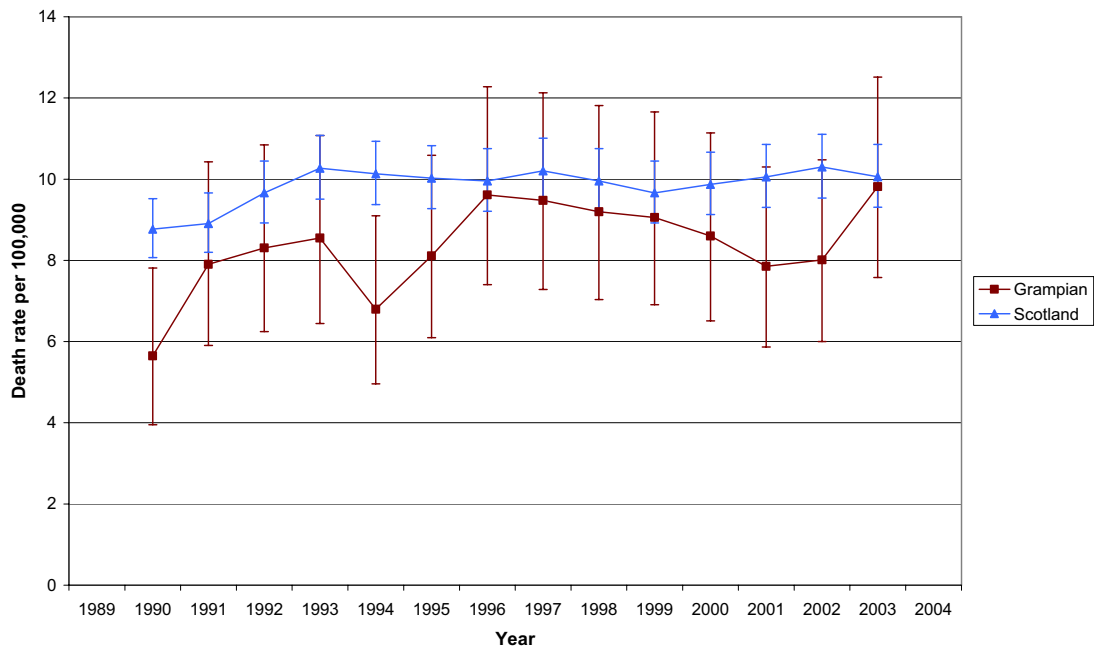
Three year moving average of death rates centred on the middle year, Highland Health Board, 1989-2004, males



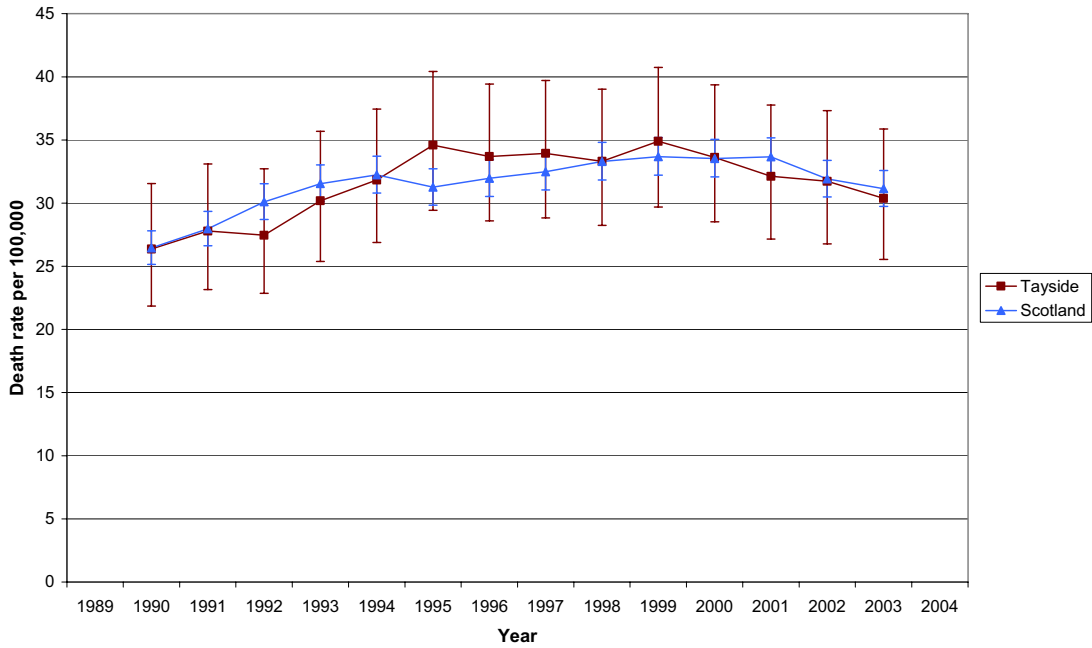
Three-year moving average of death rates centred on the middle year, Highland Health Board, 1989-2004, females



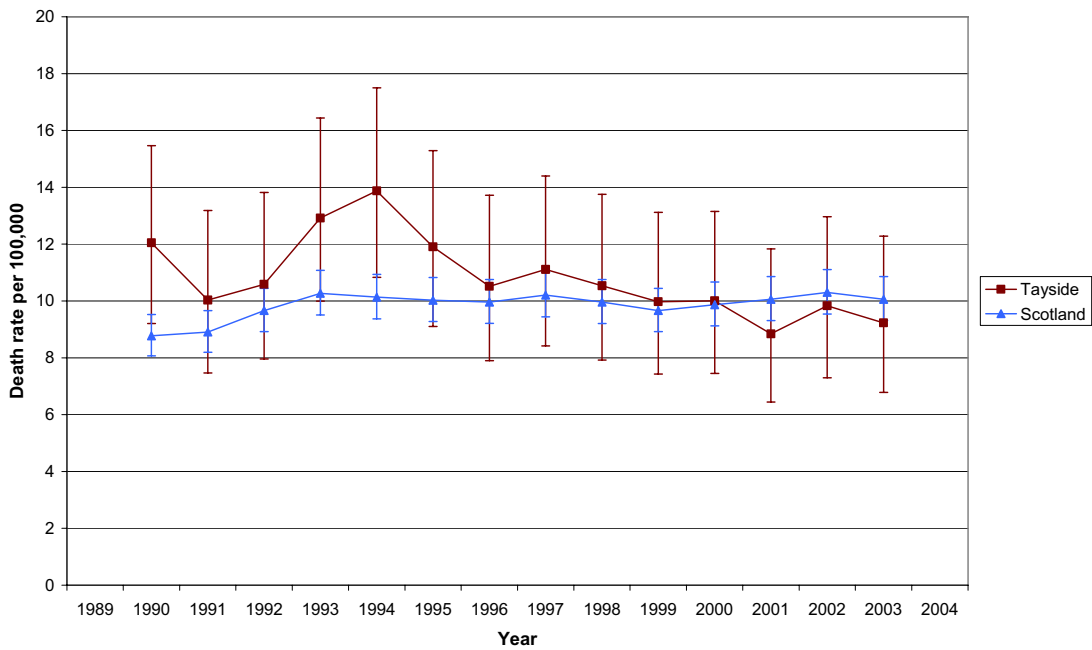
Three-year moving average of death rates centred on the middle year, Grampian Health Board, 1989-2004, males



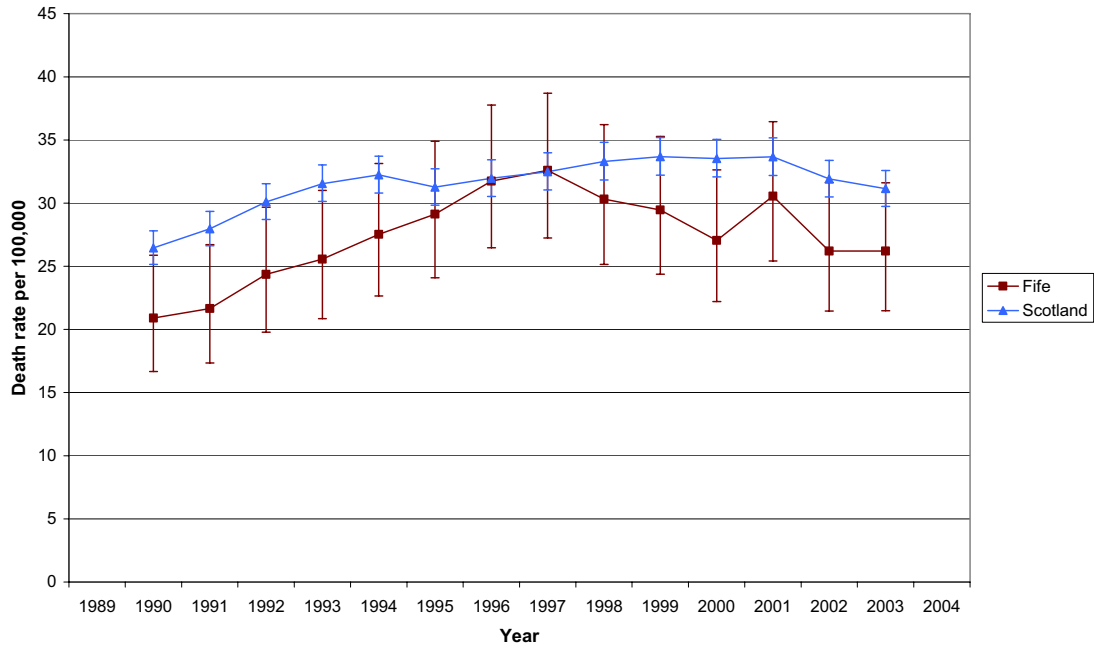
Three-year moving average of death rates centred on the middle year, Grampian Health Board, 1989-2004, females



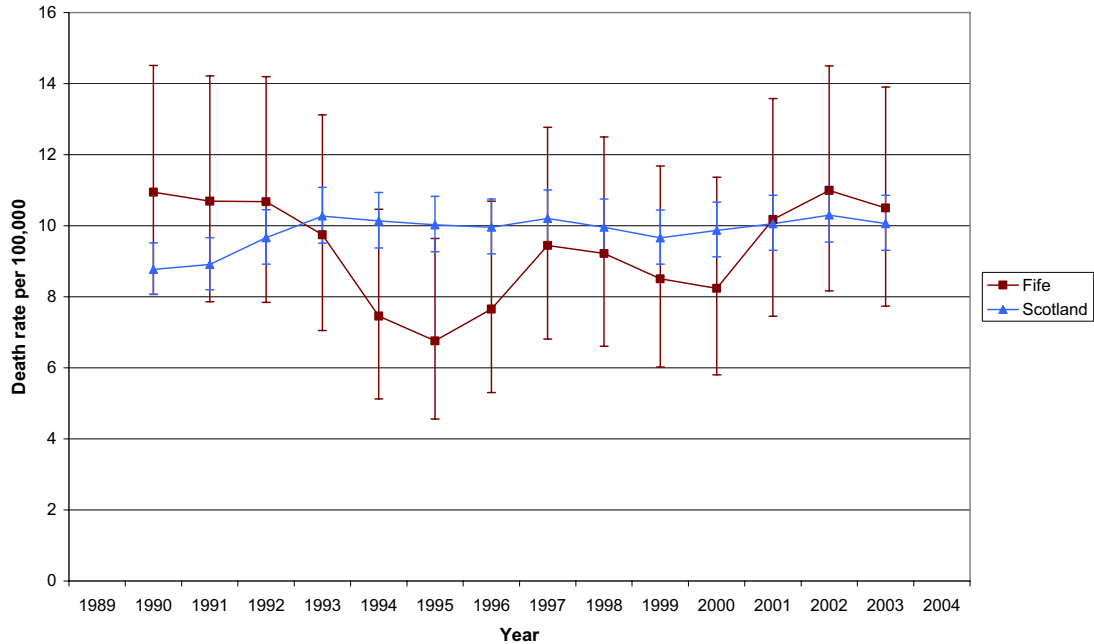
Three year moving average of death rates centred on the middle year, Tayside Health Board, 1989-2004, males



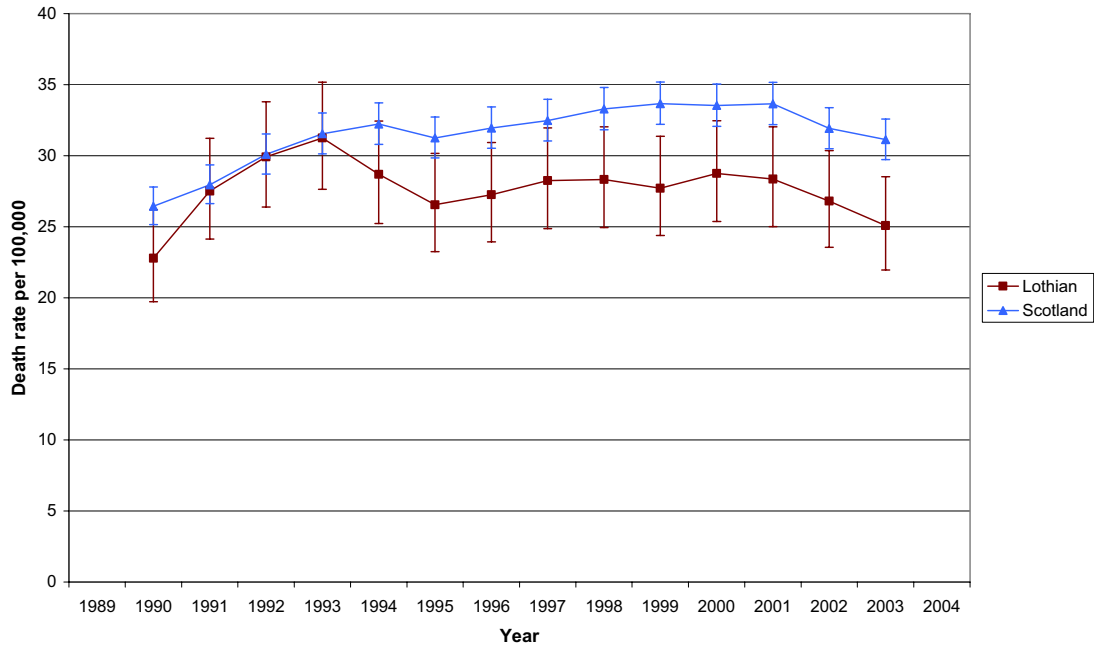
Three year moving average of death rates centred on the middle year, Tayside Health Board, 1989-2004, females



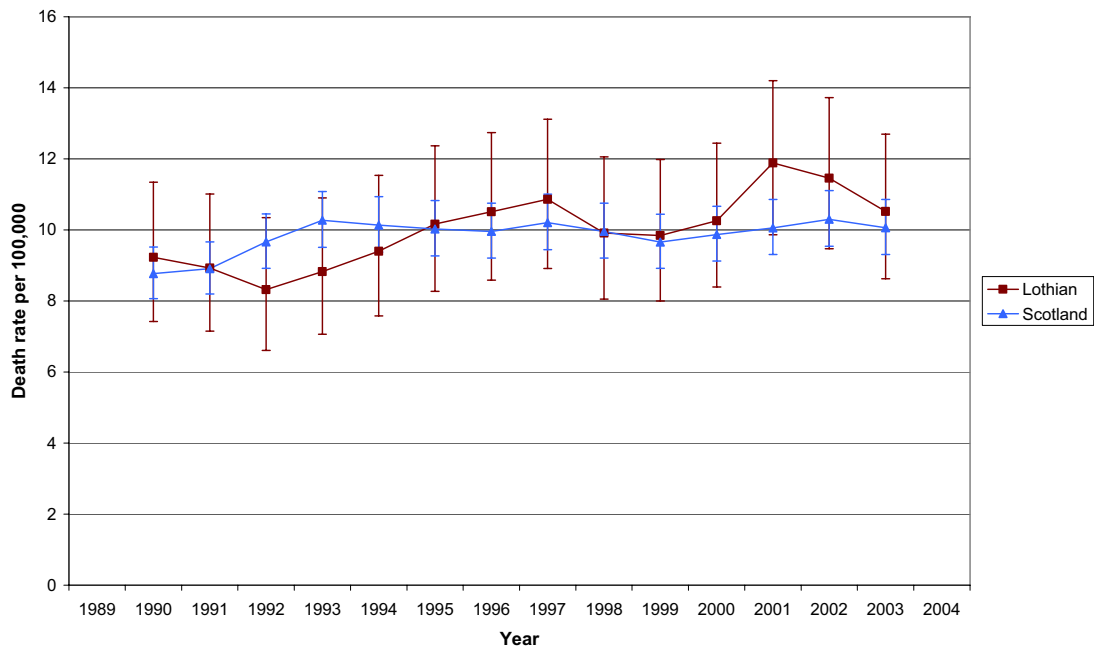
Three year moving average of death rates centred on the middle year, Fife Health Board, 1989-2004, males



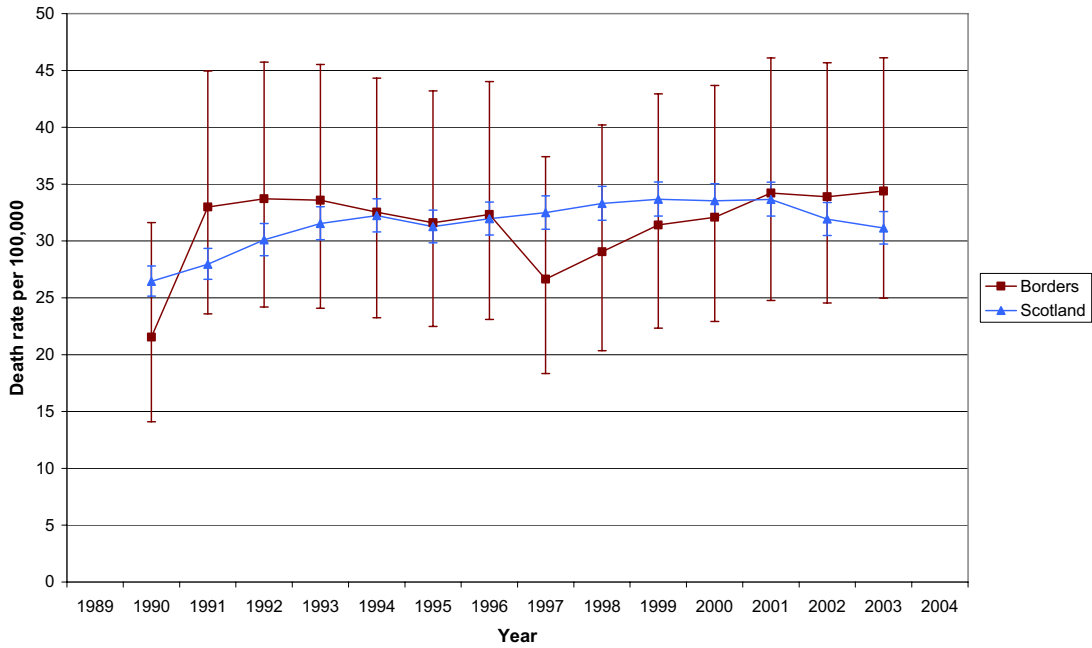
Three year moving average of death rates centred on the middle year, Fife Health Board, 1989-2004, females



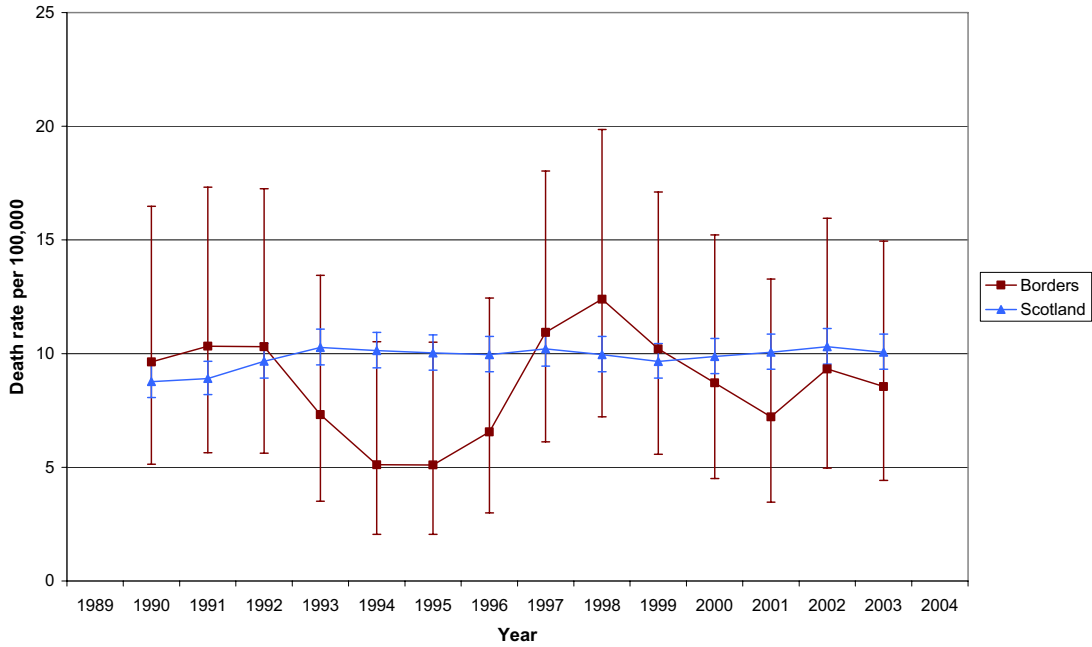
Three year moving average of death rates centred on the middle year, Lothian Health Board, 1989-2004, males



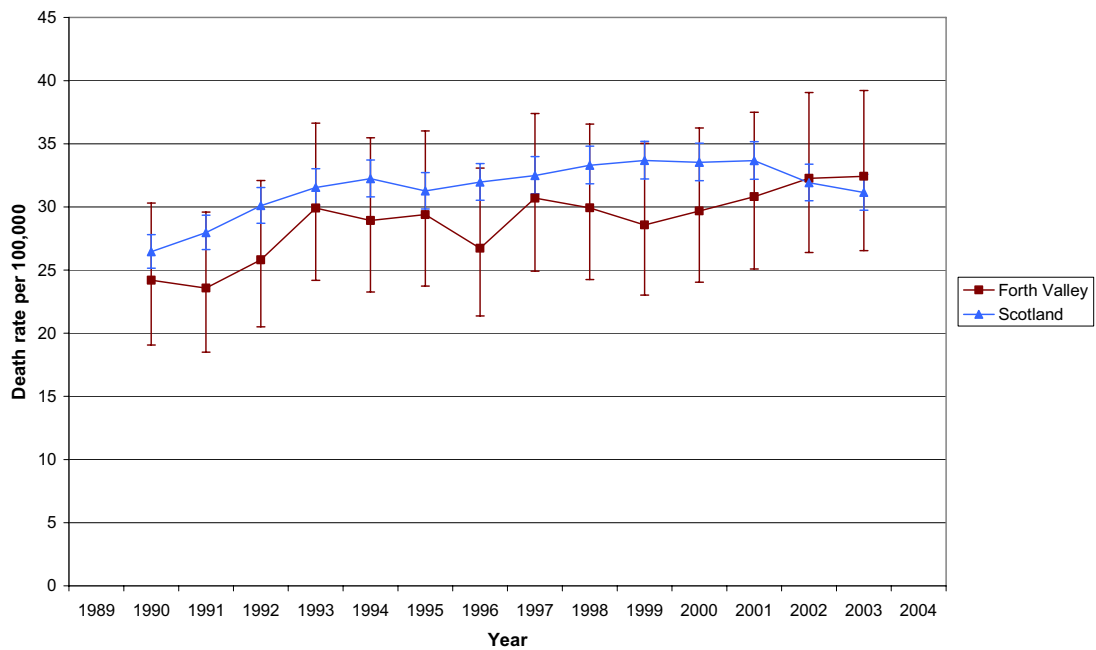
Three year moving average of death rates centred on the middle year, Lothian Health Board, 1989-2004, females



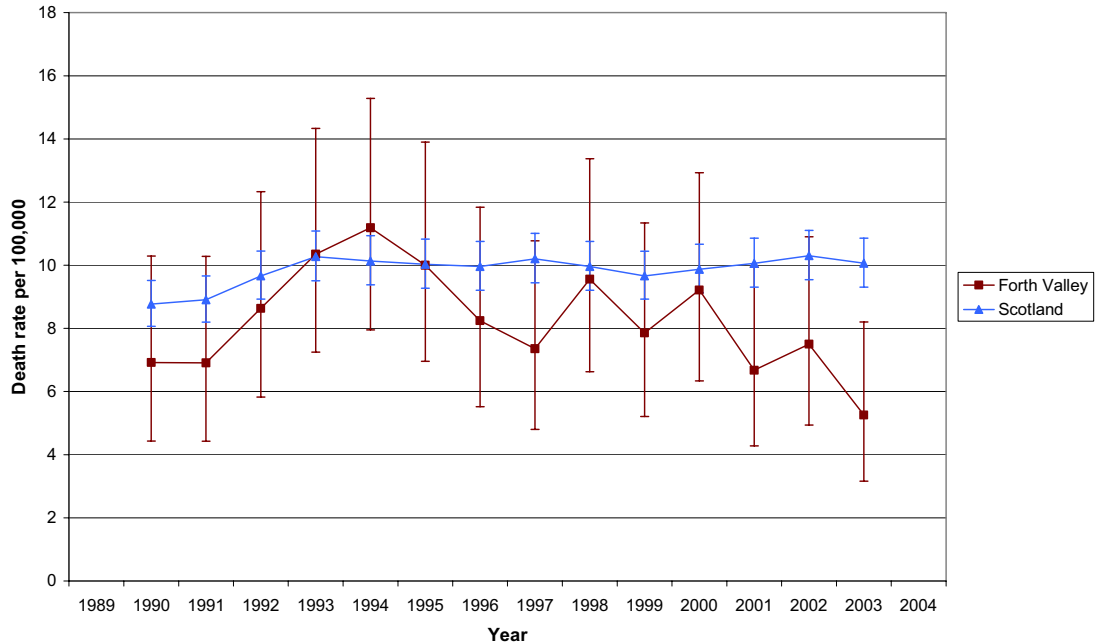
Three year moving average of death rates centred on the middle year, Borders Health Board, 1989-2004, males



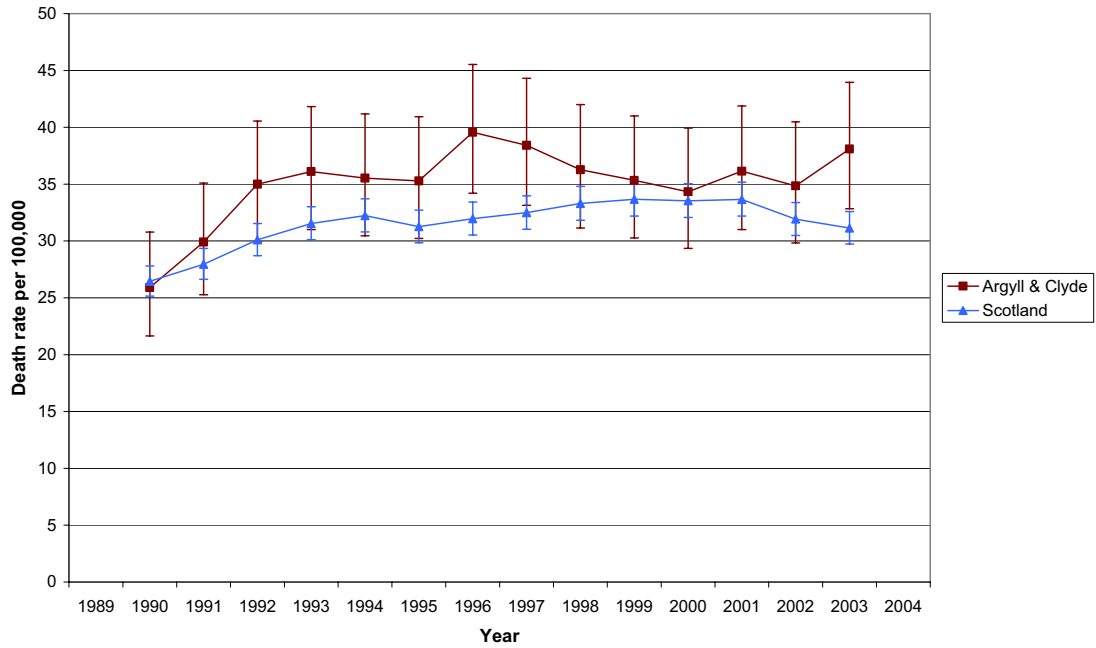
Three year moving average of death rates centred on the middle year, Borders Health Board, 1989-2004, females



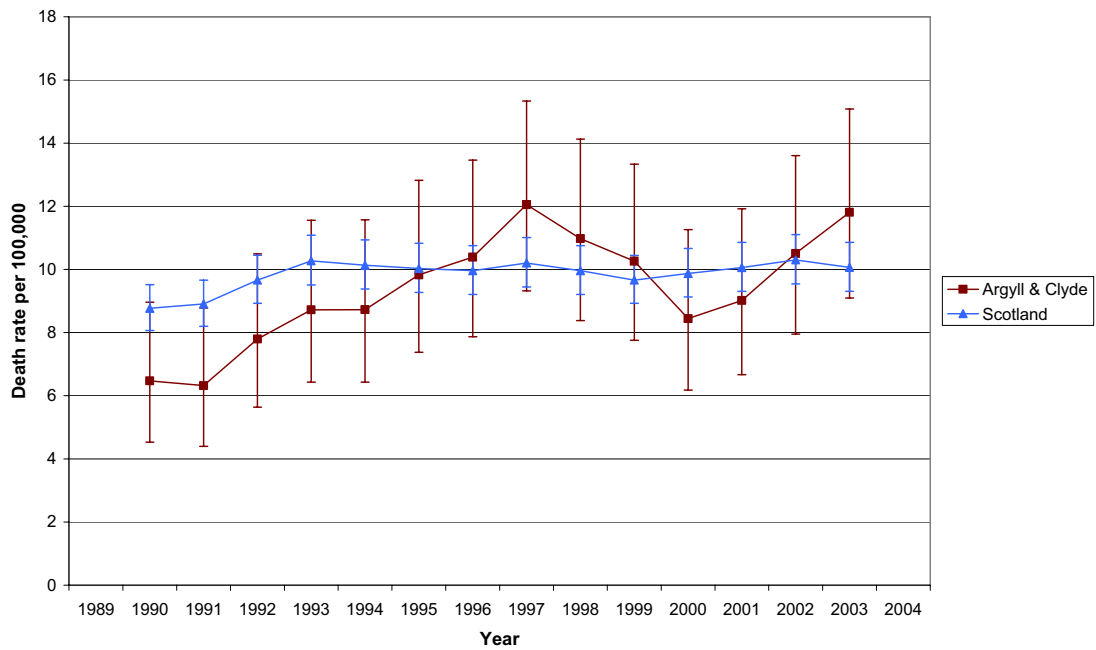
Three year moving average of death rates centred on the middle year, Forth Valley Health Board, 1989-2004, males



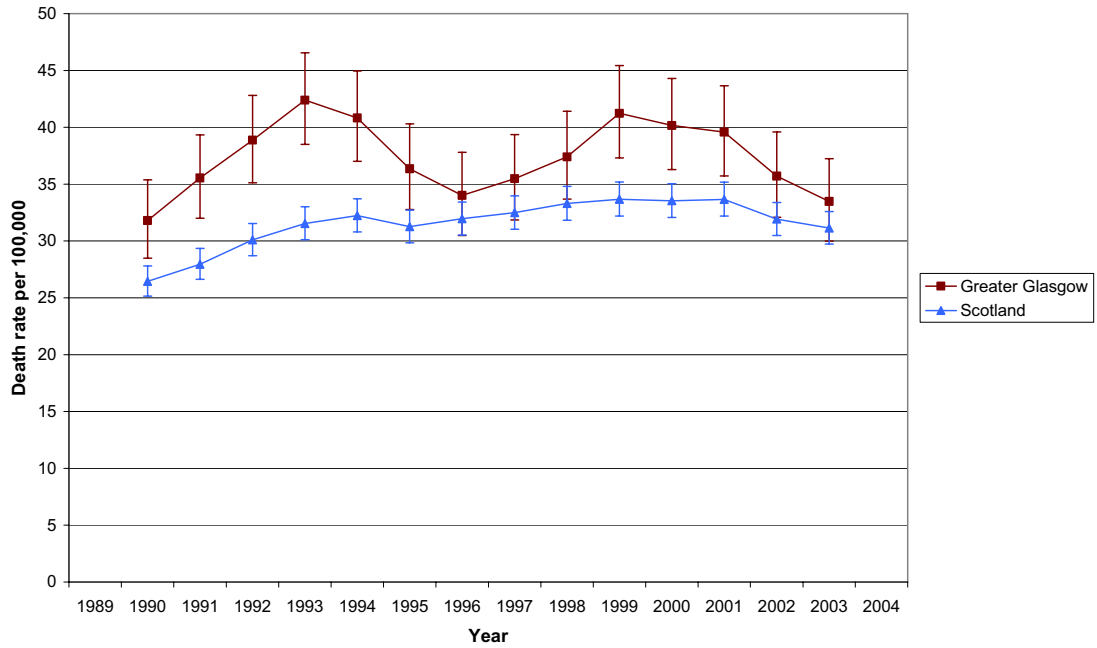
Three year moving average of death rates centred on the middle year, Forth Valley Health Board, 1989-2004, females



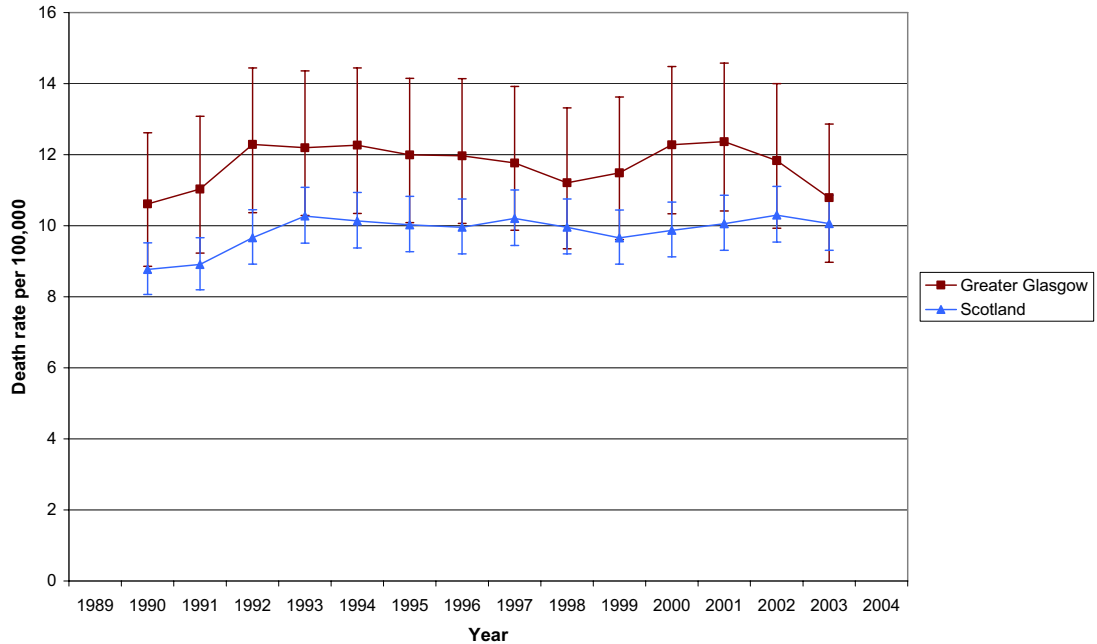
Three year moving average of death rates centred on the middle year, Argyll & Clyde Health Board, 1989-2004, males



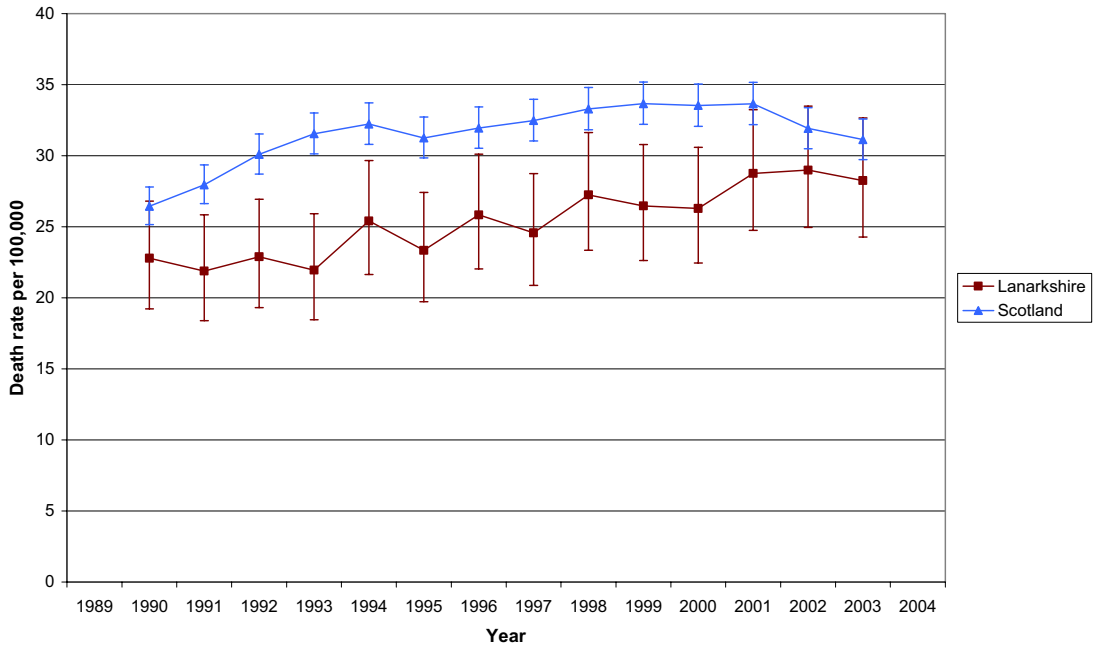
Three year moving average of death rates centred on the middle year, Argyll & Clyde Health Board, 1989-2004, females



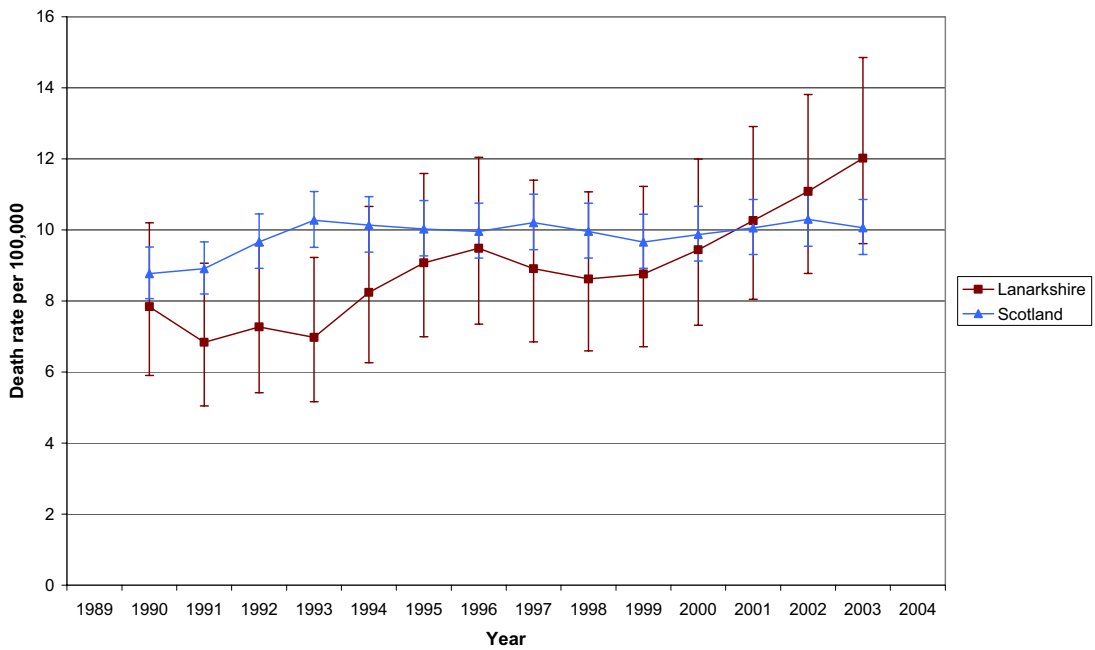
Three year moving average of death rates centred on the middle year, Greater Glasgow Health Board, 1989-2004, males



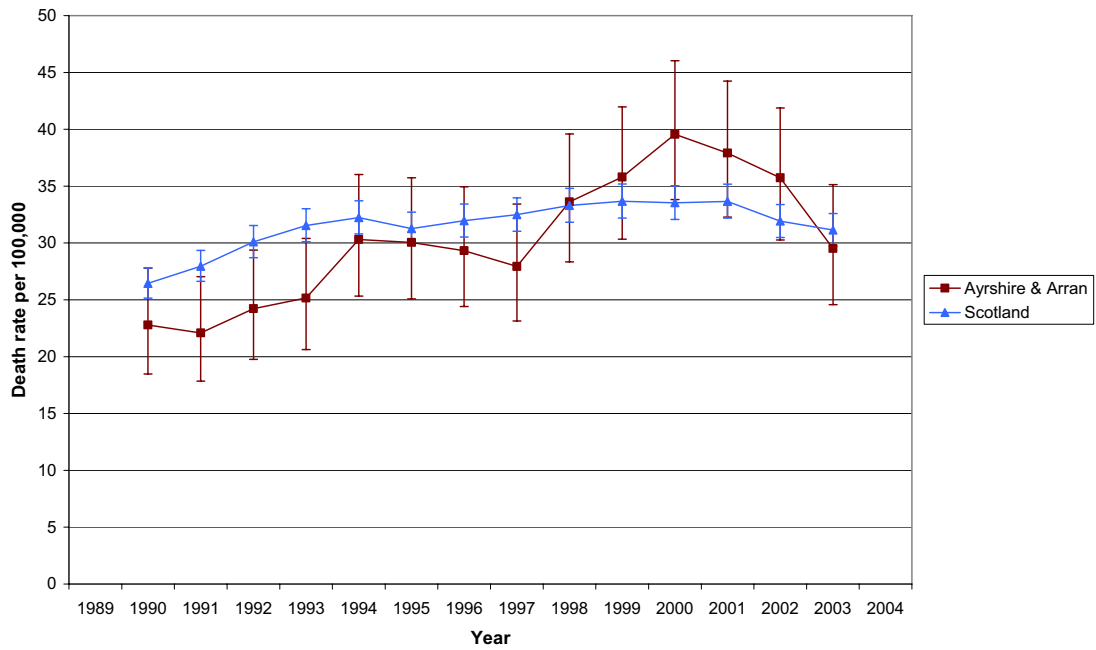
Three year moving average of death rates centred on the middle year, Greater Glasgow Health Board, 1989-2004, females



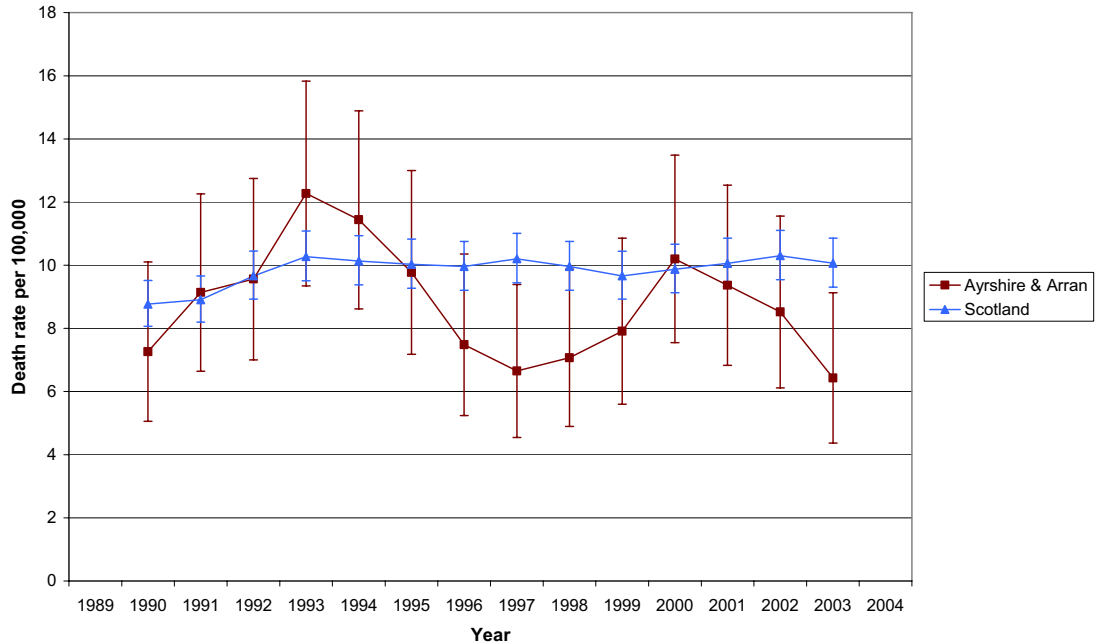
Three year moving average of death rates centred on the middle year, Lanarkshire Health Board, 1989-2004, males



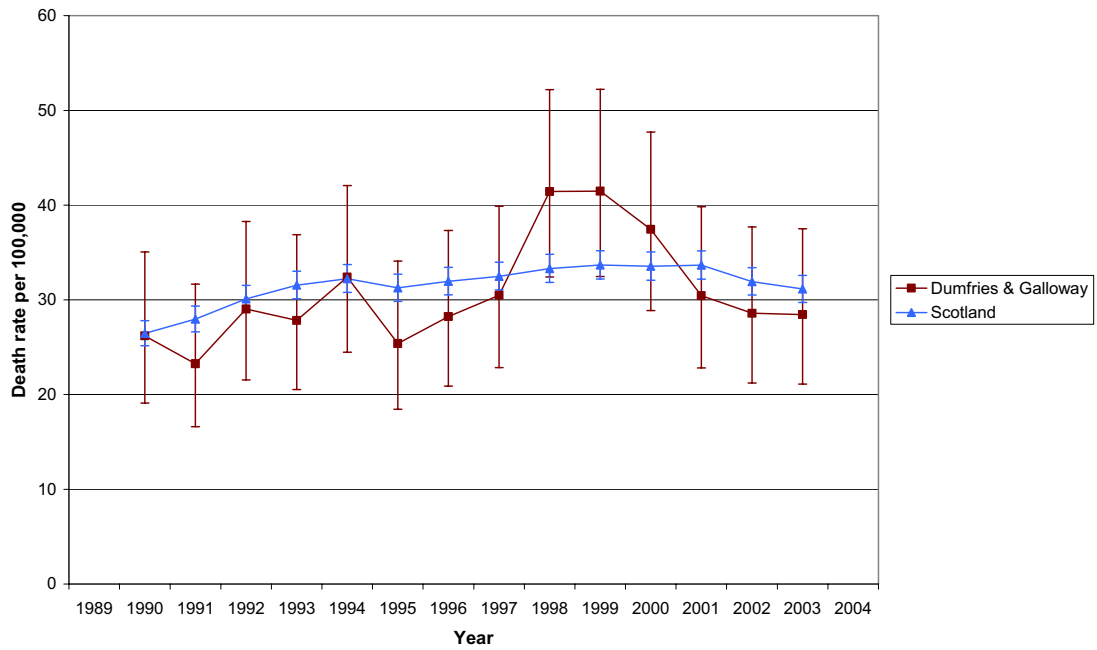
Three year moving average of death rates centred on the middle year, Lanarkshire Health Board, 1989-2004, females



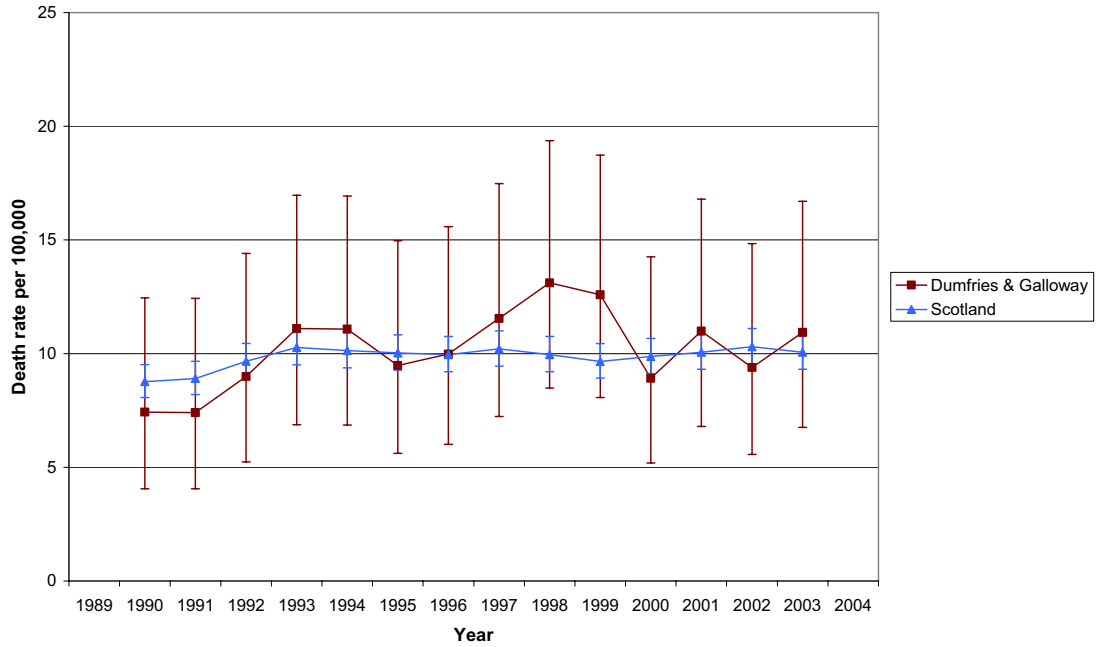
Three year moving average of death rates centred on the middle year, Ayrshire & Arran Health Board, 1989-2004, males



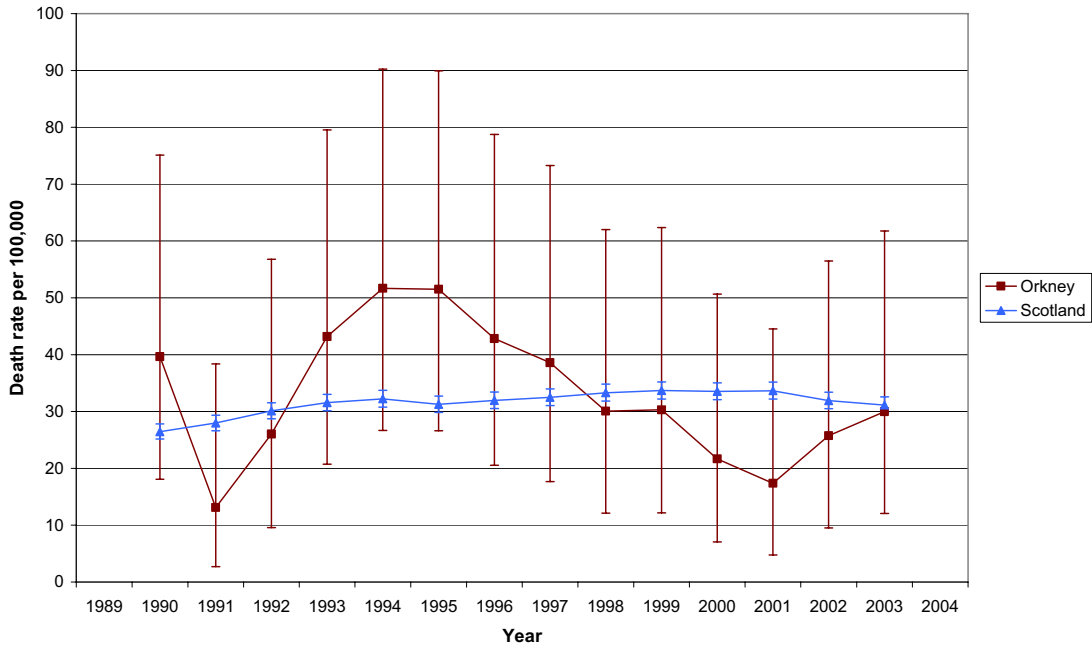
Three year moving average of death rates centred on the middle year, Ayrshire & Arran Health Board, 1989-2004, females



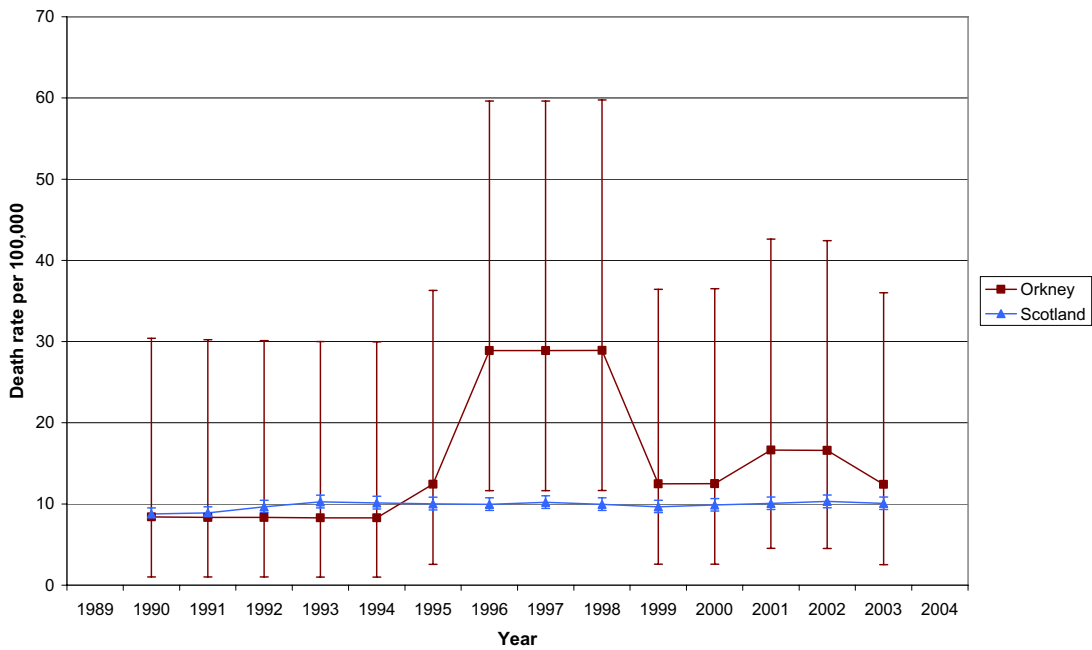
Three year moving average of death rates centred on the middle year, Dumfries & Galloway Health Board, 1989-2004, males



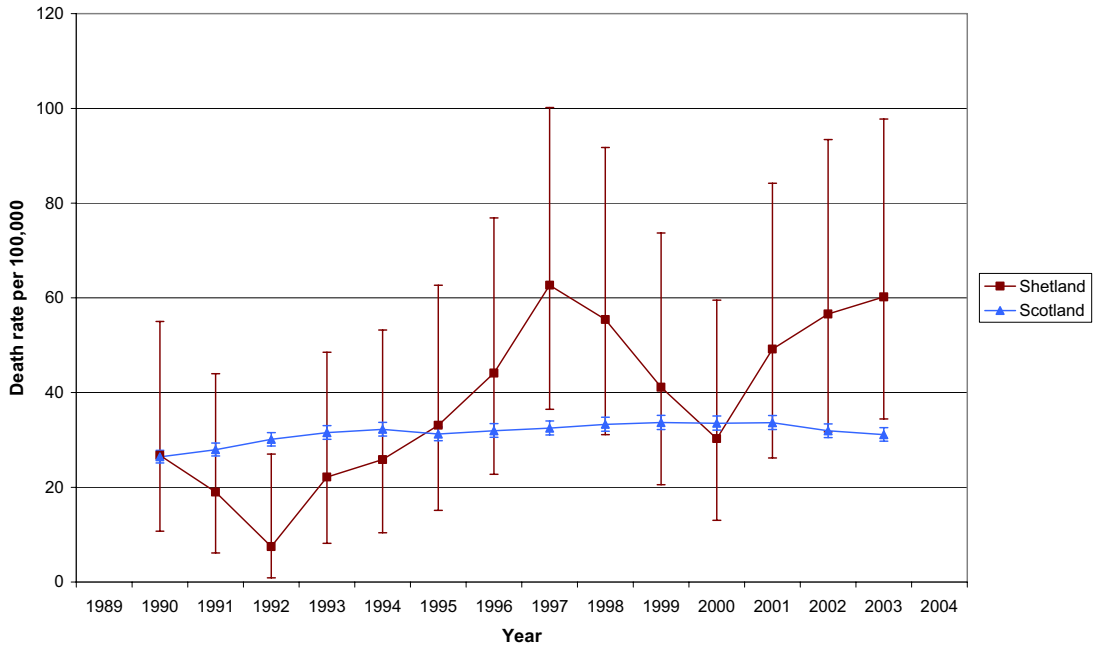
Three year moving average of death rates centred on the middle year, Dumfries & Galloway Health Board, 1989-2004, females



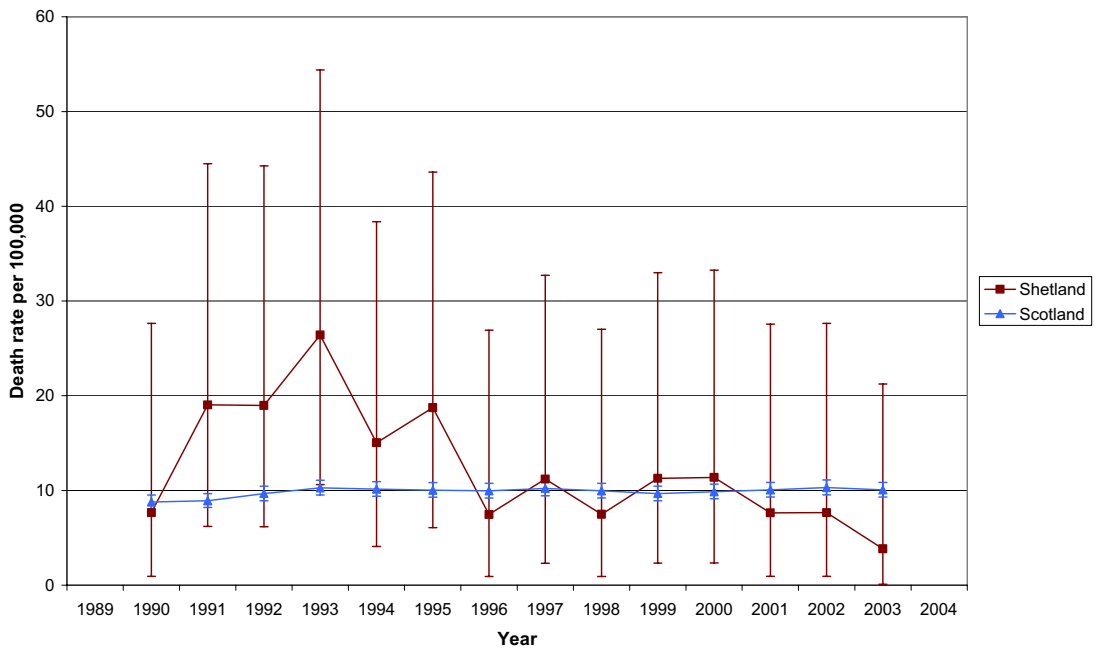
Three year moving average of death rates centred on the middle year, Orkney Health Board, 1989-2004, males



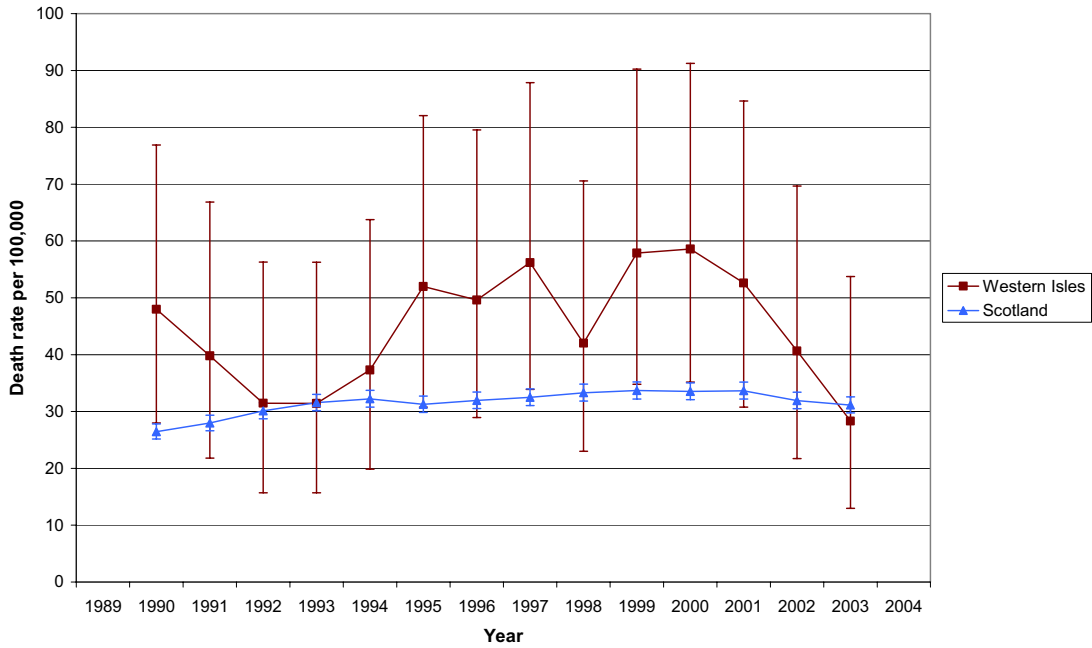
Three year moving average of death rates centred on the middle year, Orkney Health Board, 1989-2004, female



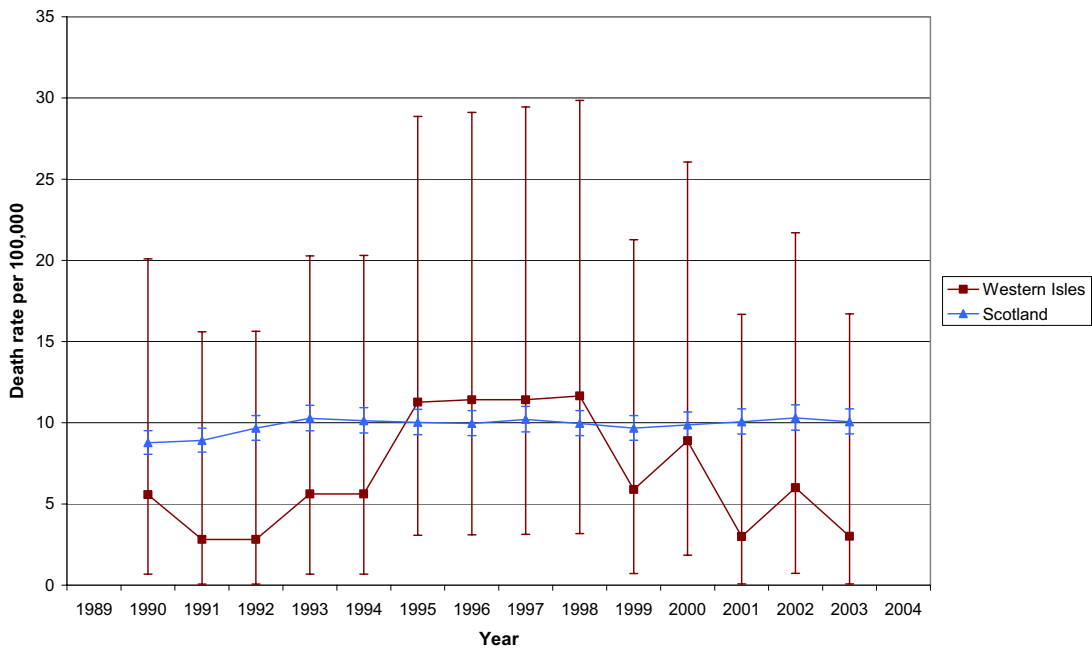
Three year moving average of death rates centred on the middle year, Shetland Health Board, 1989-2004, males



Three year moving average of death rates centred on the middle year, Shetland Health Board, 1989-2004, females

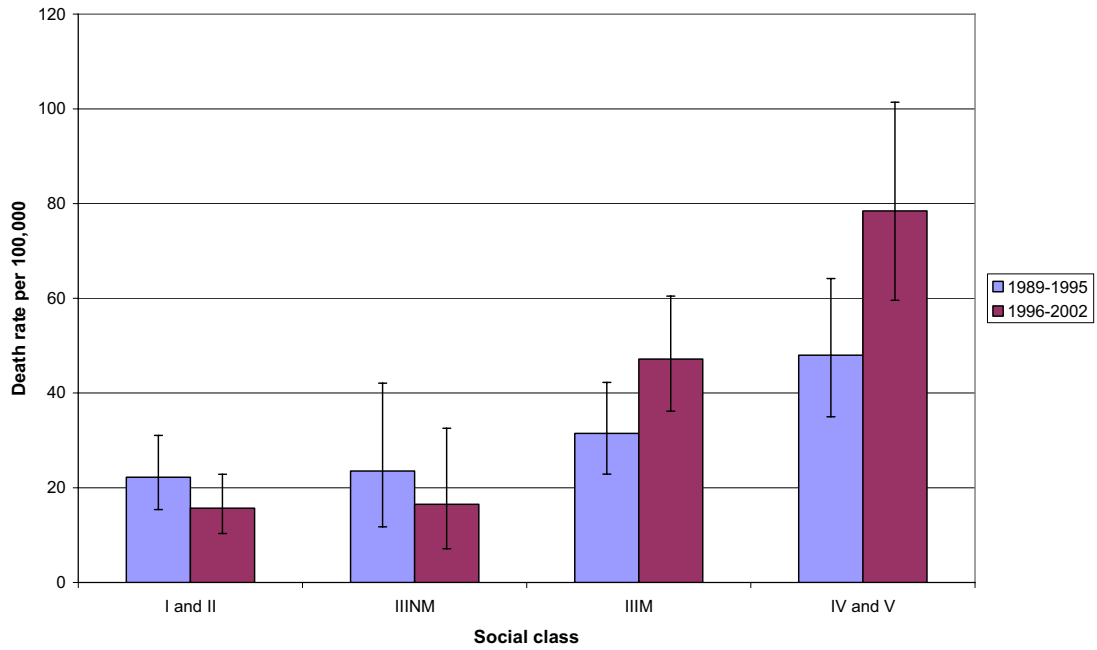


Three year moving average of death rates centred on the middle year, Western Isles Health Board, 1989-2004, males

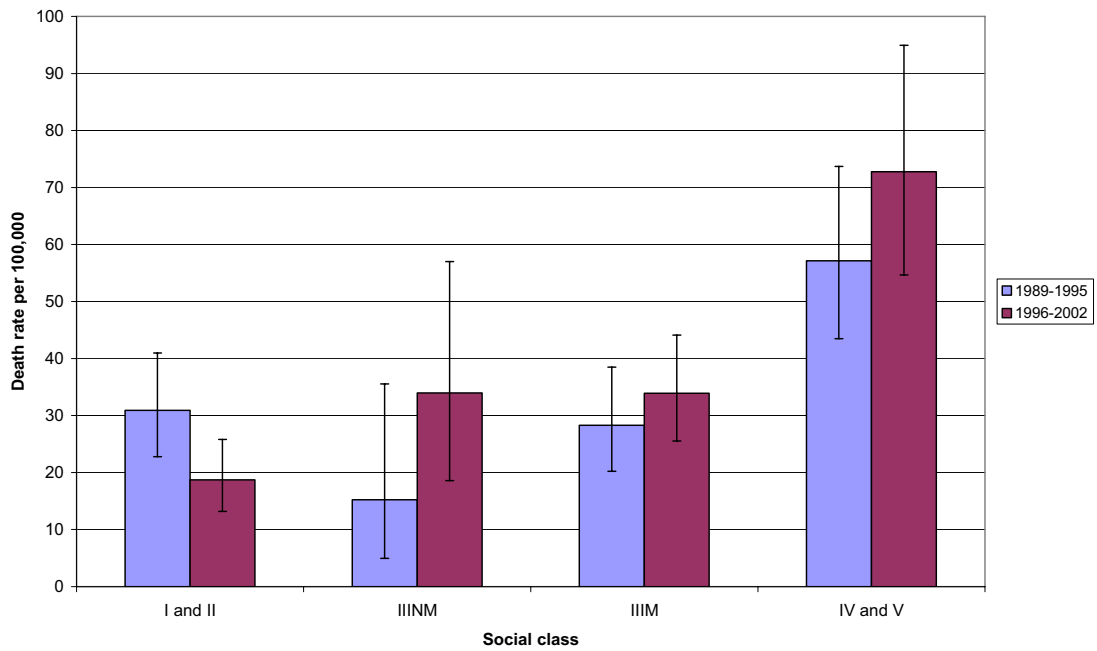


Three year moving average of death rates centred on the middle year, Western Isles Health Board, 1989-2004, females

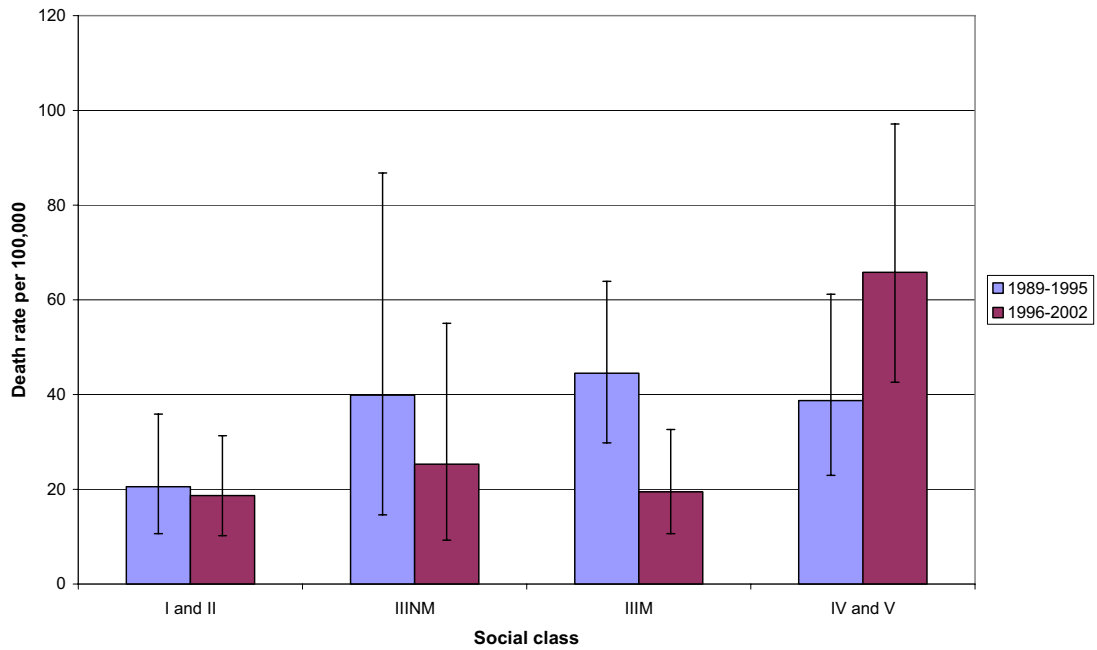
**Annex 3 Male suicide rates by social class, separately for each local authority,
1989-1995 and 1996-2002**



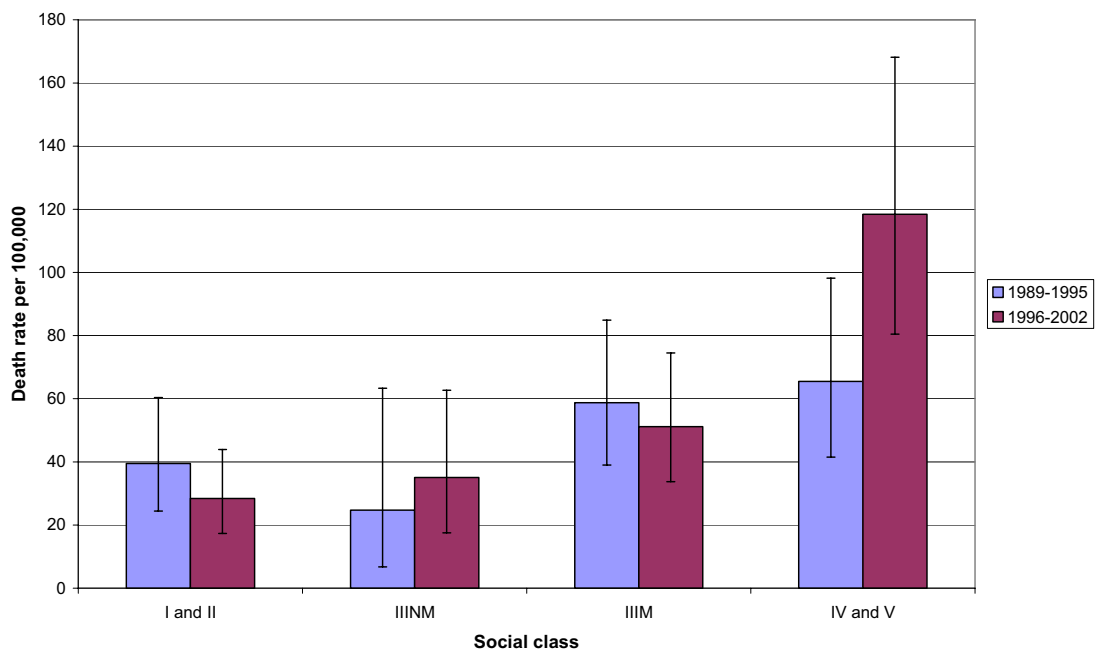
Male death rates by social class, Aberdeen City, 1989-2002, males



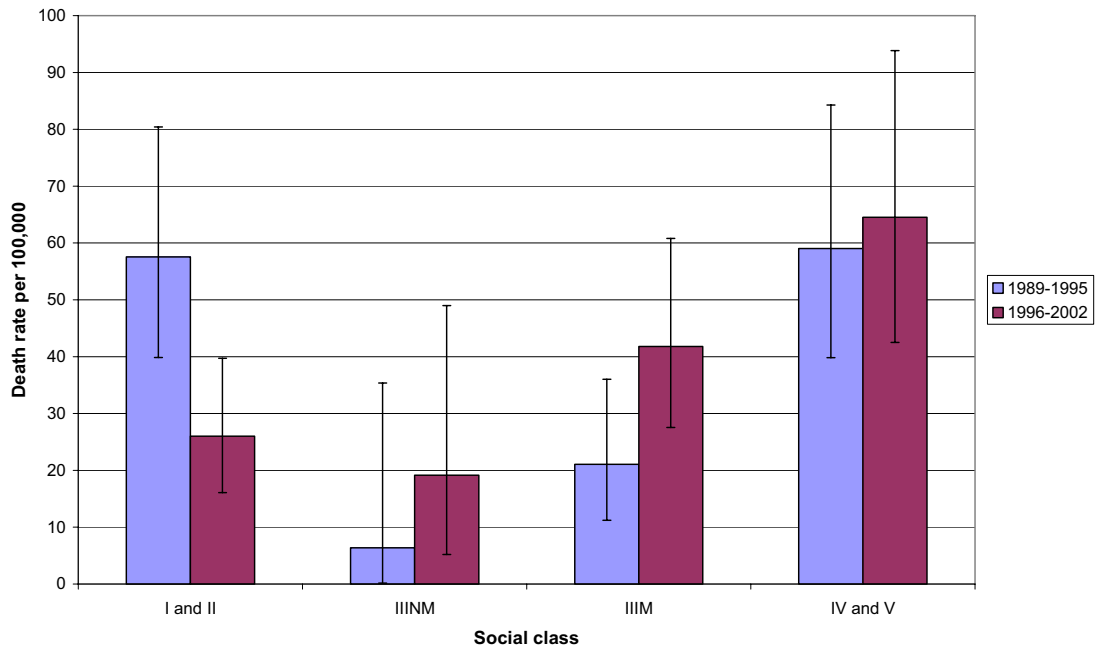
Male death rates by social class, Aberdeenshire, 1989-2002



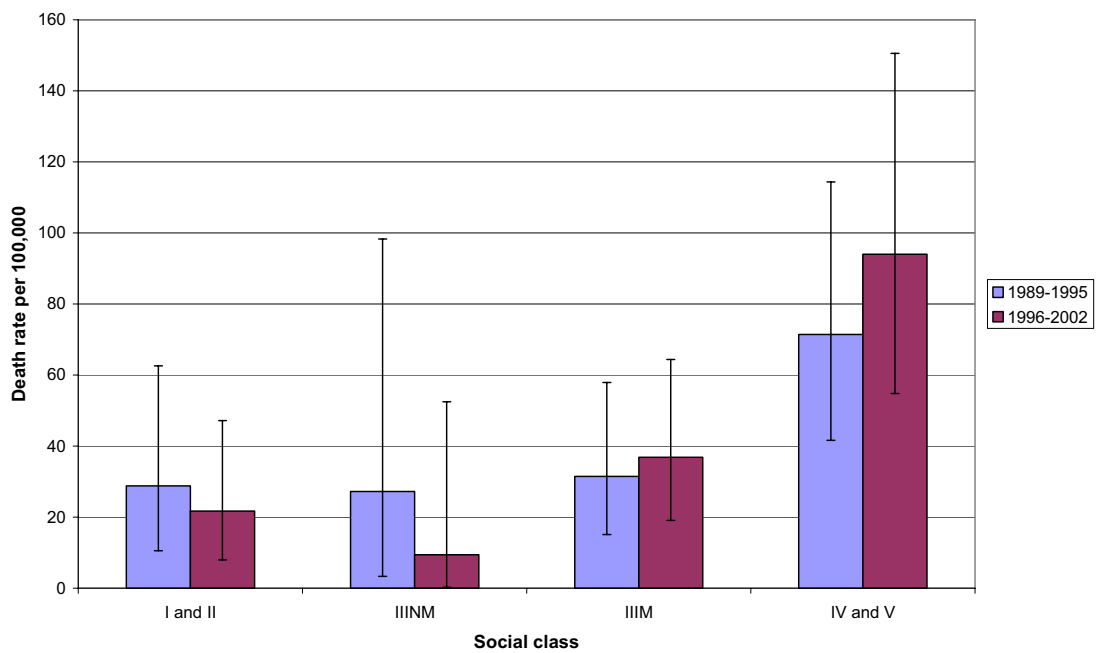
Male death rates by social class, Angus, 1989-2002



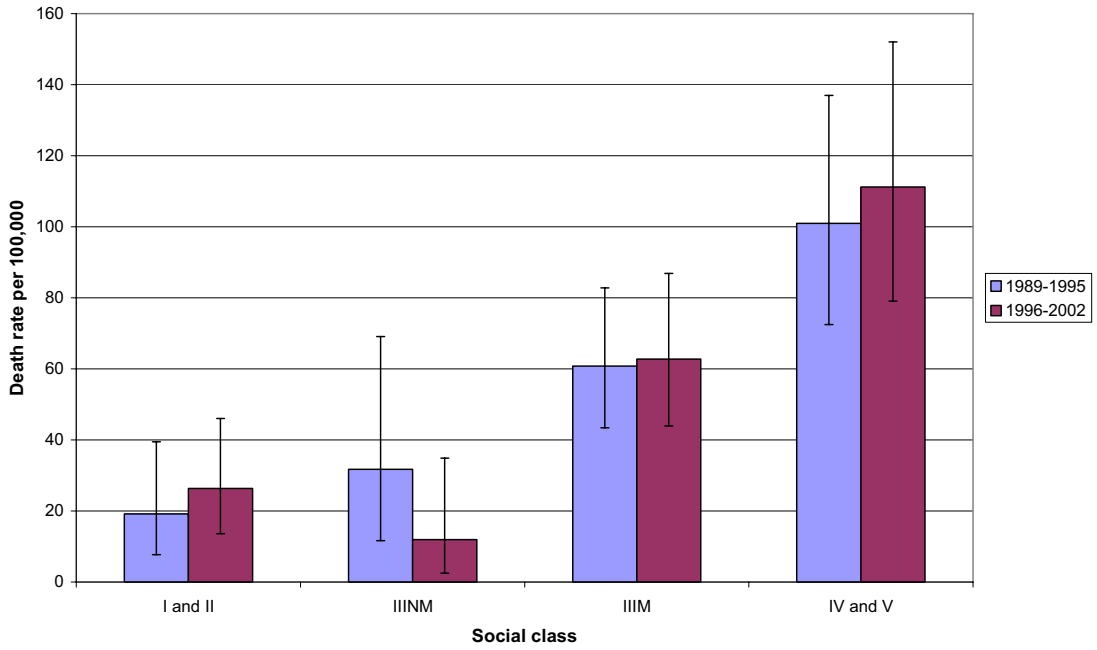
Male death rates by social class, Argyll & Bute, 1989-2002



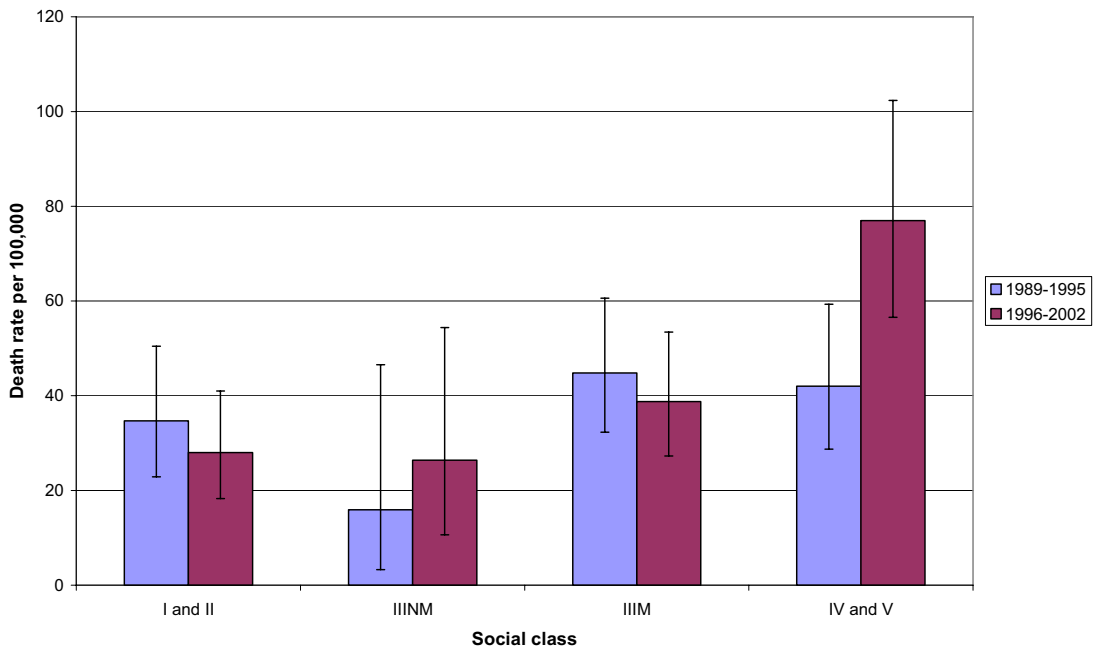
Male death rates by social class, Scottish Borders, 1989-2002



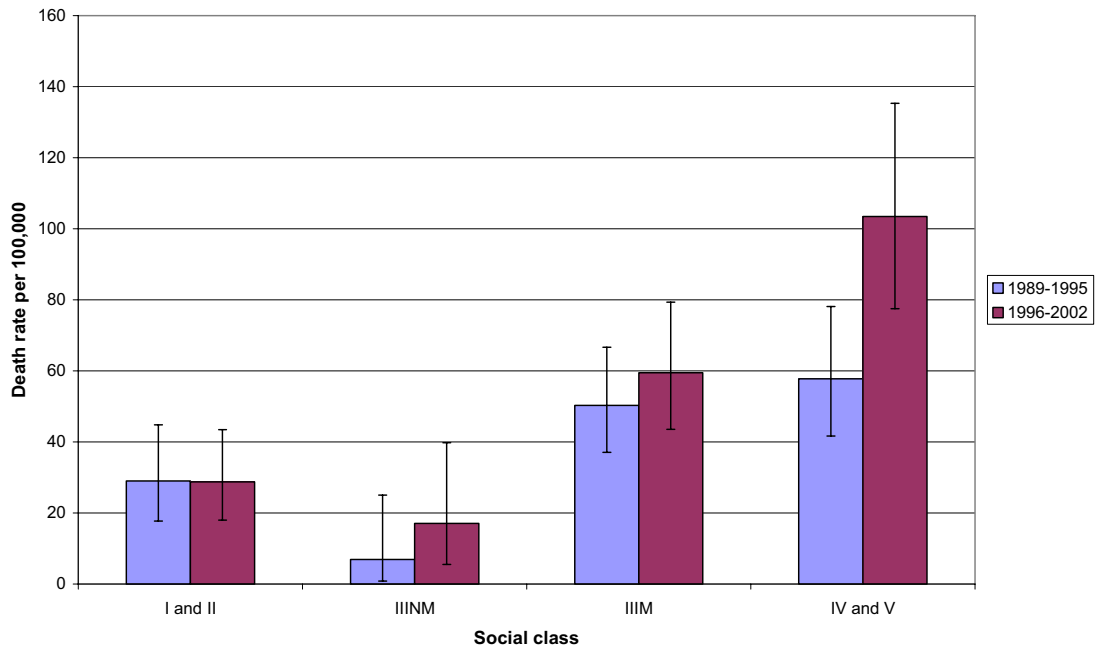
Male death rates by social class, Clackmannanshire, 1989-2002



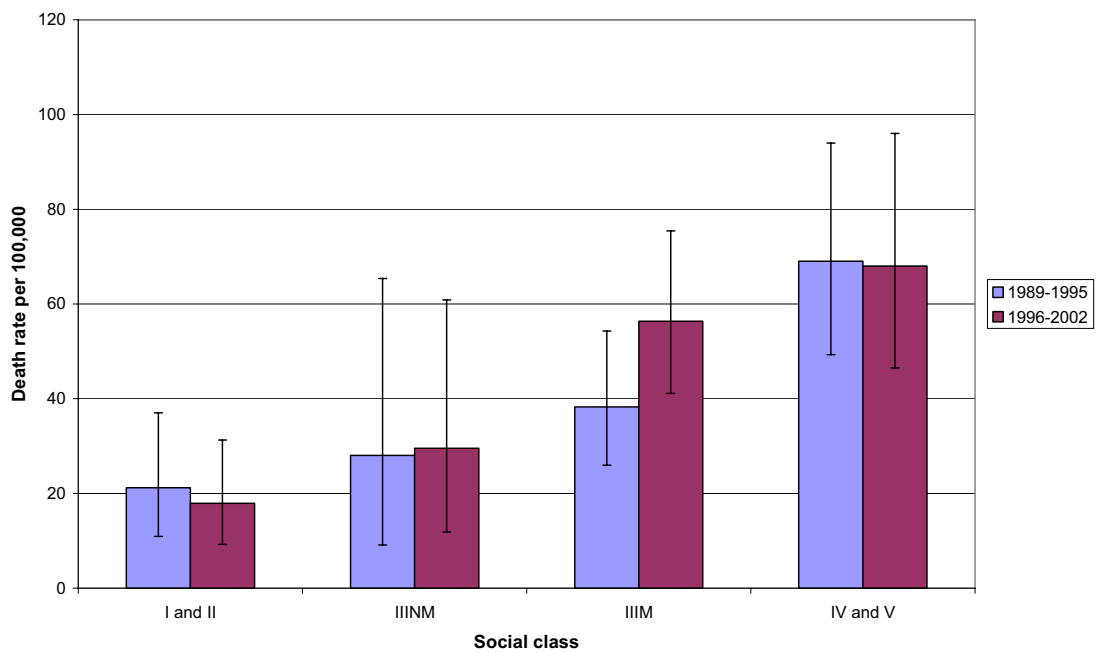
Male death rates by social class, West Dunbartonshire, 1989-2002



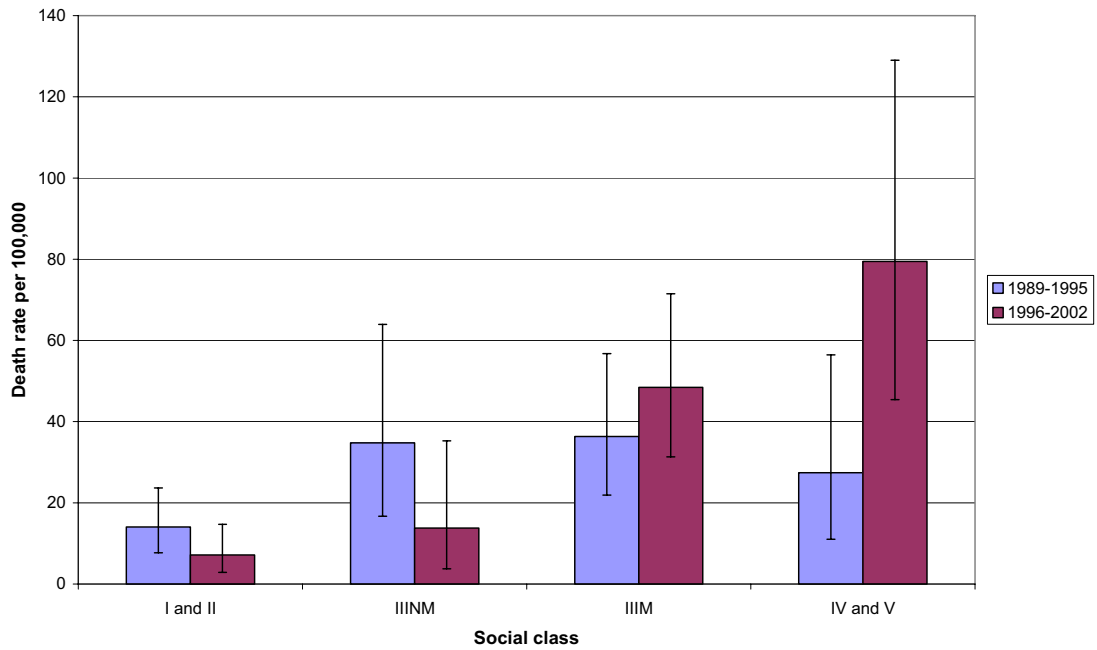
Male death rates by social class, Dumfries & Galloway, 1989-2002



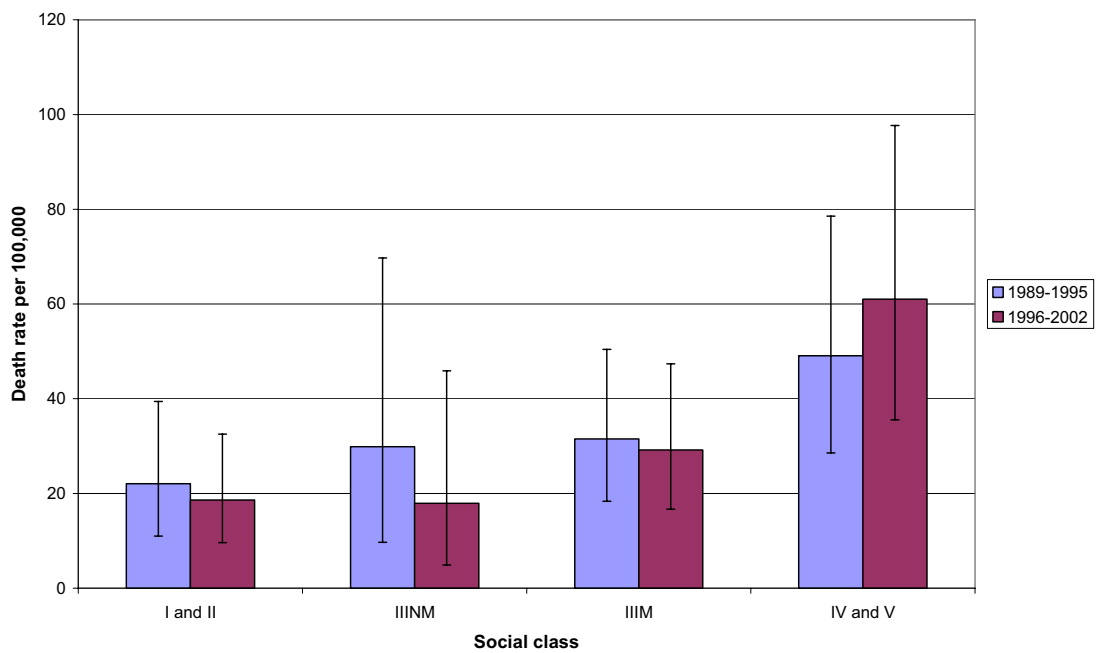
Male death rates by social class, Dundee City, 1989-2002



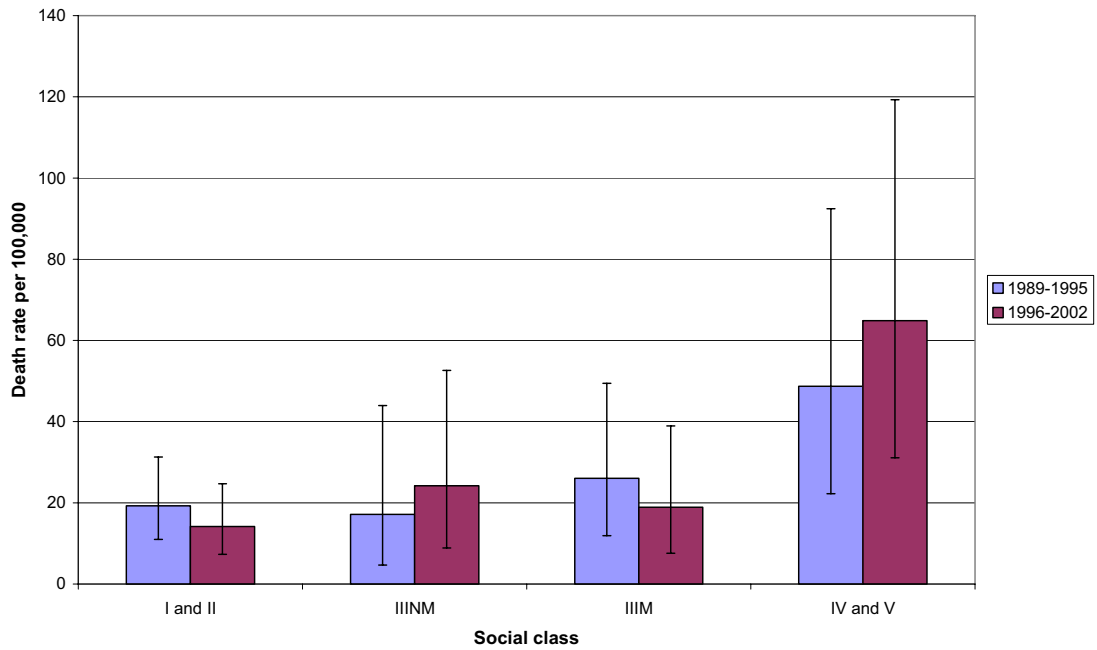
Male death rates by social class, East Ayrshire, 1989-2002



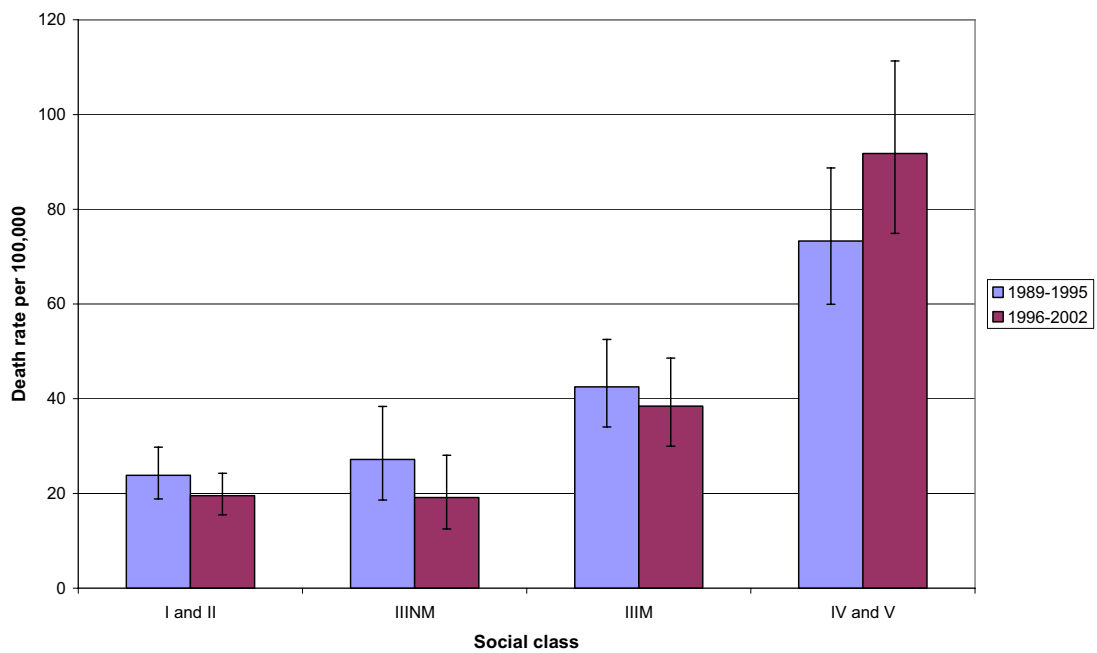
Male death rates by social class, East Dunbartonshire, 1989-2002



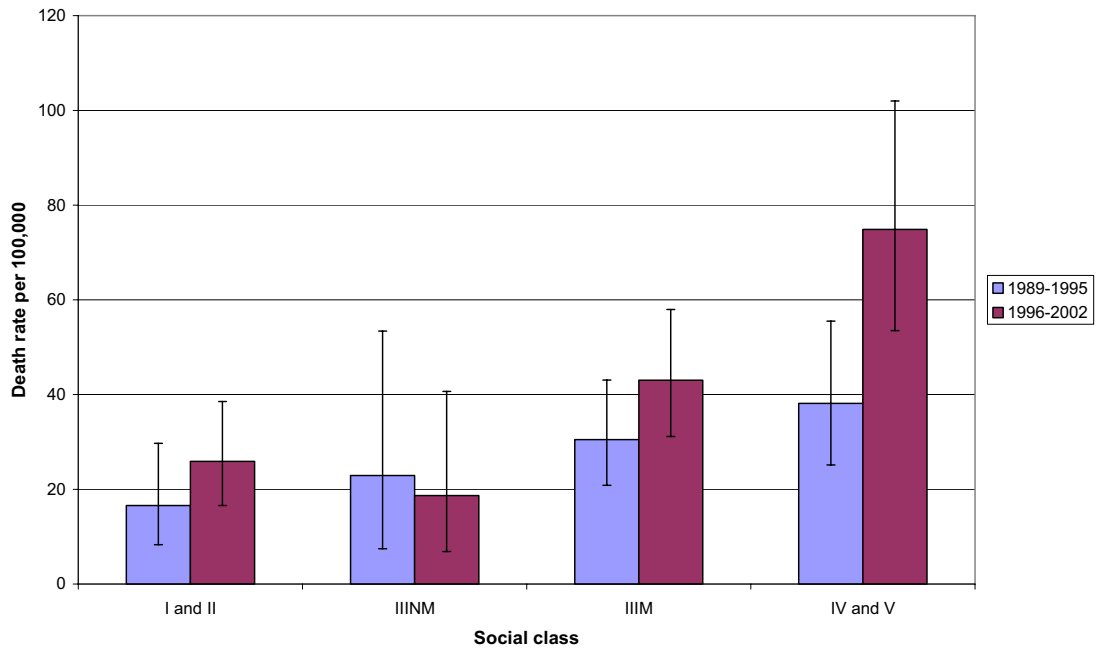
Male death rates by social class, East Lothian, 1989-2002



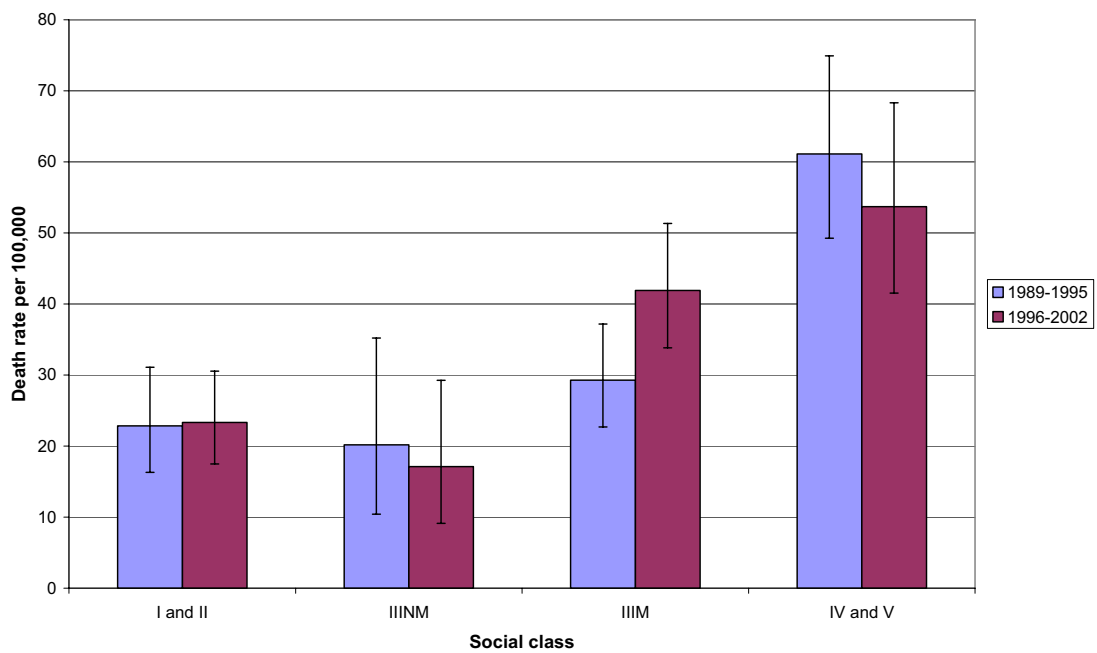
Male death rates by social class, East Renfrewshire, 1989-2002



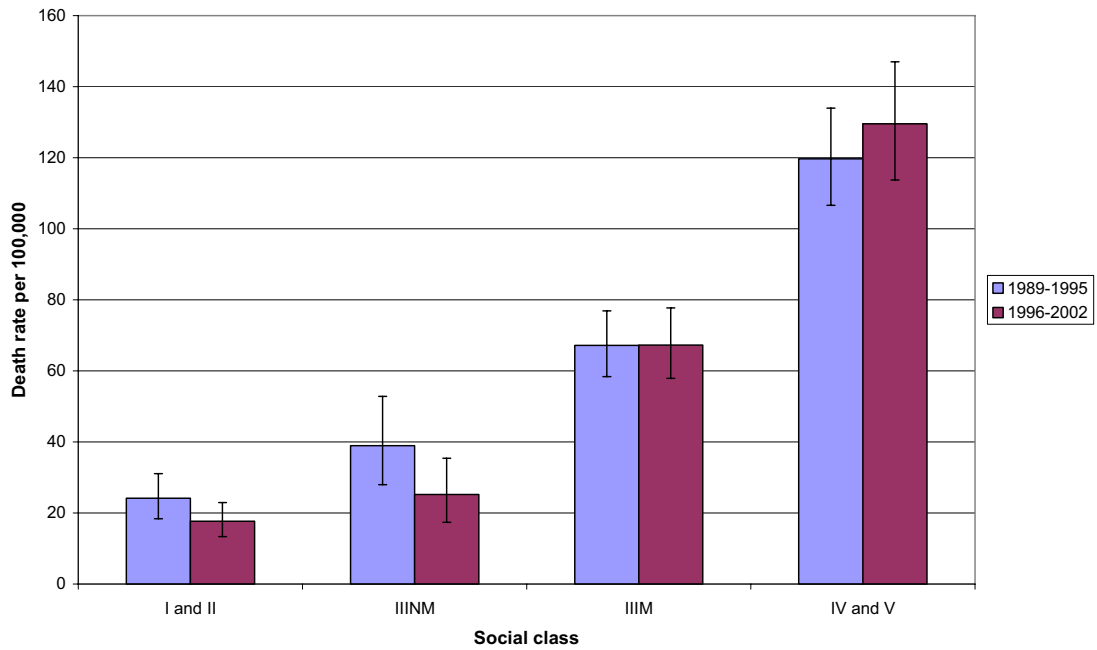
Male death rates by social class, Edinburgh City, 1989-2002



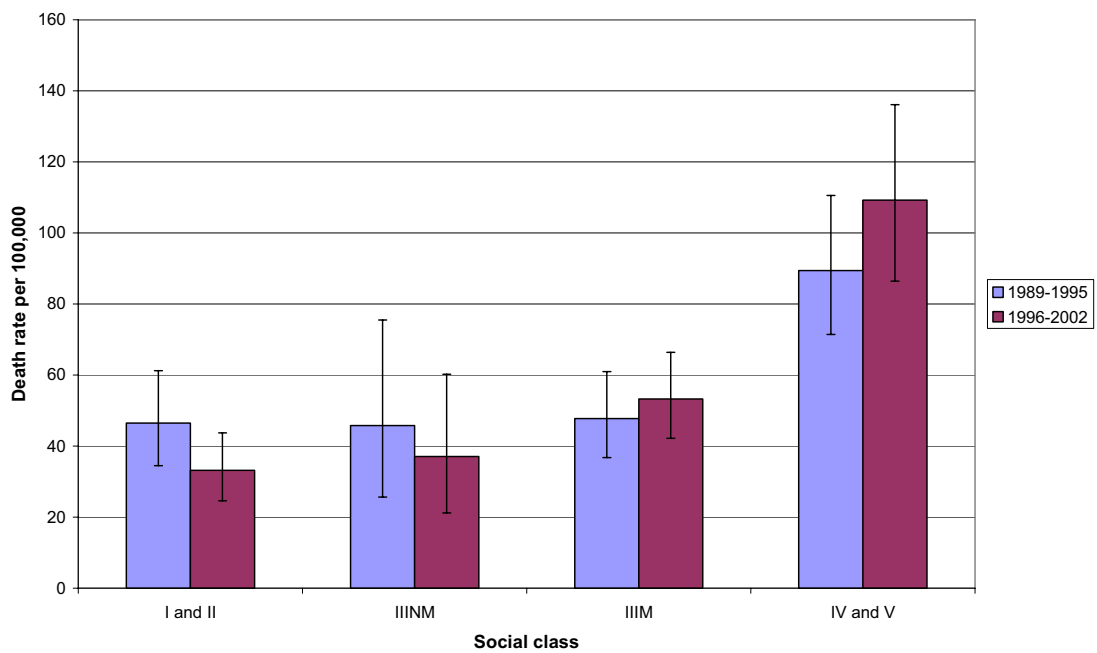
Male death rates by social class, Falkirk, 1989-2002



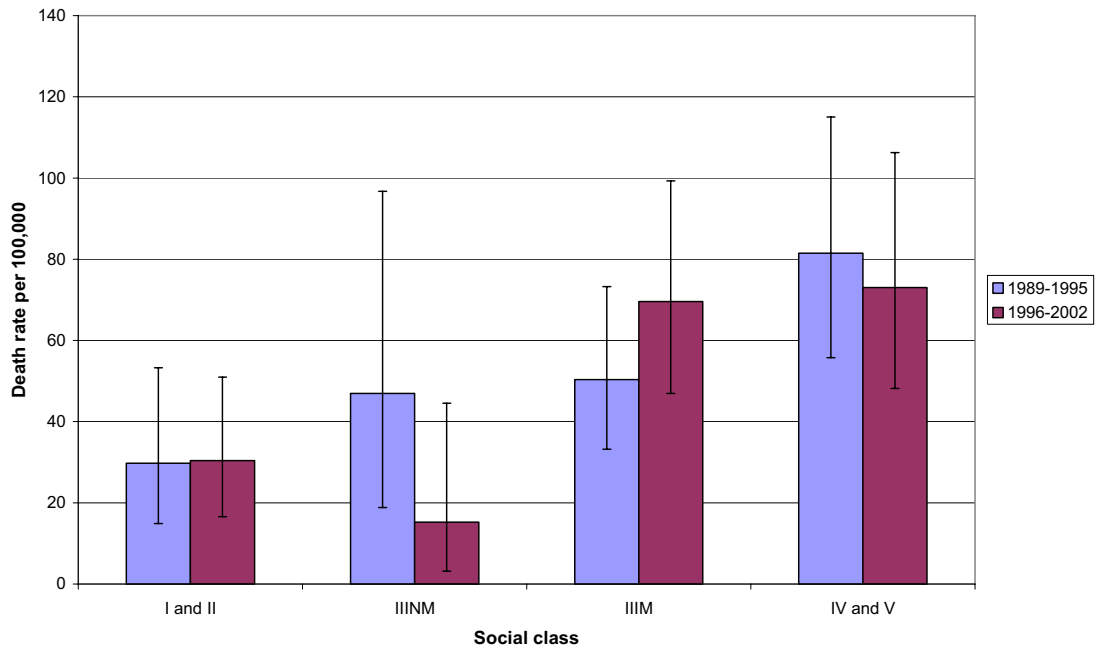
Male death rates by social class, Fife, 1989-2002



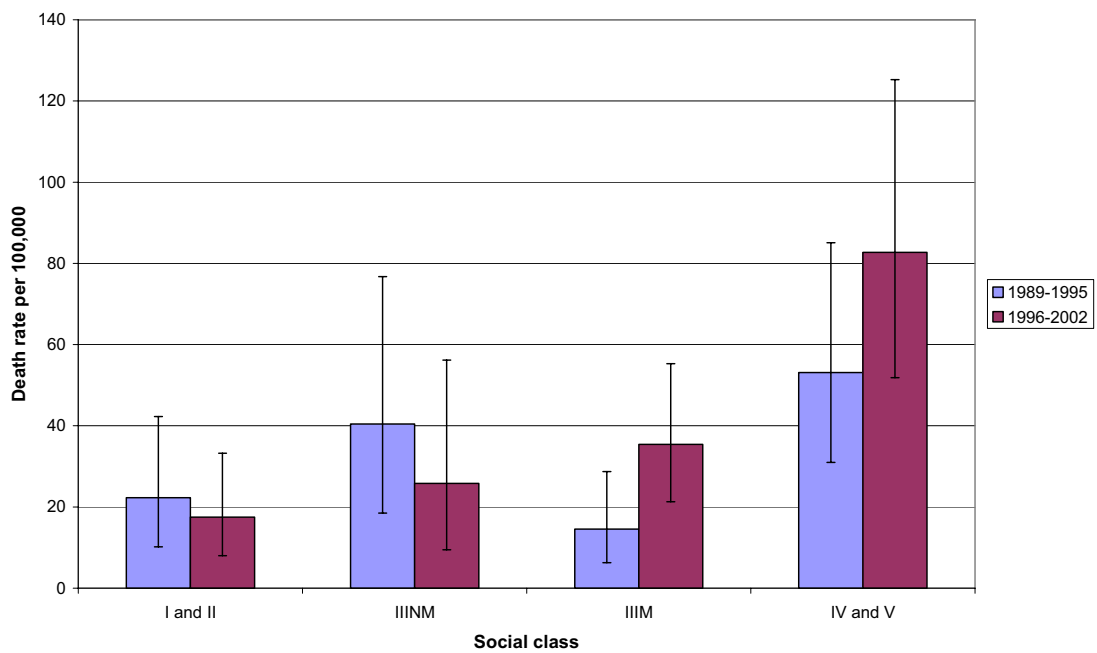
Male death rates by social class, Glasgow City, 1989-2002



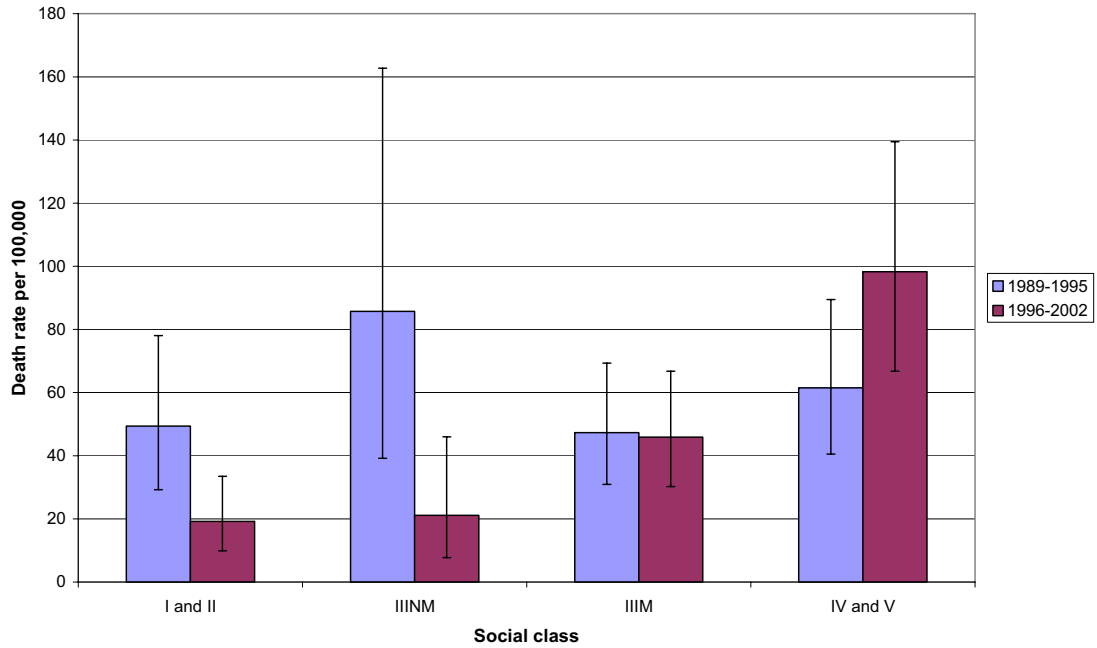
Male death rates by social class, Highland, 1989-2002



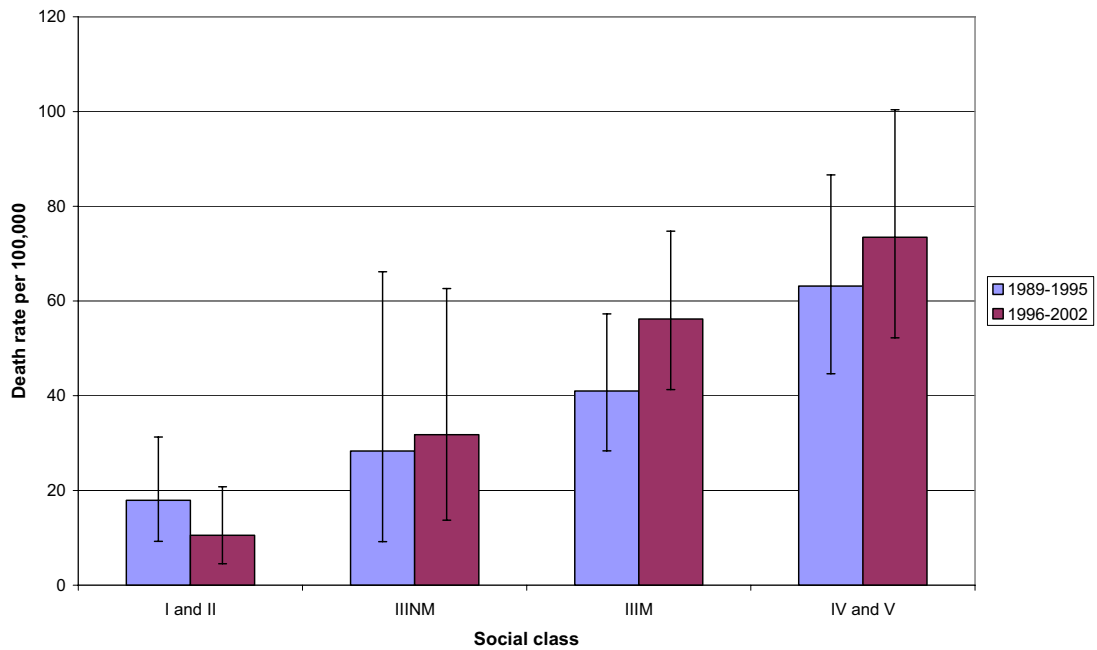
Male death rates by social class, Inverclyde, 1989-2002



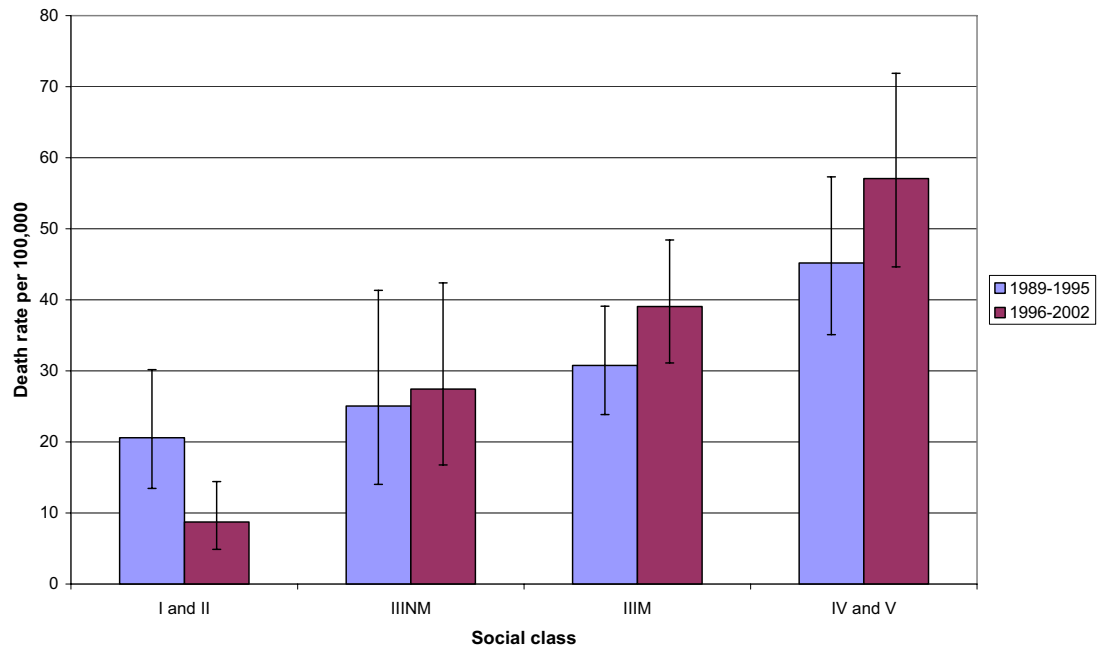
Male death rates by social class, Midlothian, 1989-2002



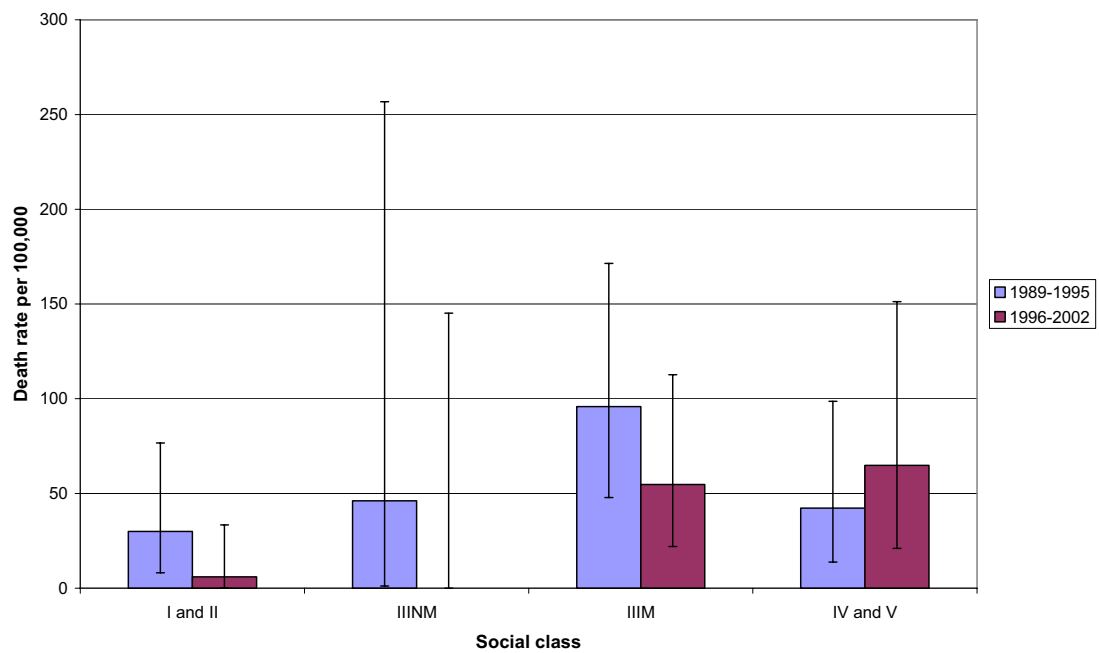
Male death rates by social class, Moray, 1989-2002



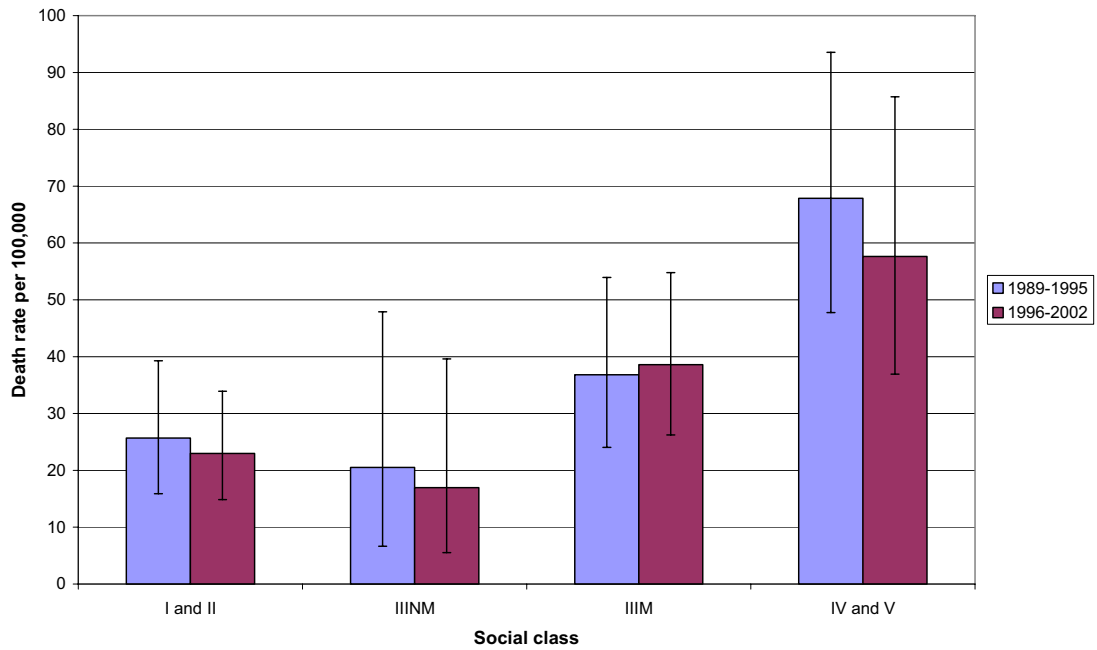
Male death rates by social class, North Ayrshire, 1989-2002



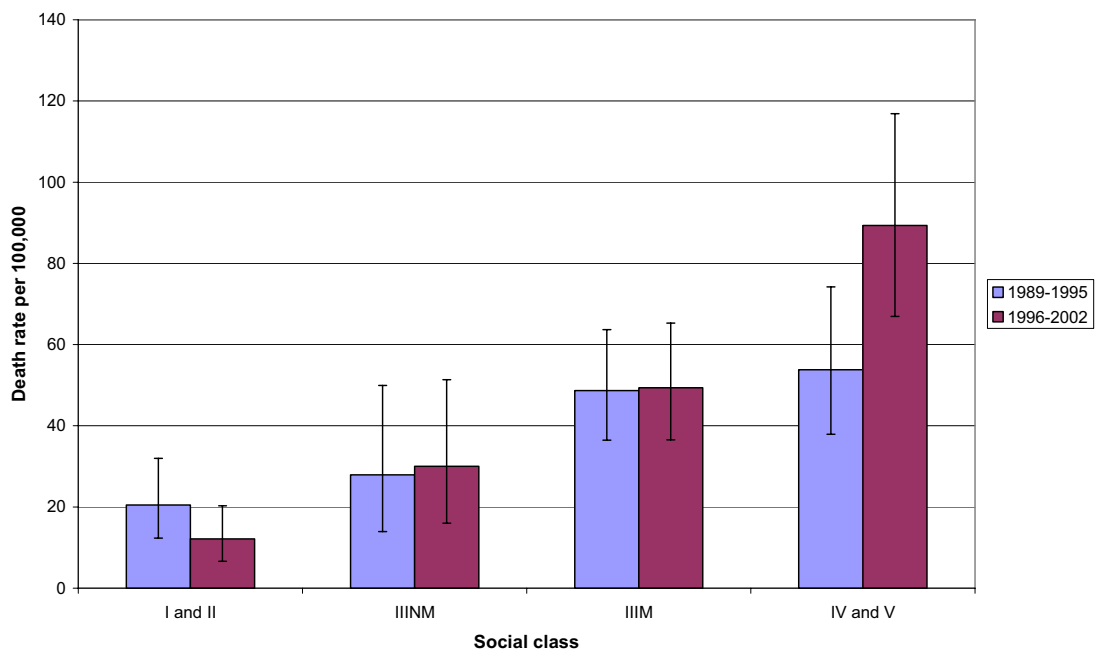
Male death rates by social class, North Lanarkshire, 1989-2002



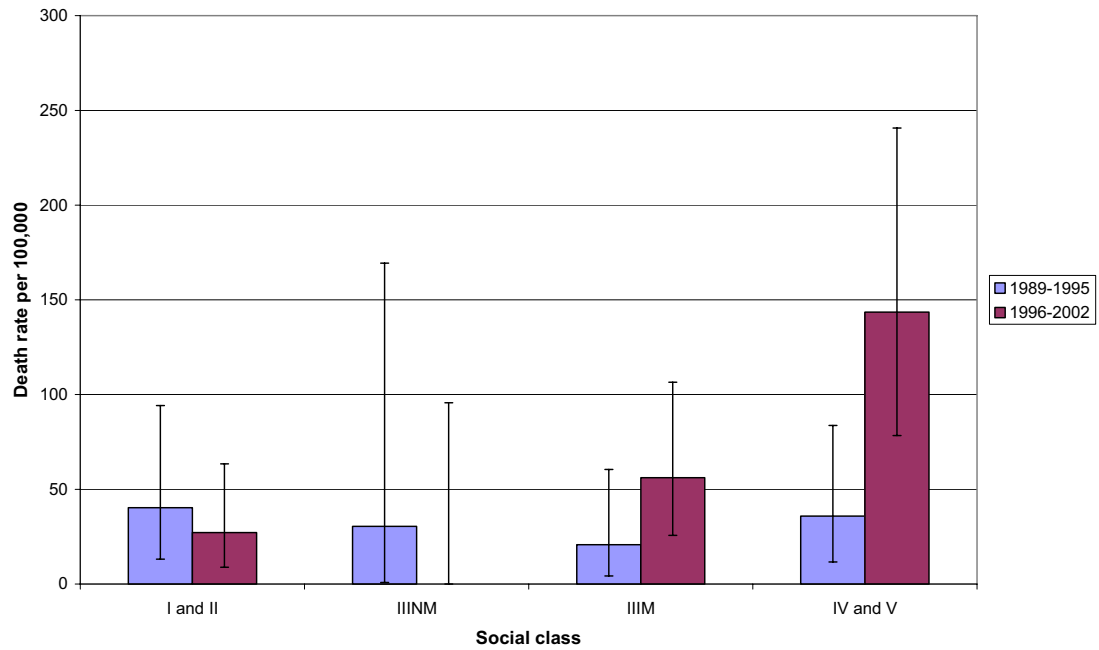
Male death rates by social class, Orkney Islands, 1989-2002



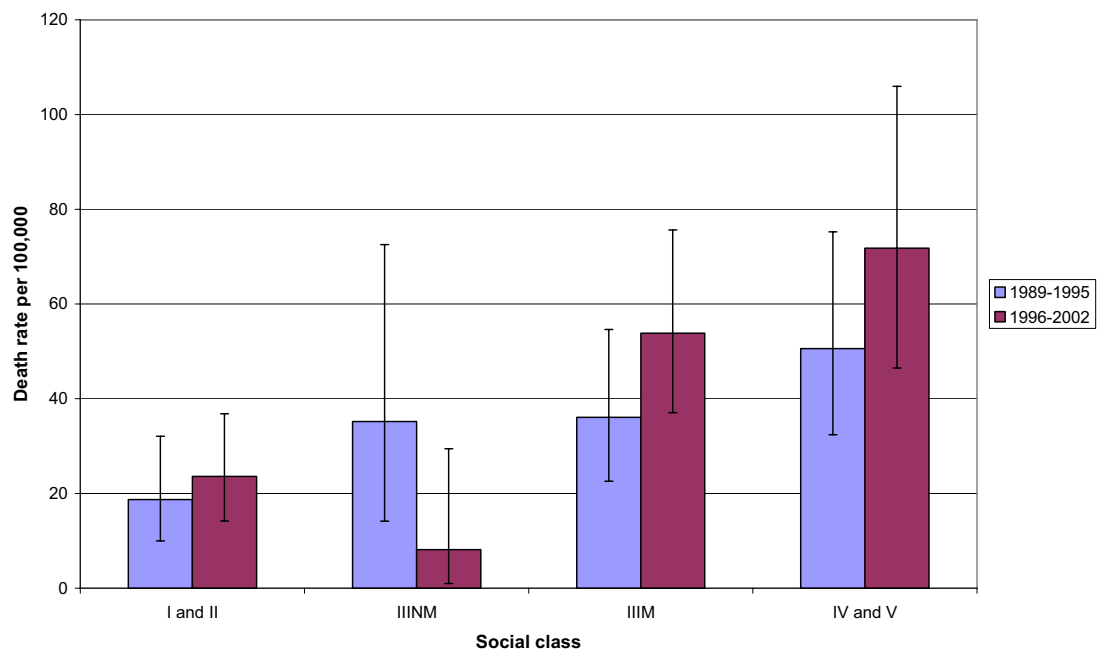
Male death rates by social class, Perth & Kinross, 1989-2002



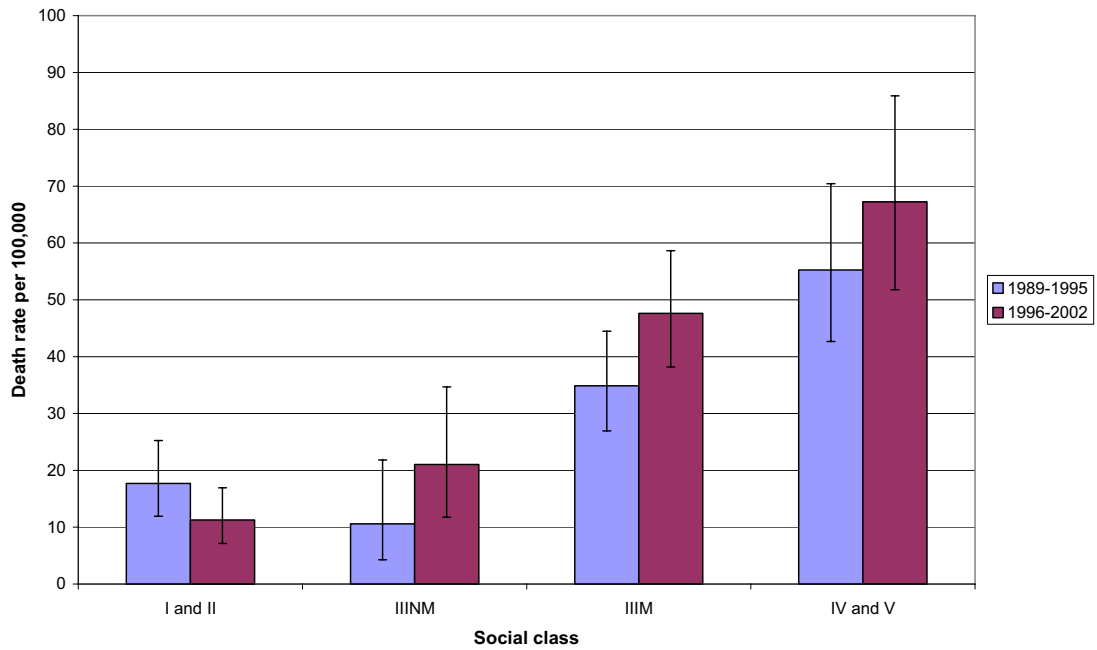
Male death rates by social class, Renfrewshire, 1989-2002



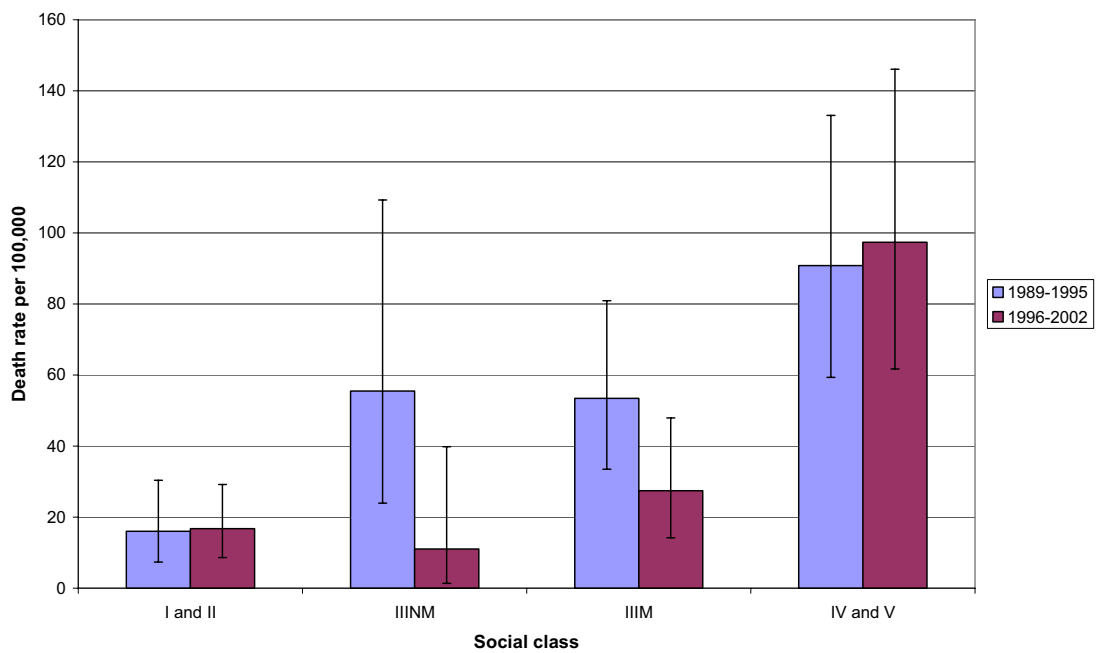
Male death rates by social class, Shetland Islands, 1989-2002



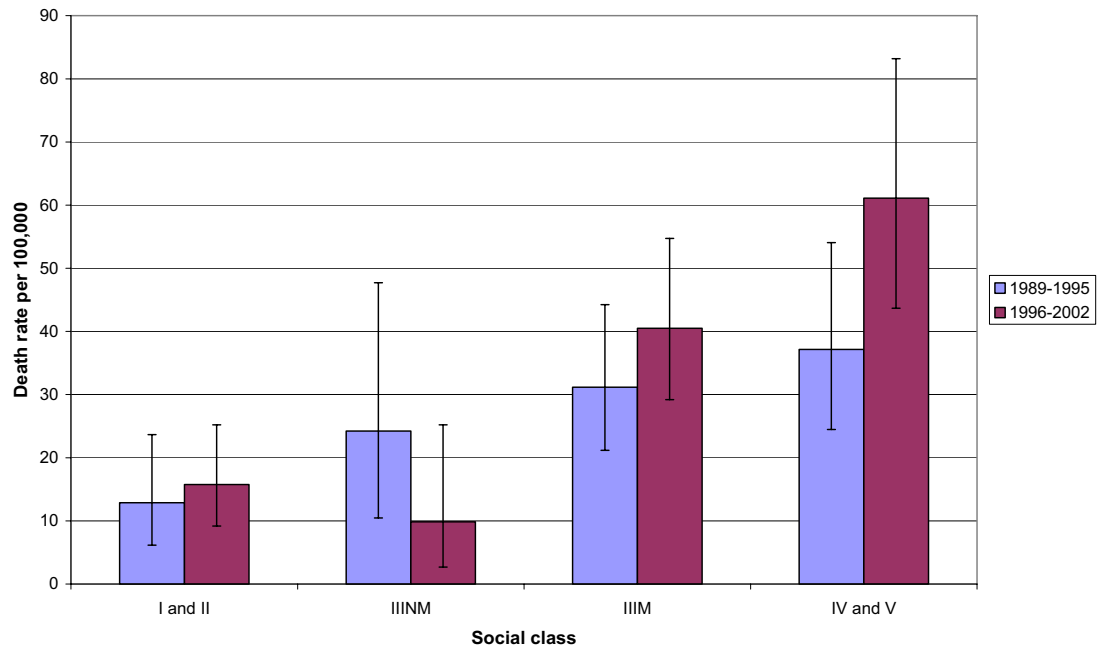
Male death rates by social class, South Ayrshire, 1989-2002



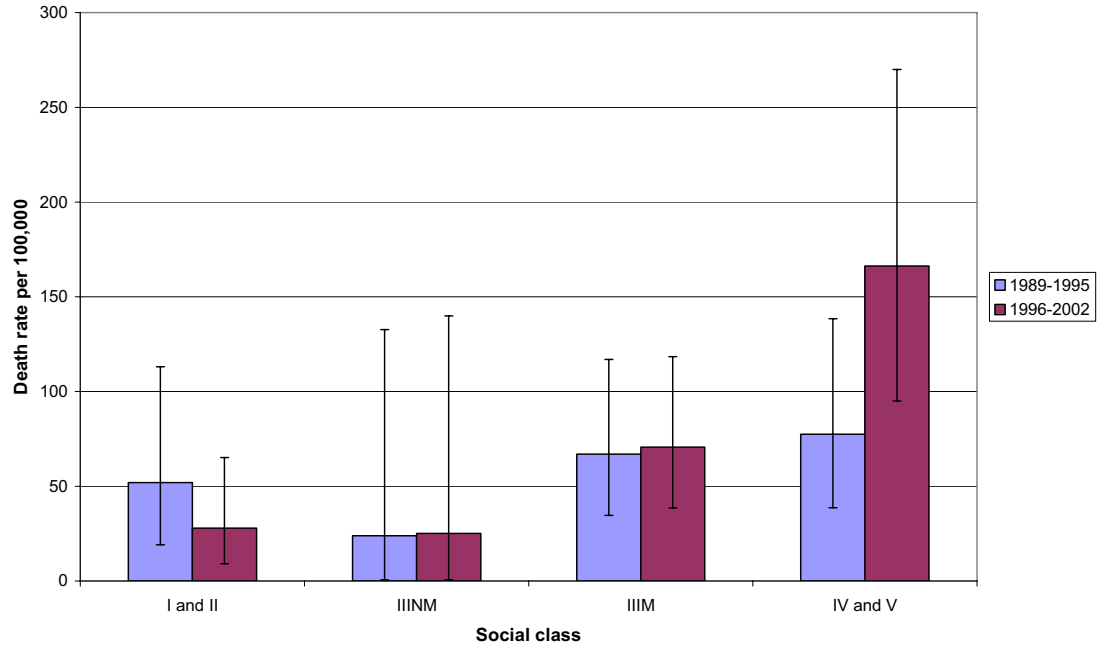
Male death rates by social class, South Lanarkshire, 1989-2002



Male death rates by social class, Stirling, 1989-2002

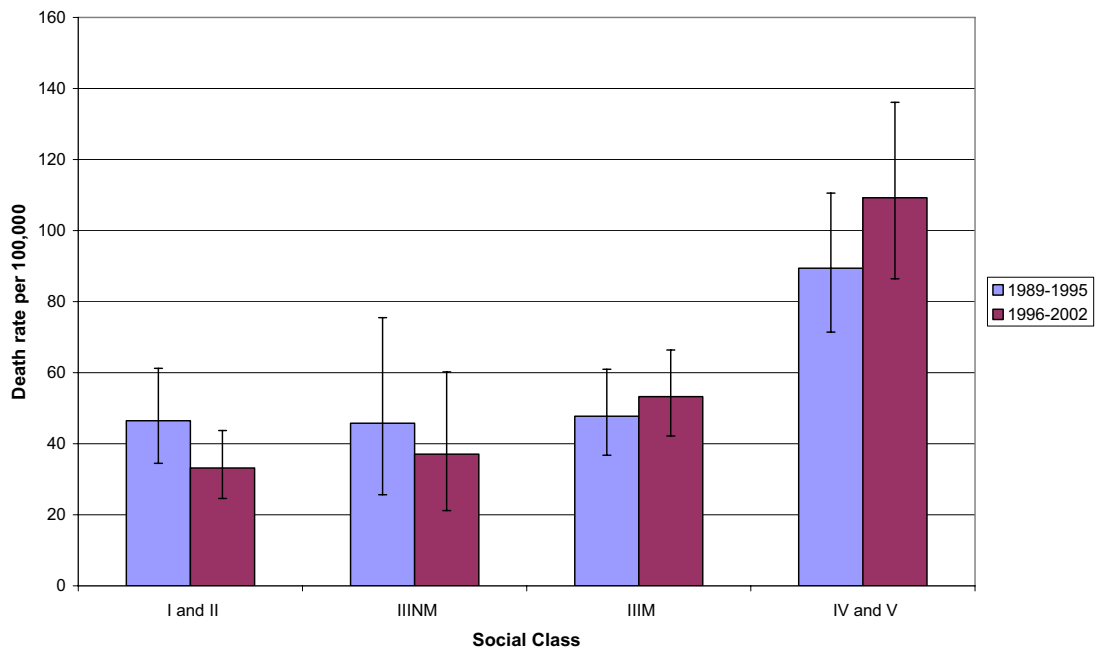


Male death rates by social class, West Lothian, 1989-2002

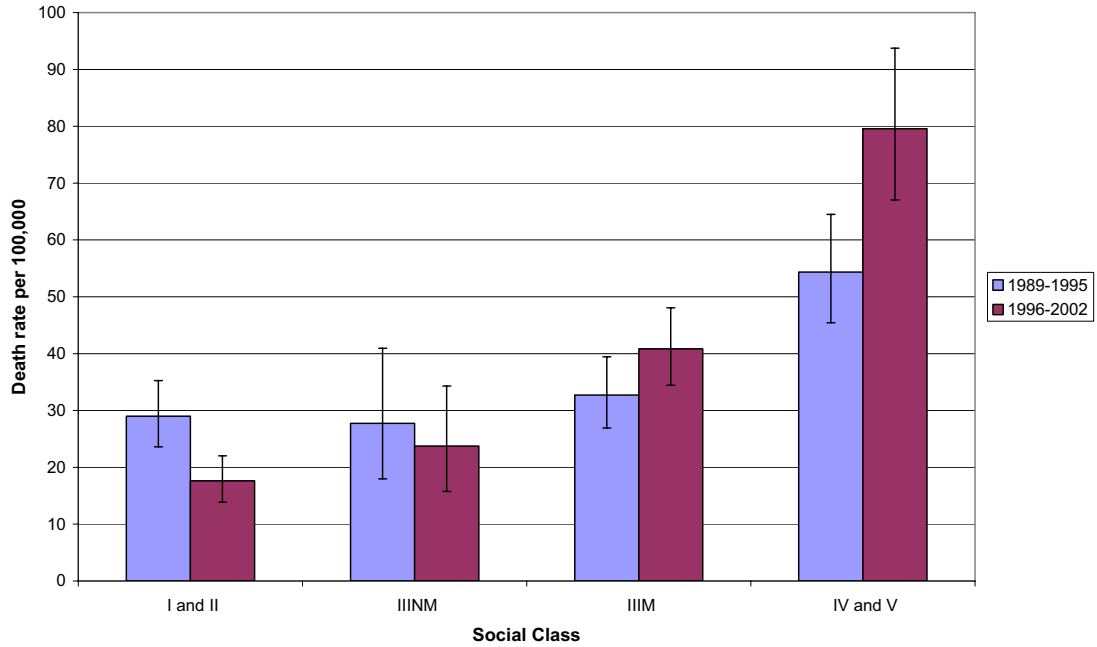


Death rates in males by social class, Eilean Siar, 1989-2002

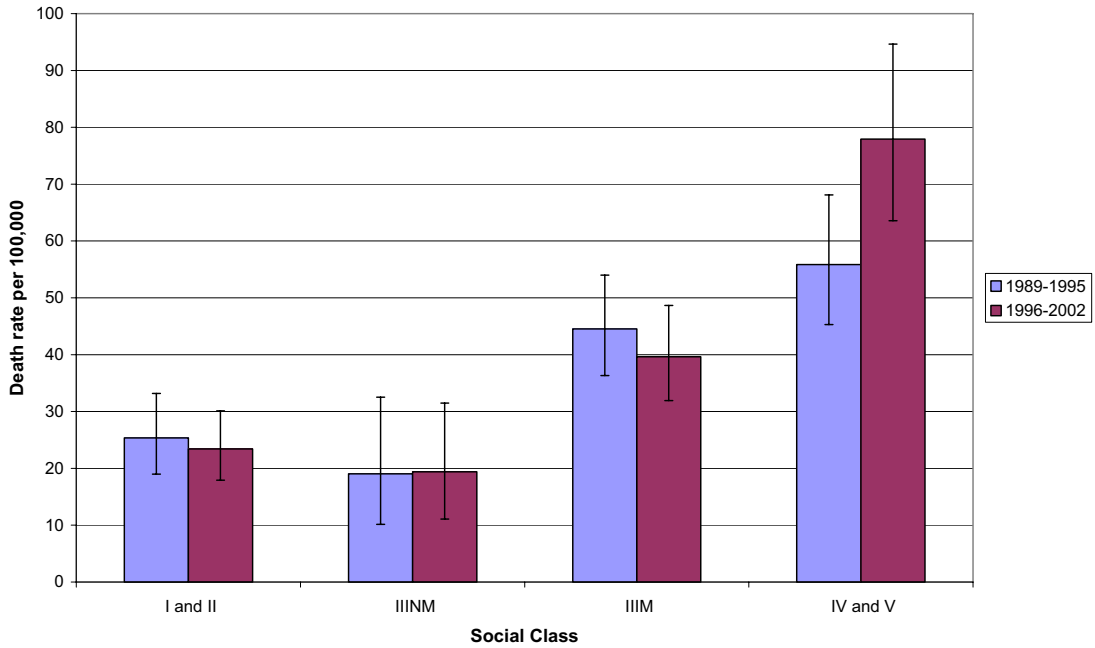
**Annex 4 Male suicide rates by social class, separately for each health board,
1989-1995 and 1996-2002**



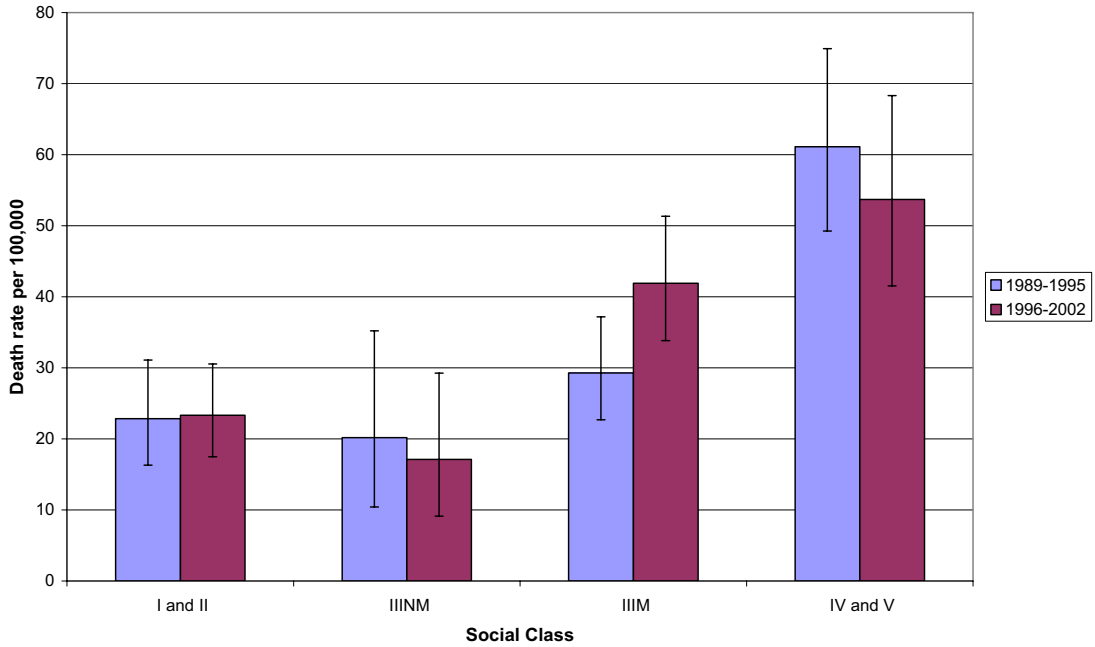
Death rate by social class in males in Highland, 1989-1995 and 1996-2002



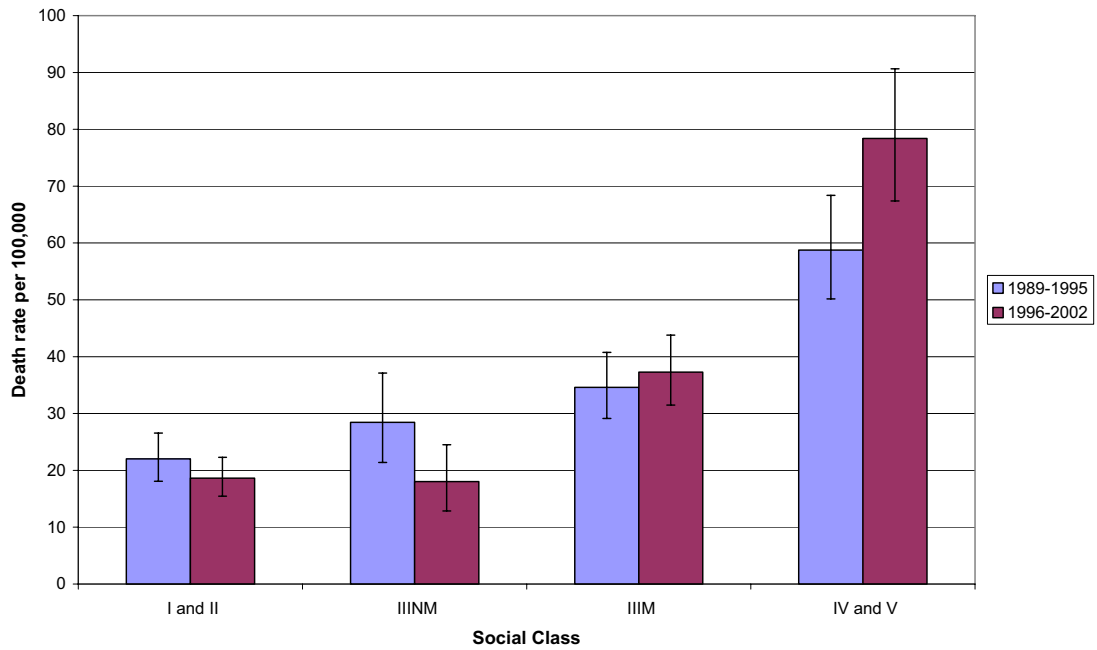
Death rate by social class in males in Grampian, 1989-1995 and 1996-2002



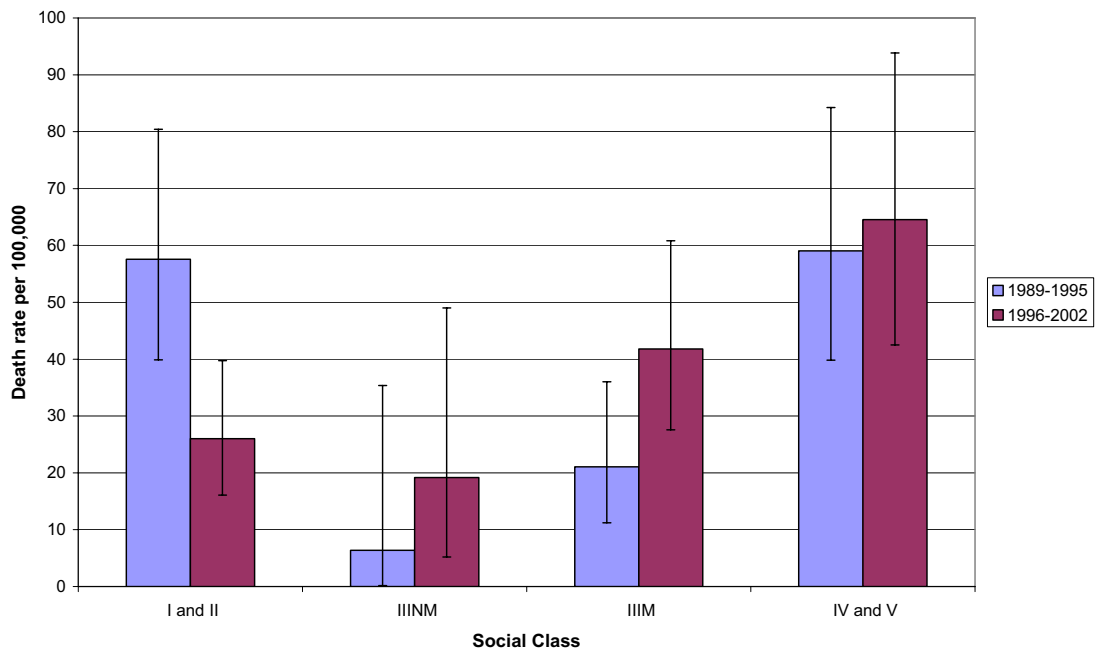
Death rate by social class in males in Tayside, 1989-1995 and 1996-2002



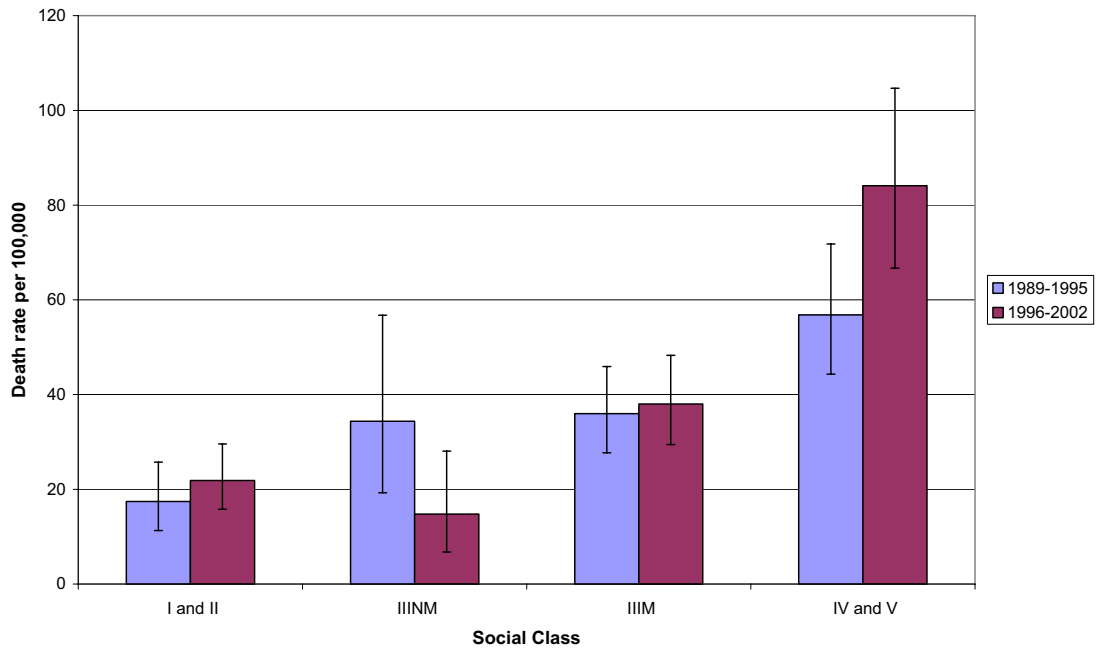
Death rate by social class in males in Fife, 1989-1995 and 1996-2002



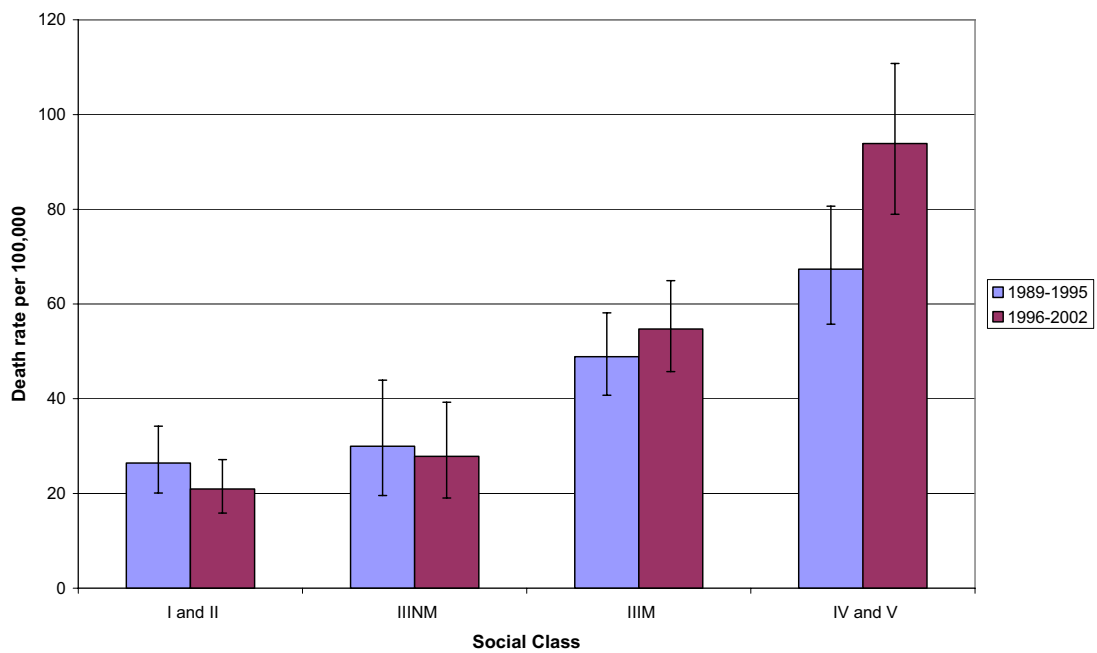
Death rate by social class in males in Lothian, 1989-1995 and 1996-2002



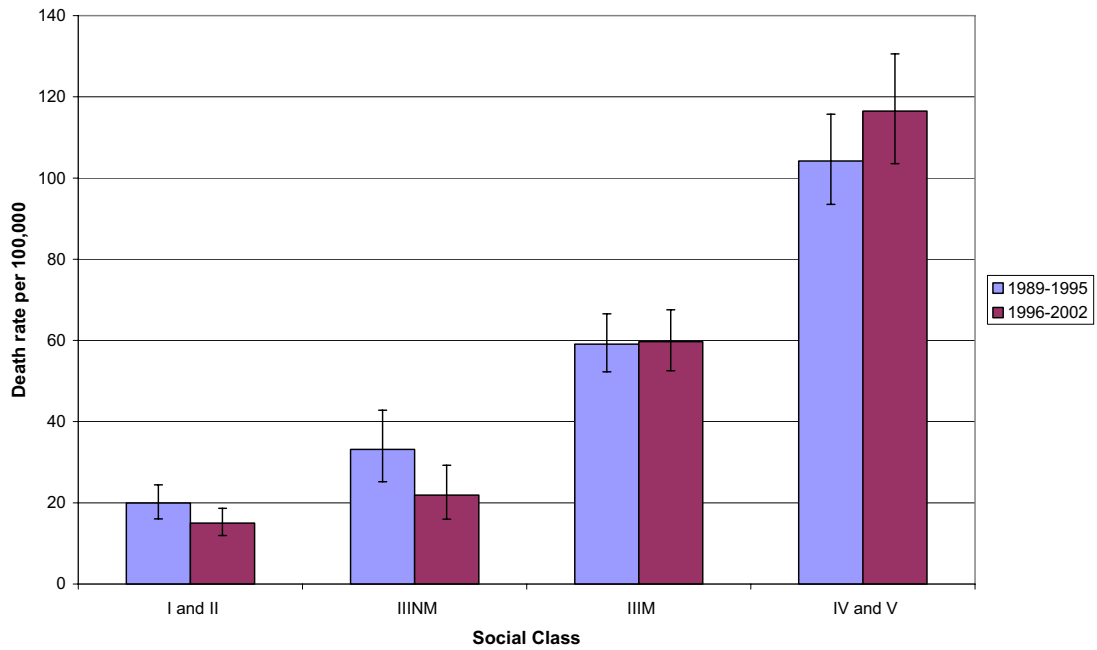
Death rate by social class in males in Borders, 1989-1995 and 1996-2002



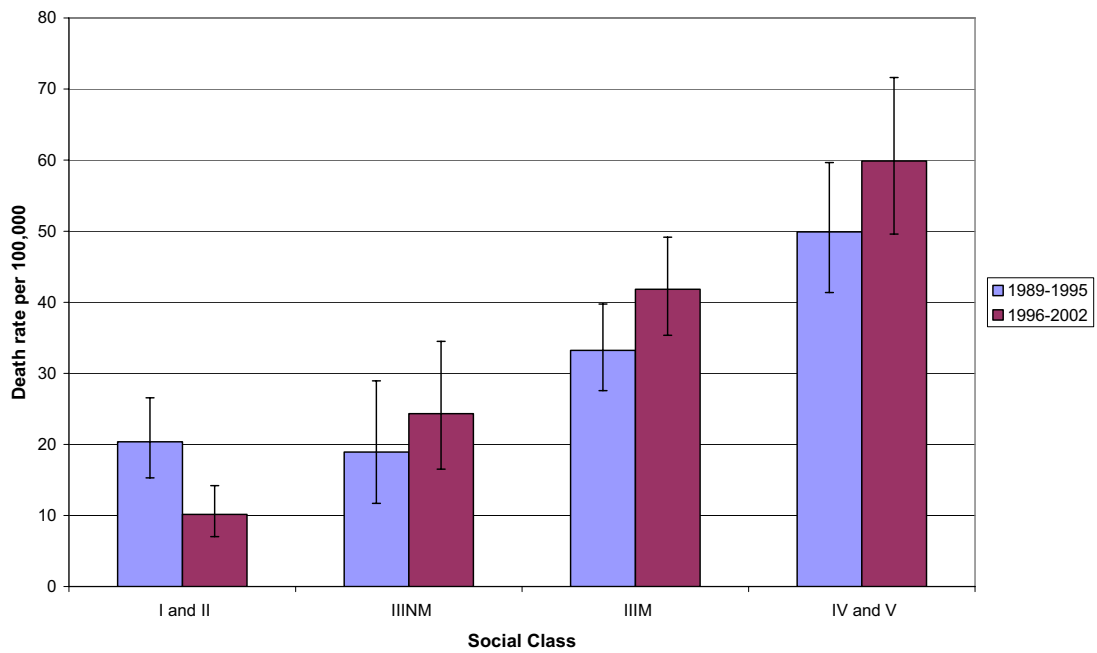
Death rate by social class in males in Forth Valley, 1989-1995 and 1996-2002



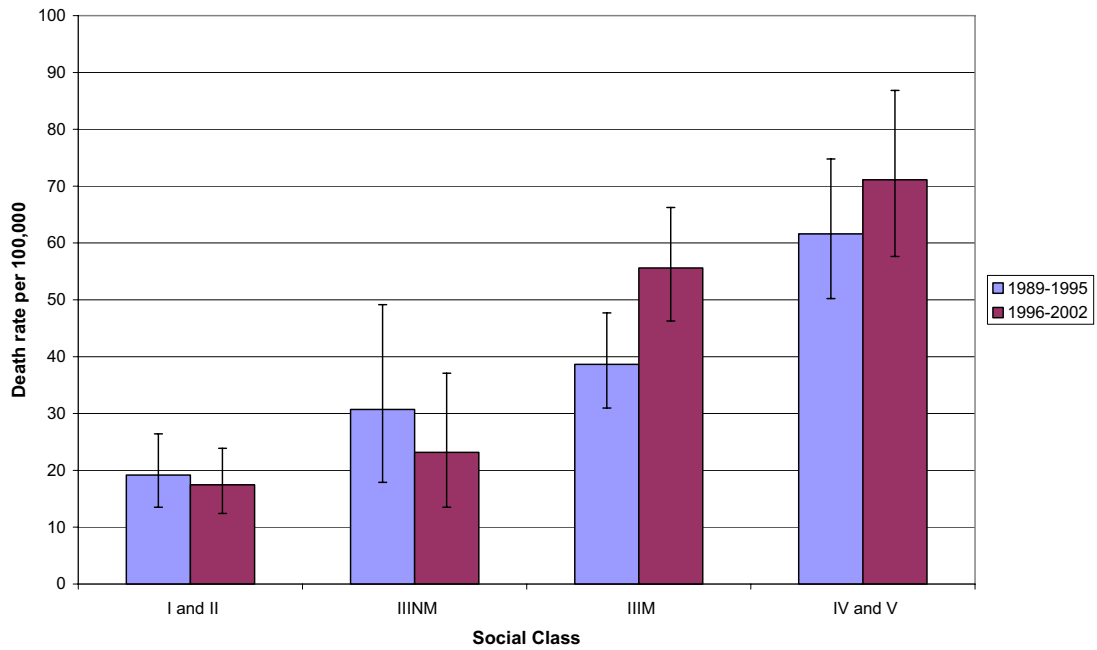
Death rate by social class in males in Argyll & Clyde, 1989-1995 and 1996-2002



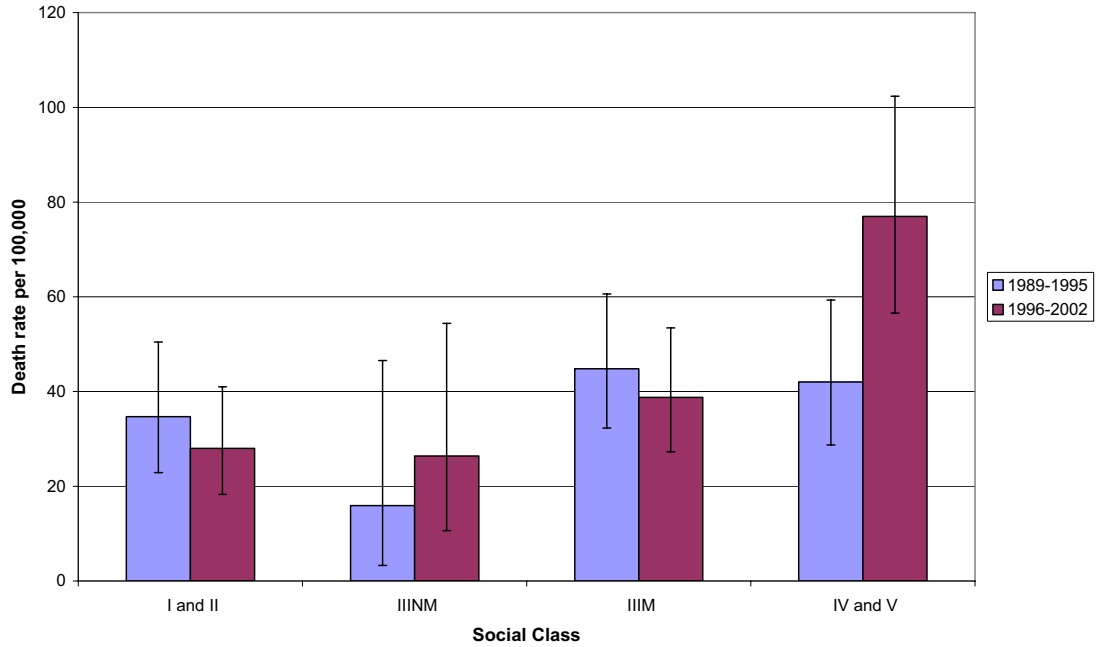
Death rate by social class in males in Greater Glasgow, 1989-1995 and 1996-2002



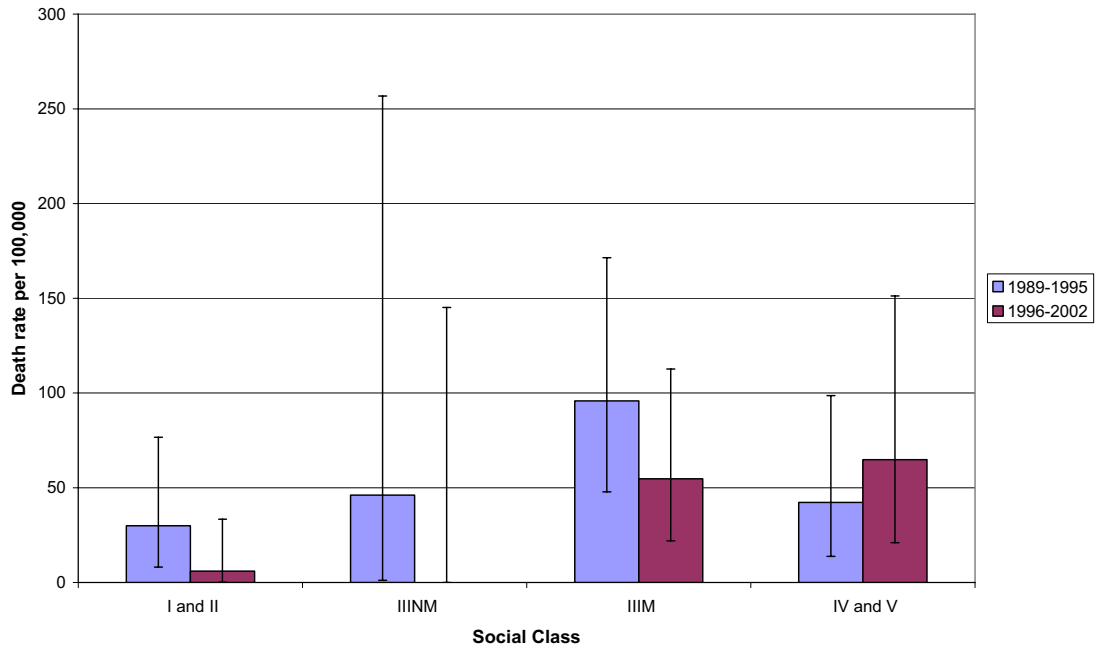
Death rate by social class in males in Lanarkshire, 1989-1995 and 1996-2002



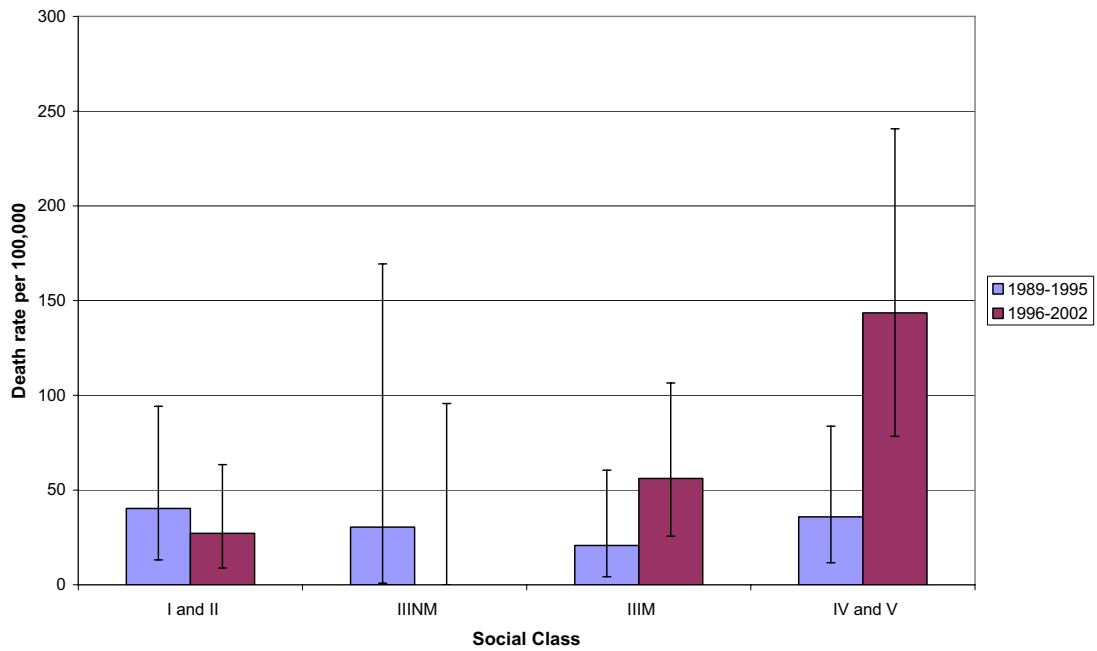
Death rate by social class in males in Ayrshire and Arran, 1989-1995 and 1996-2002



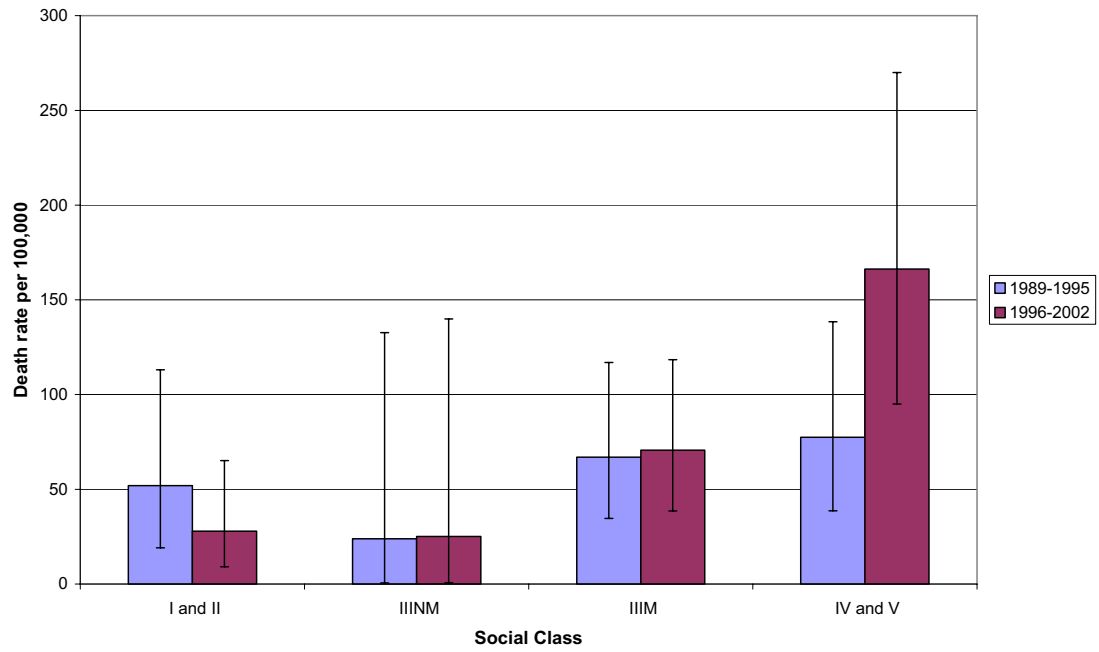
Death rate by social class in males in Dumfries and Galloway, 1989-1995 and 1996-2002



Death rate by social class in males in Orkney, 1989-1995 and 1996-2002

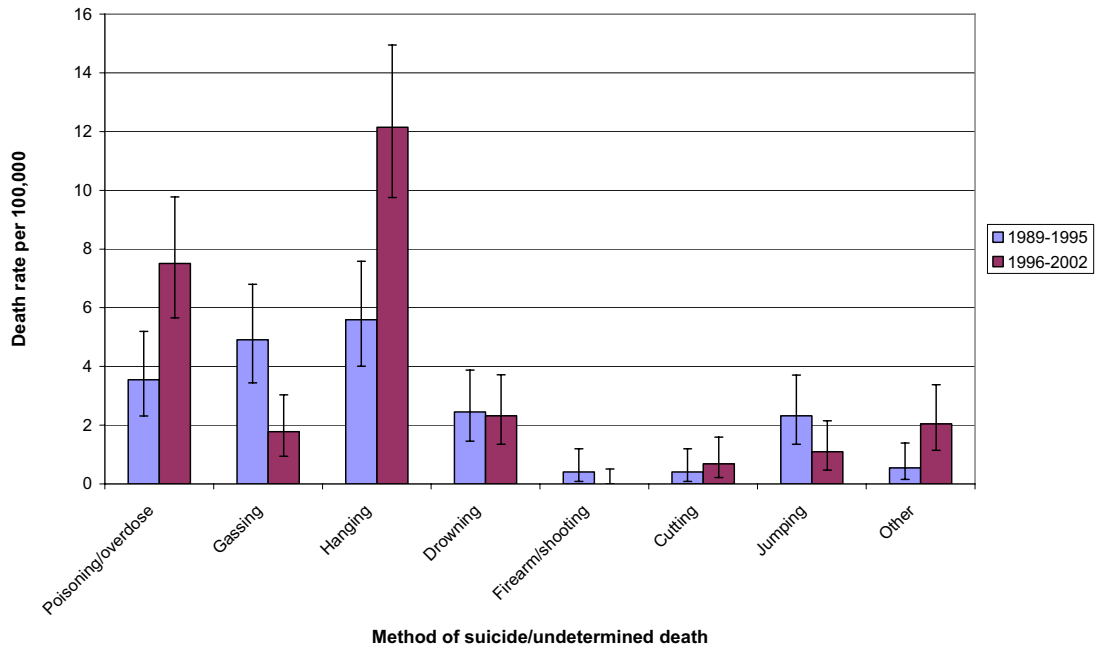


Death rate by social class in males in Shetland, 1989-1995 and 1996-2002

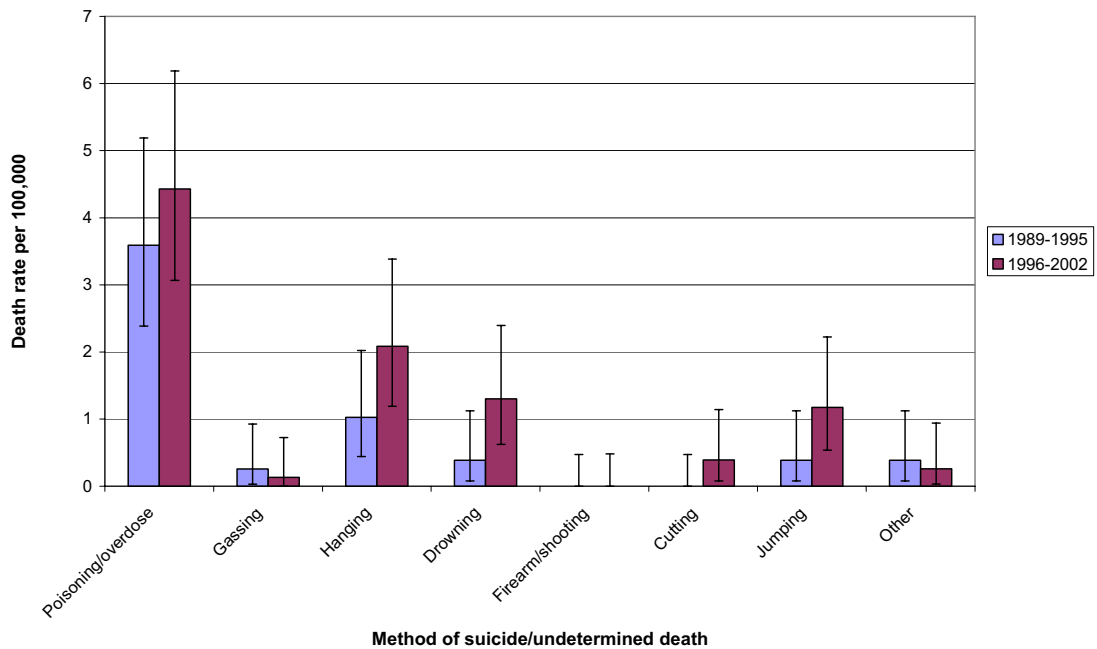


Death rate by social class in males in Western Isles, 1989-1995 and 1996-2002

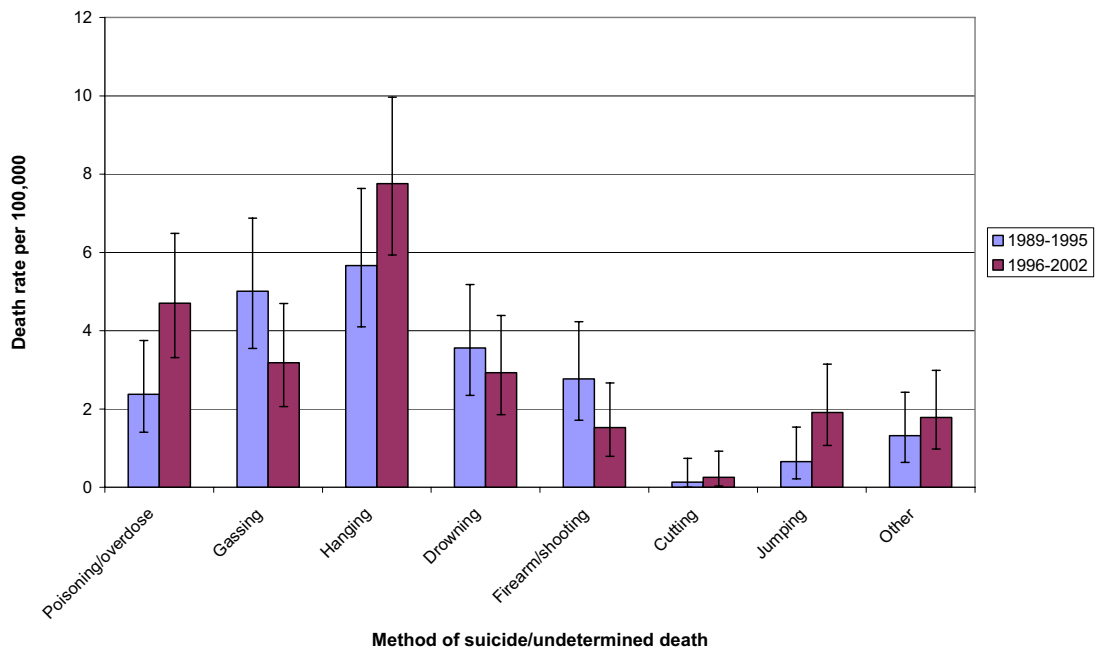
Annex 5 Suicide rates by method of suicide, by sex, separately for each local authority, 1989-1995 and 1996-2002



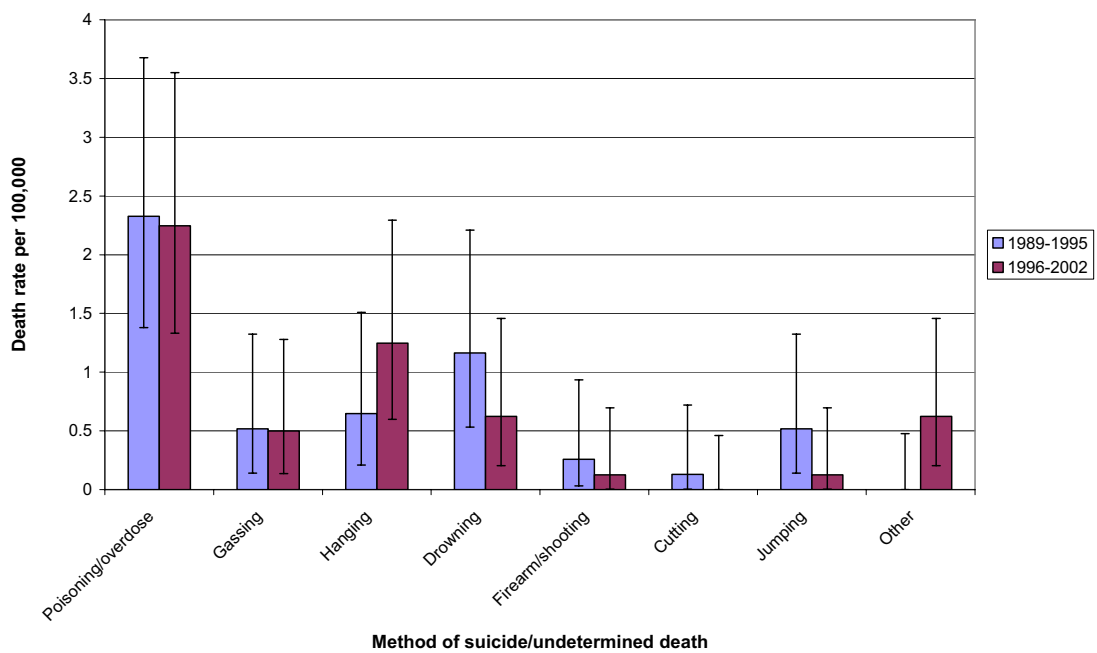
Death rate by method of suicide and undetermined death, Aberdeen City, 1989-1995 and 1996-2002, males



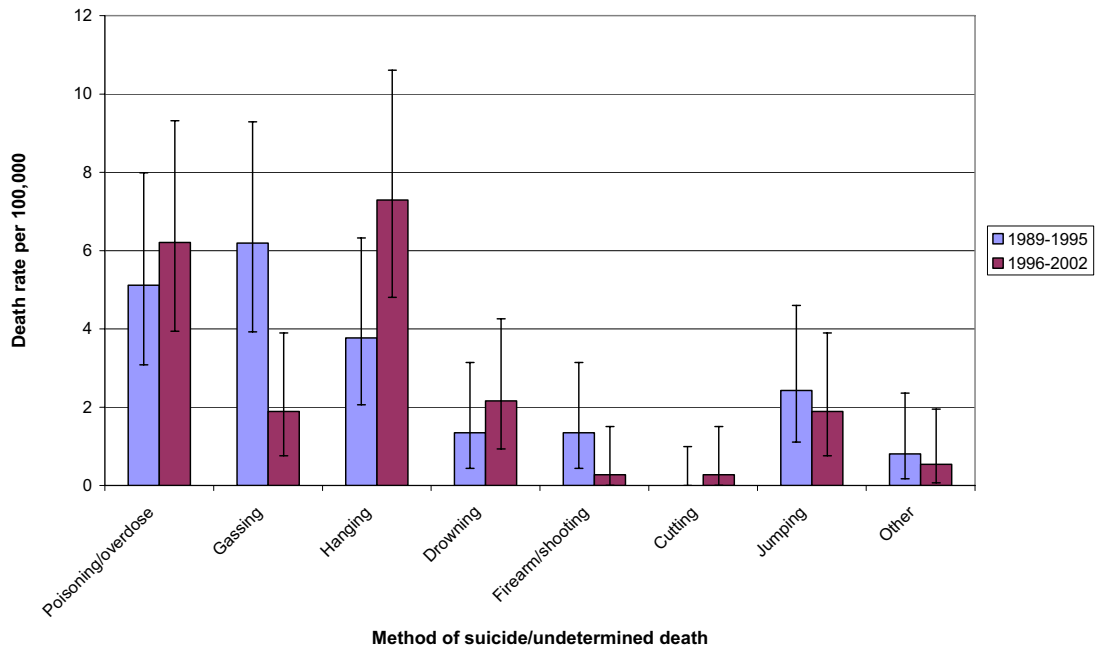
Death rate by method of suicide and undetermined death, Aberdeen City, 1989-1995 and 1996-2002, females



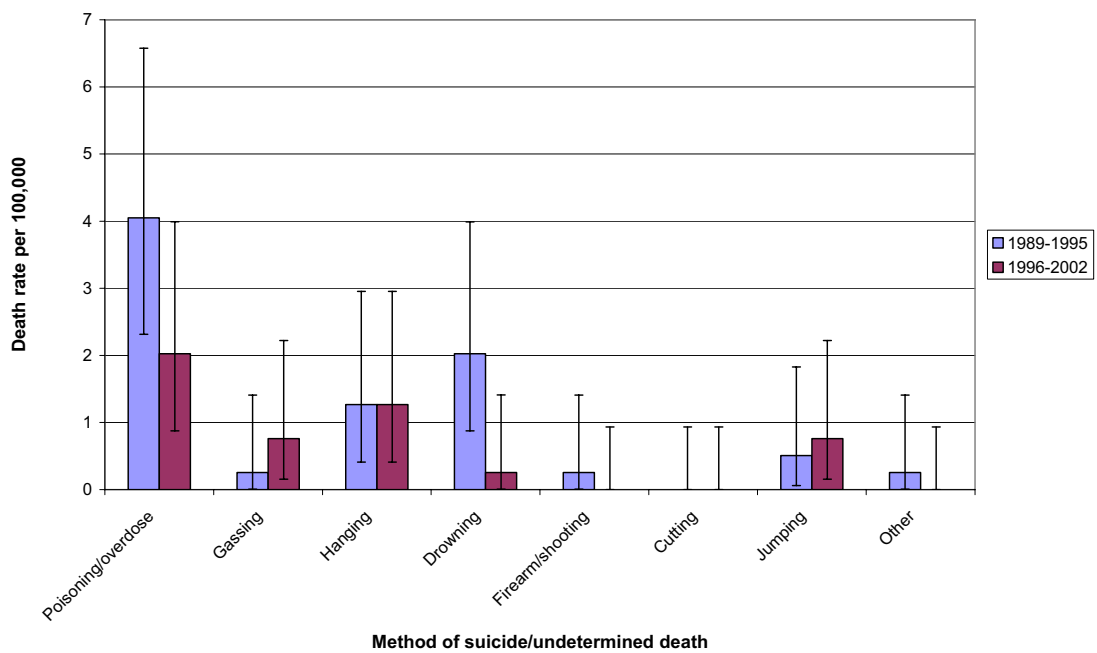
Death rate by method of suicide and undetermined death, Aberdeenshire, 1989-1995 and 1996-2002, males



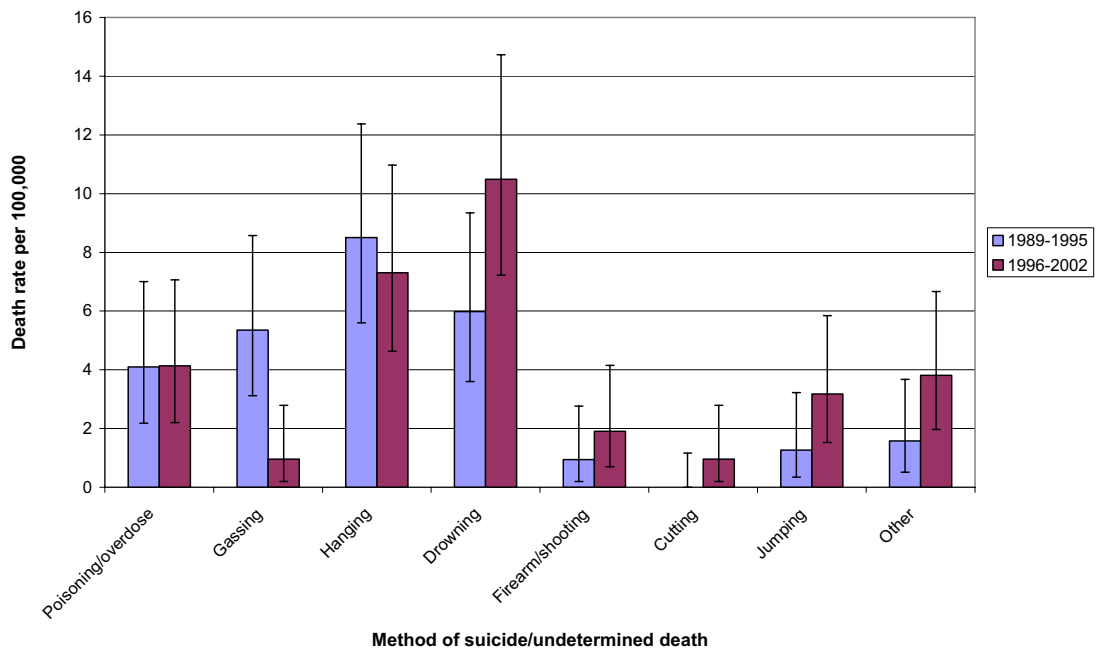
Death rate by method of suicide and undetermined death, Aberdeenshire, 1989-1995 and 1996-2002, females



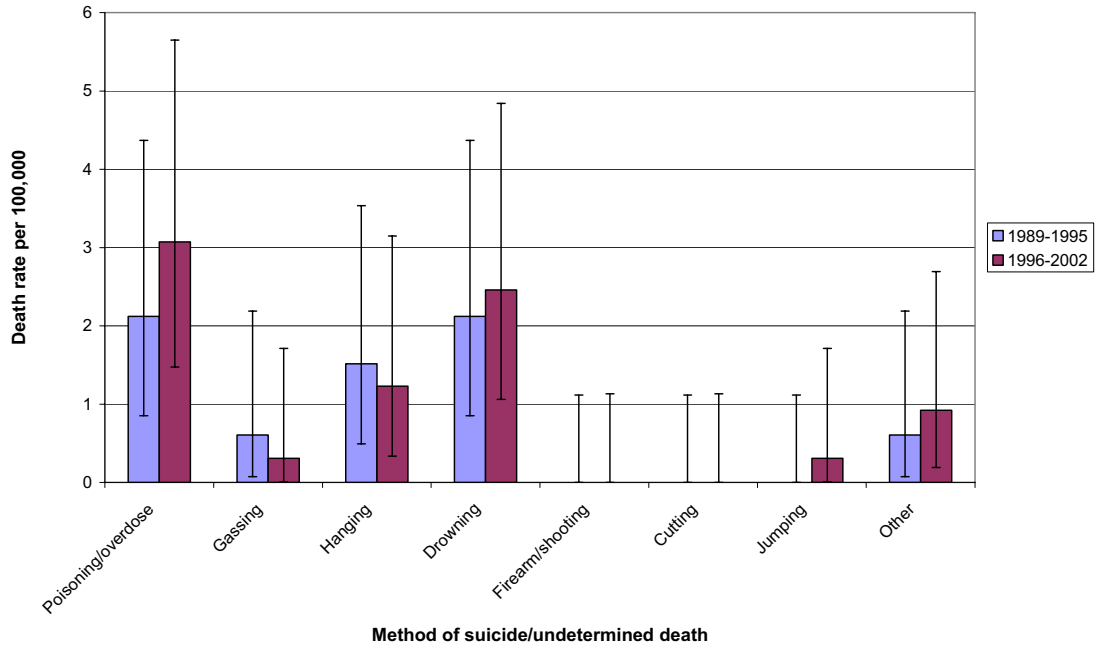
Death rate by method of suicide and undetermined death, Angus, 1989-1995 and 1996-2002, males



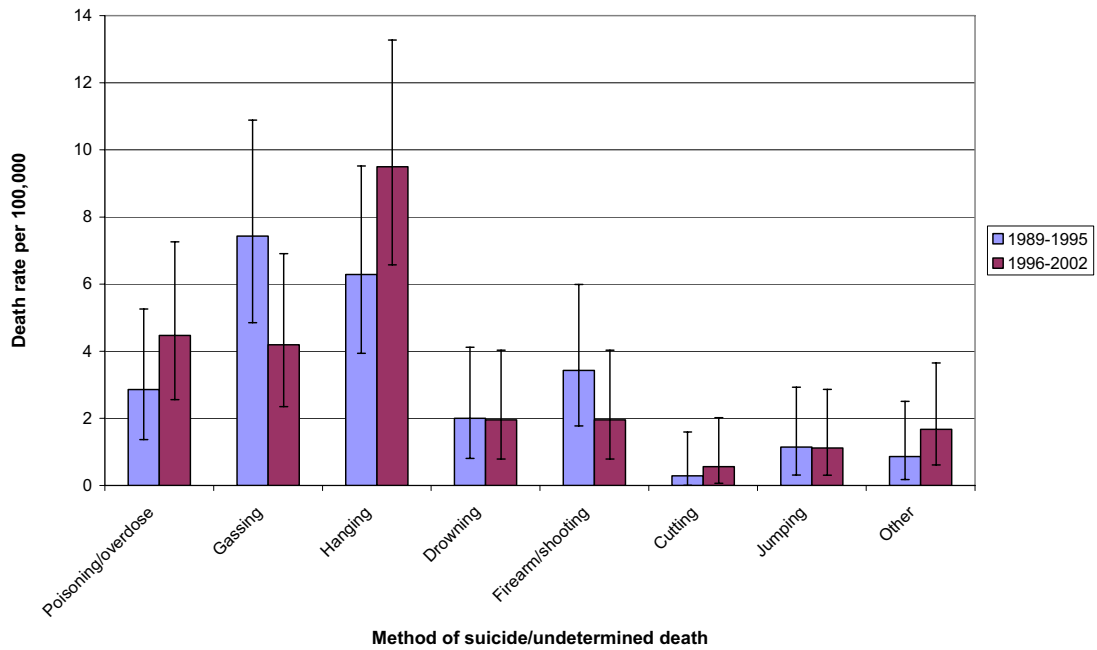
Death rate by method of suicide and undetermined death, Angus, 1989-1995 and 1996-2002, females



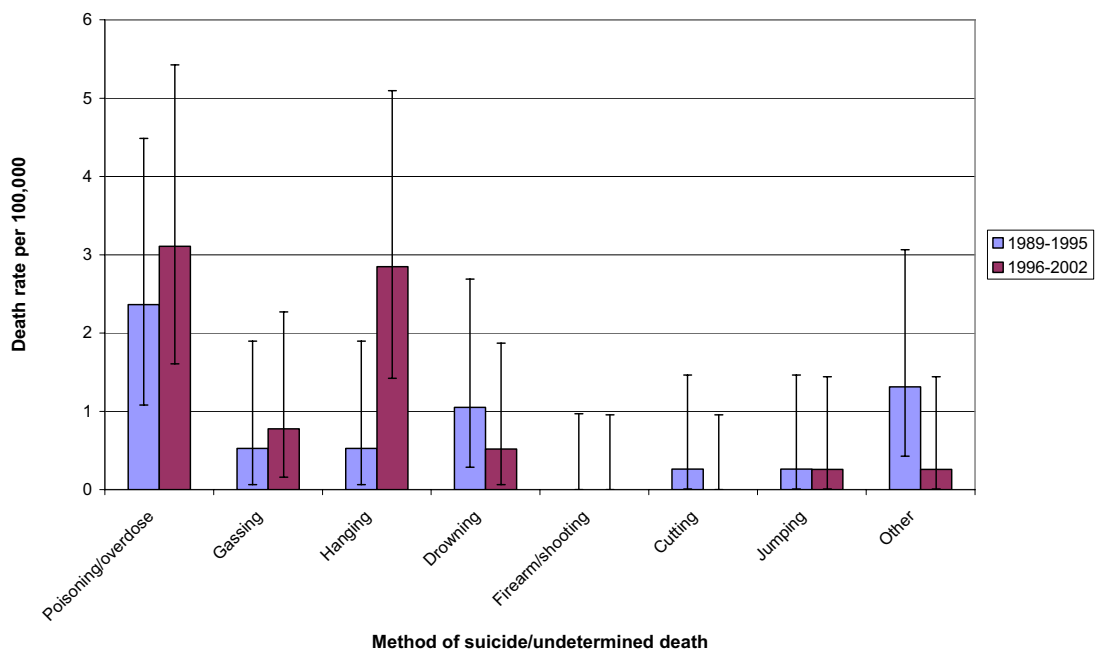
Death rate by method of suicide and undetermined death, Argyll & Bute, 1989-1995 and 1996-2002, males



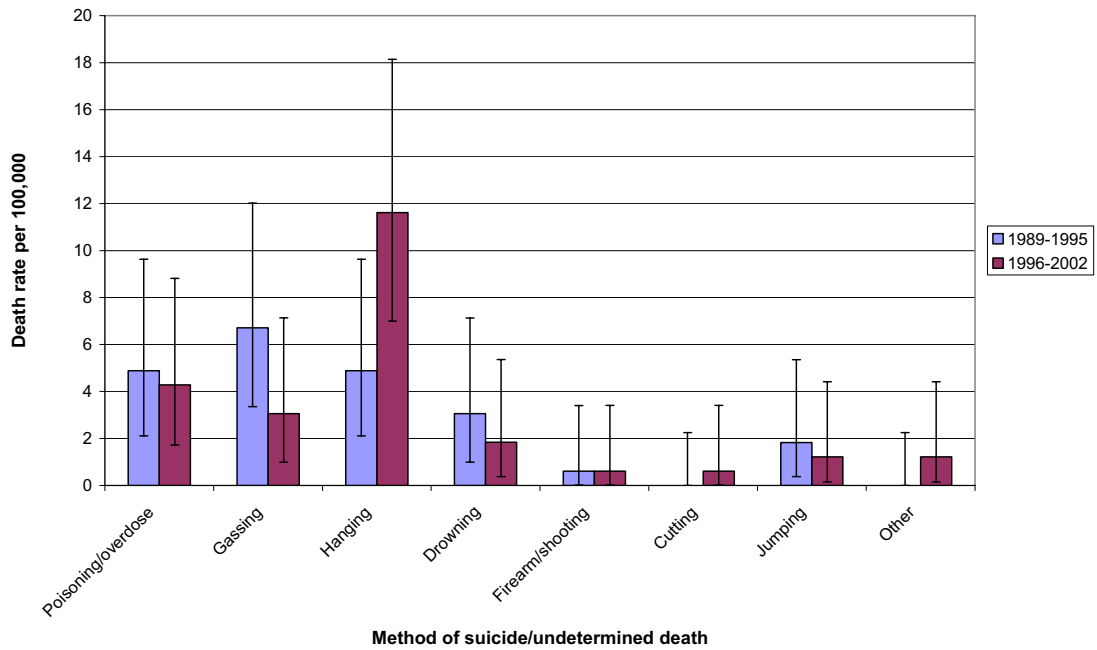
Death rate by method of suicide and undetermined death, Argyll & Bute, 1989-1995 and 1996-2002, females



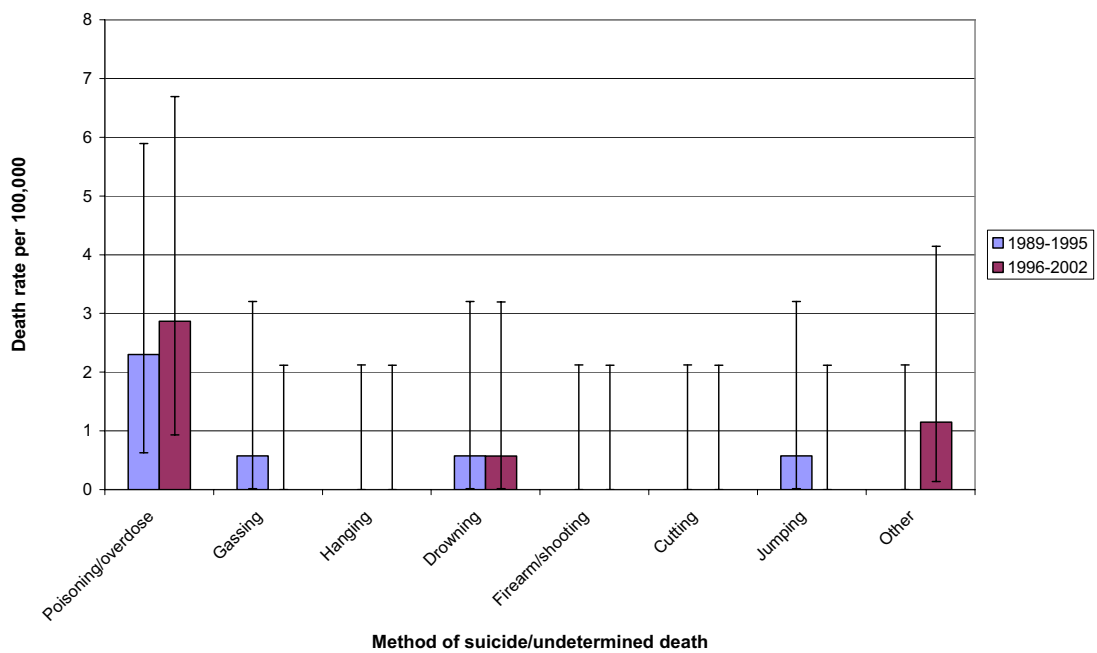
Death rate by method of suicide and undetermined death, Scottish Borders, 1989-1995 and 1996-2002, males



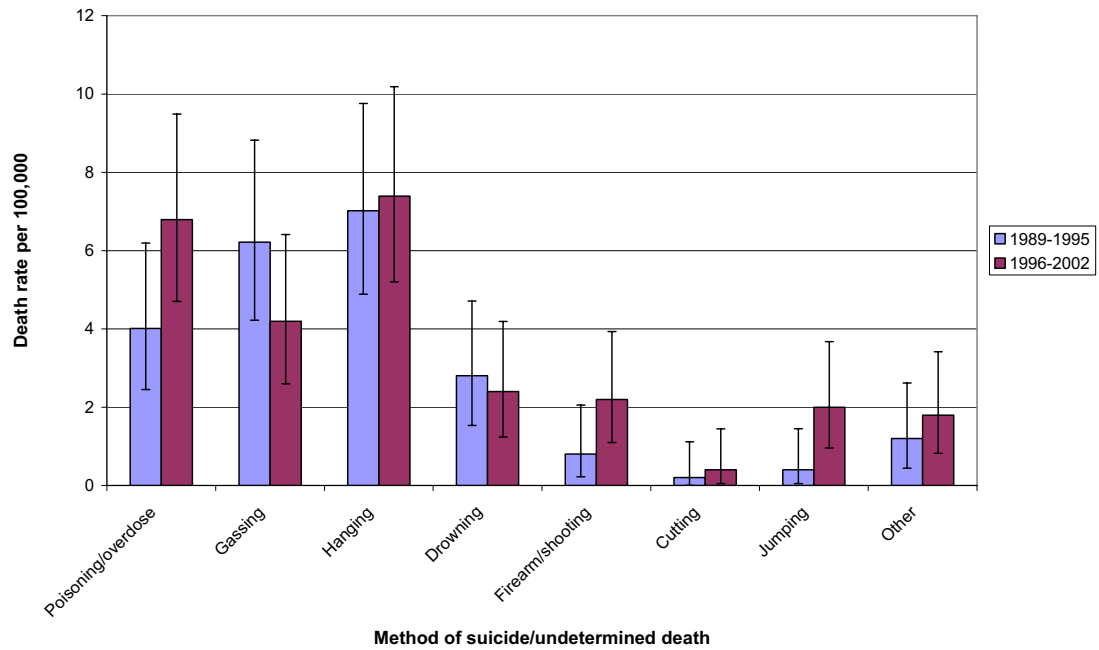
Death rate by method of suicide and undetermined death, Scottish Borders, 1989-1995 and 1996-2002, females



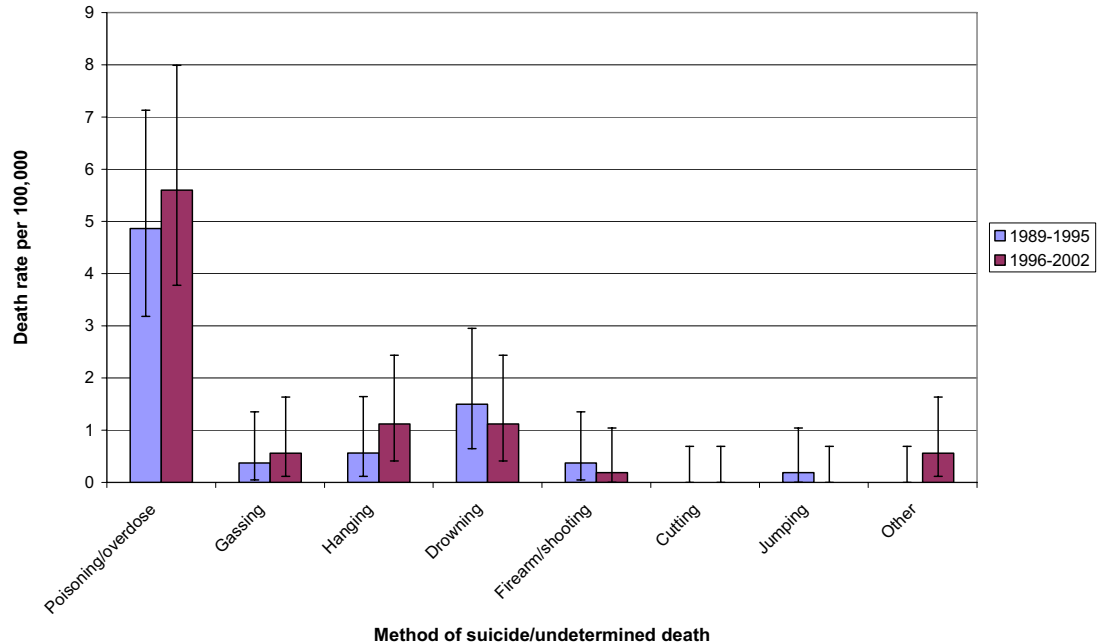
Death rate by method of suicide and undetermined death, Clackmannanshire, 1989-1995 and 1996-2002, males



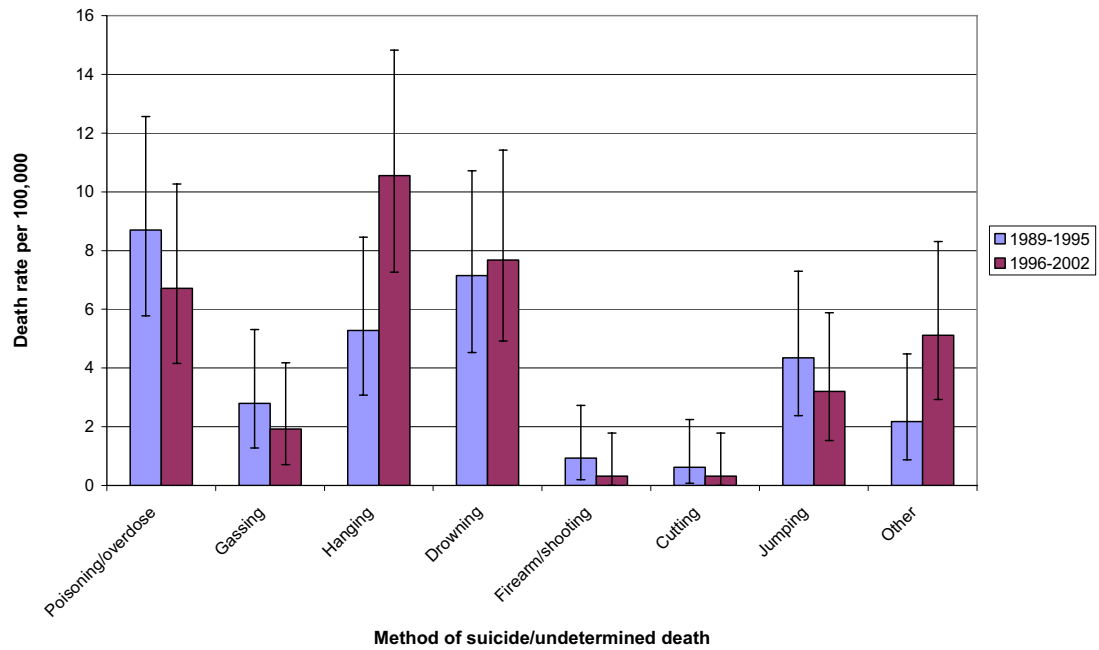
Death rate by method of suicide and undetermined death, Clackmannanshire, 1989-1995 and 1996-2002, females



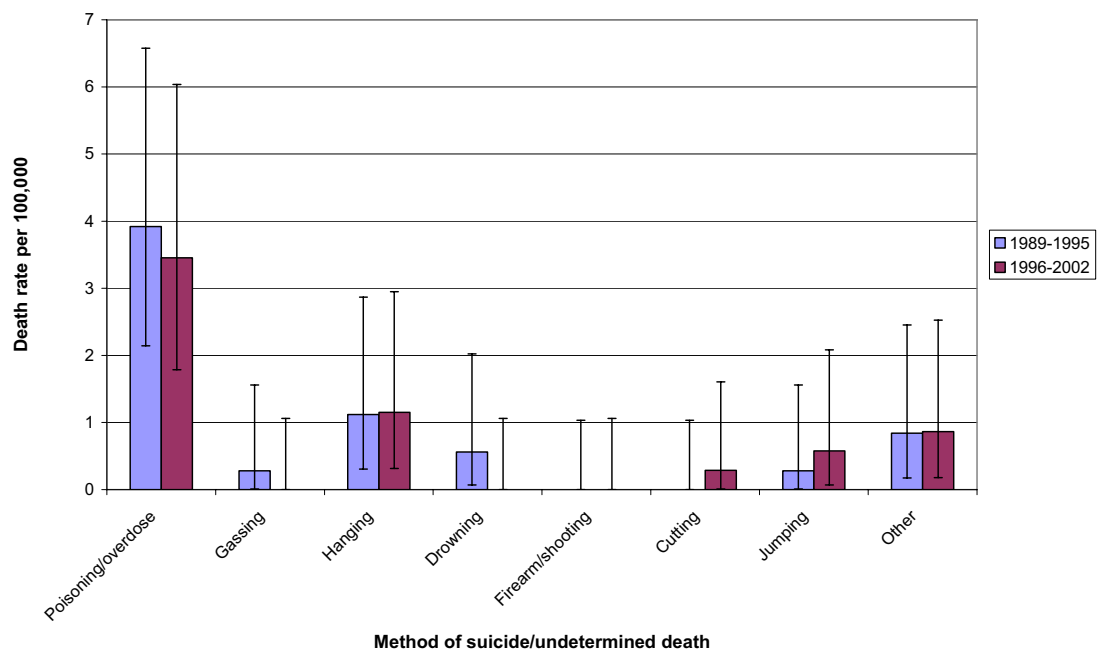
Death rate by method of suicide and undetermined death, Dumfries & Galloway, 1989-1995 and 1996-2002, males



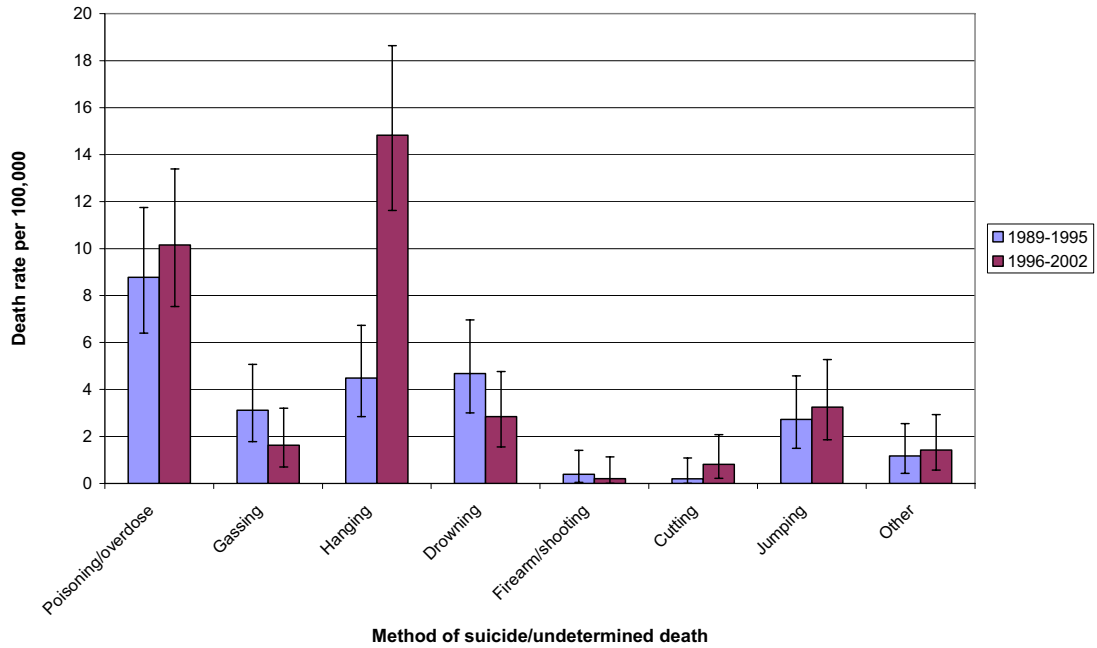
Death rate by method of suicide and undetermined death, Dumfries & Galloway, 1989-1995 and 1996-2002, females



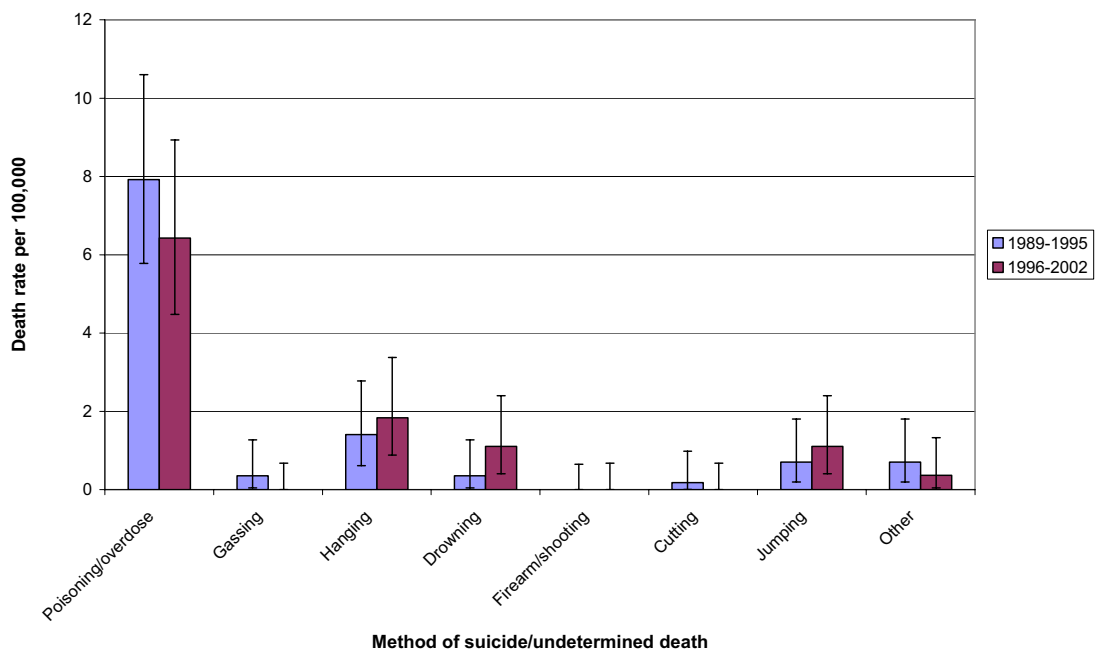
Death rate by method of suicide and undetermined death, Western Dunbartonshire, 1989-1995 and 1996-2002, males



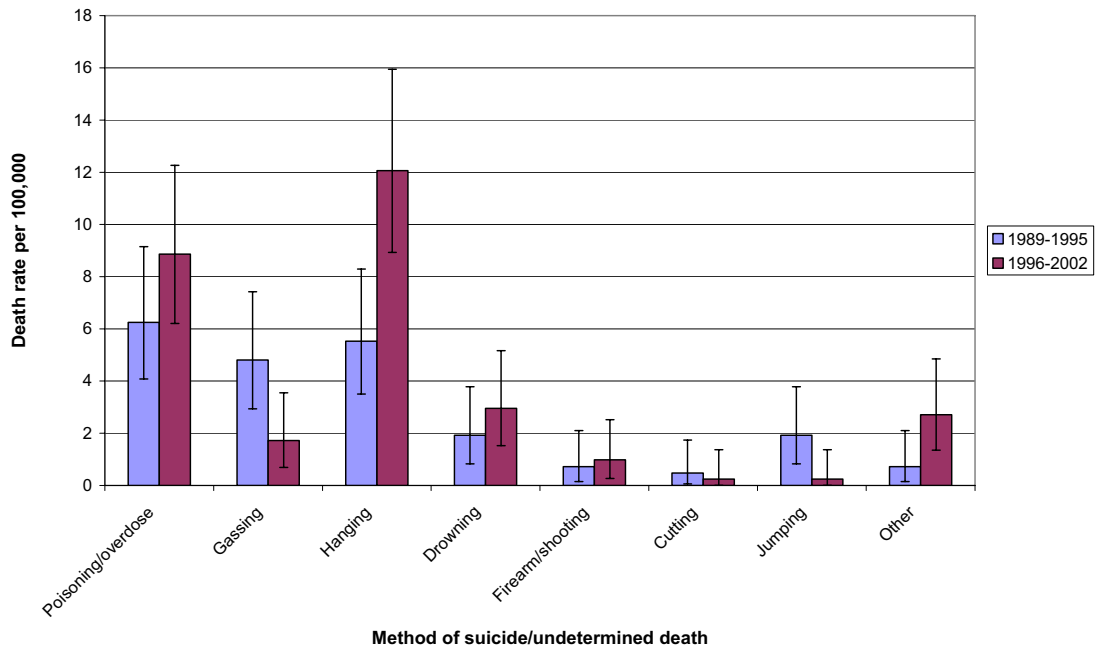
Death rate by method of suicide and undetermined death, Western Dunbartonshire, 1989-1995 and 1996-2002, females



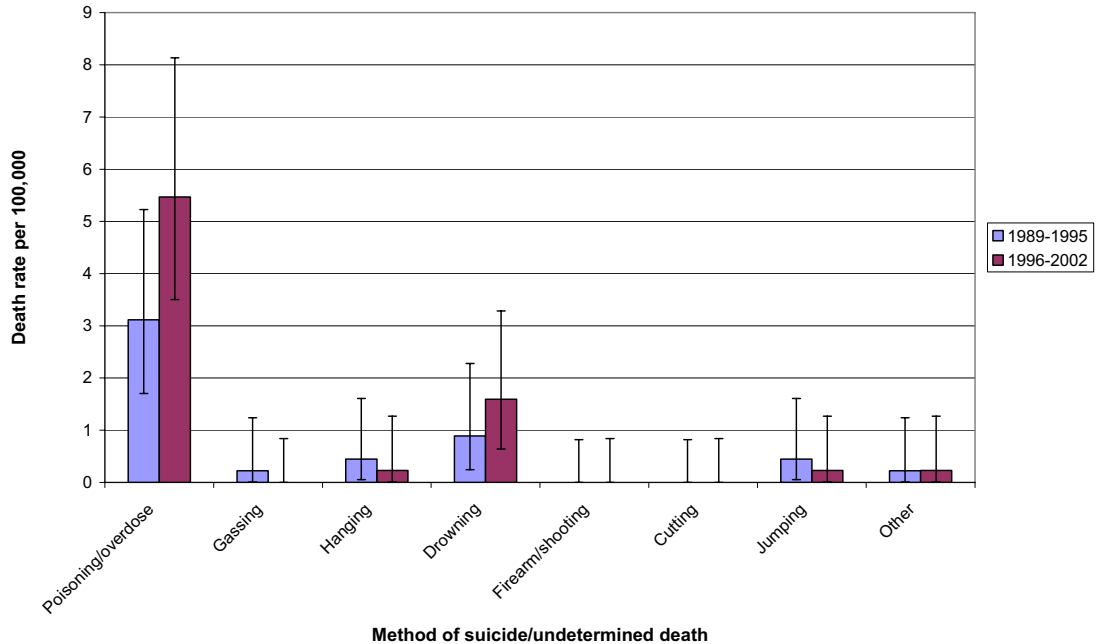
Death rate by method of suicide and undetermined death, Dundee City, 1989-1995 and 1996-2002, males



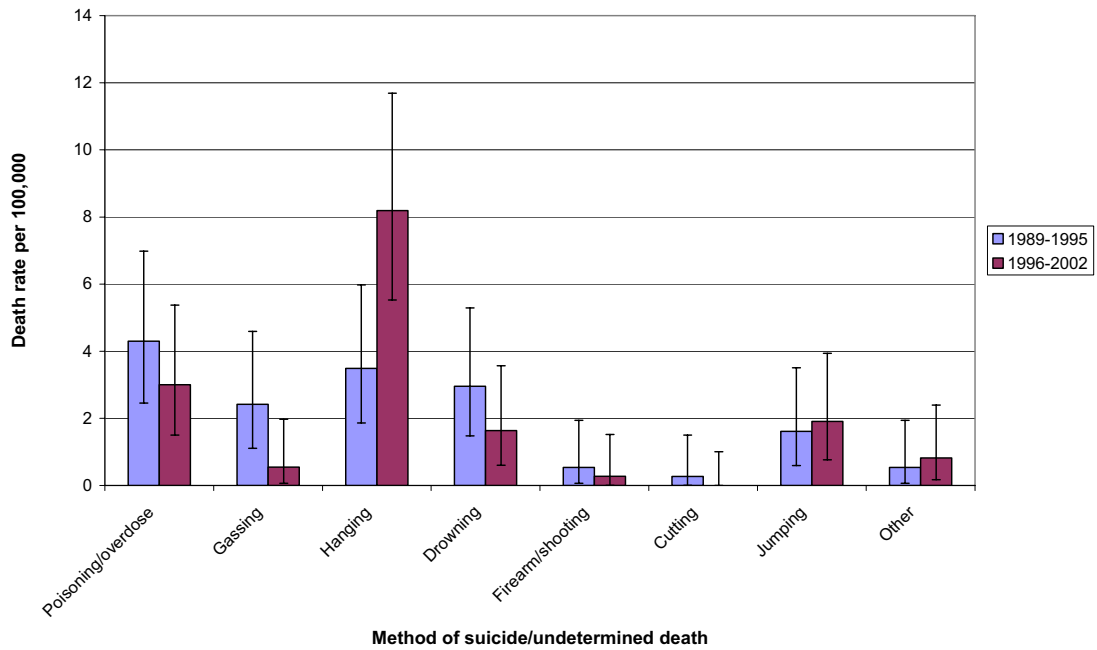
Death rate by method of suicide and undetermined death, Dundee City, 1989-1995 and 1996-2002, females



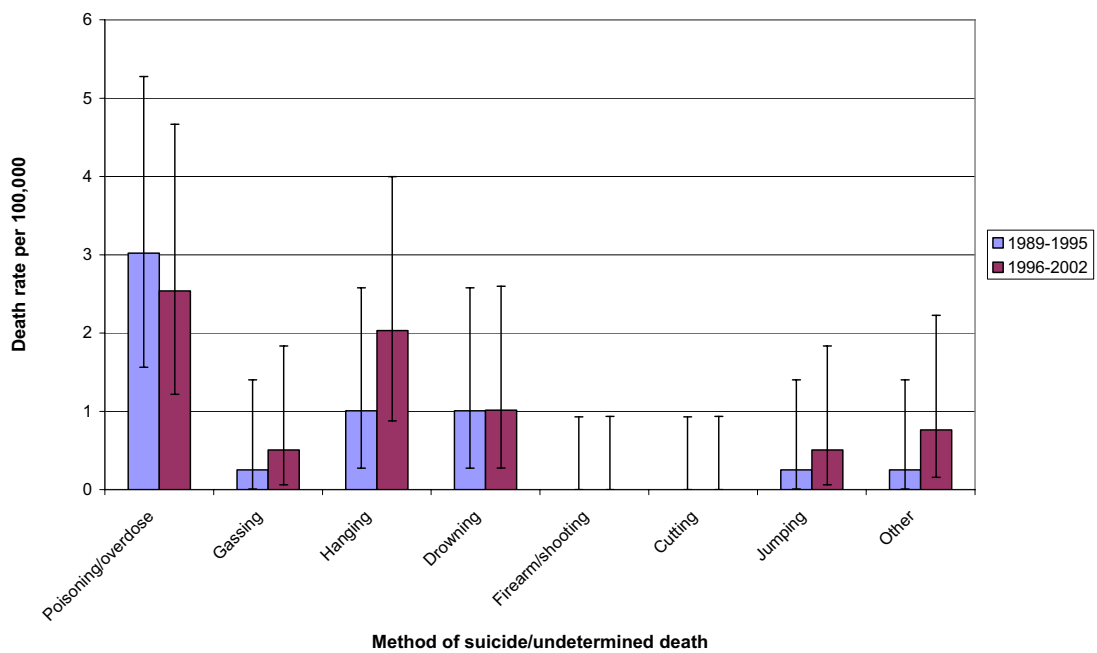
Death rate by method of suicide and undetermined death, East Ayrshire, 1989-1995 and 1996-2002, males



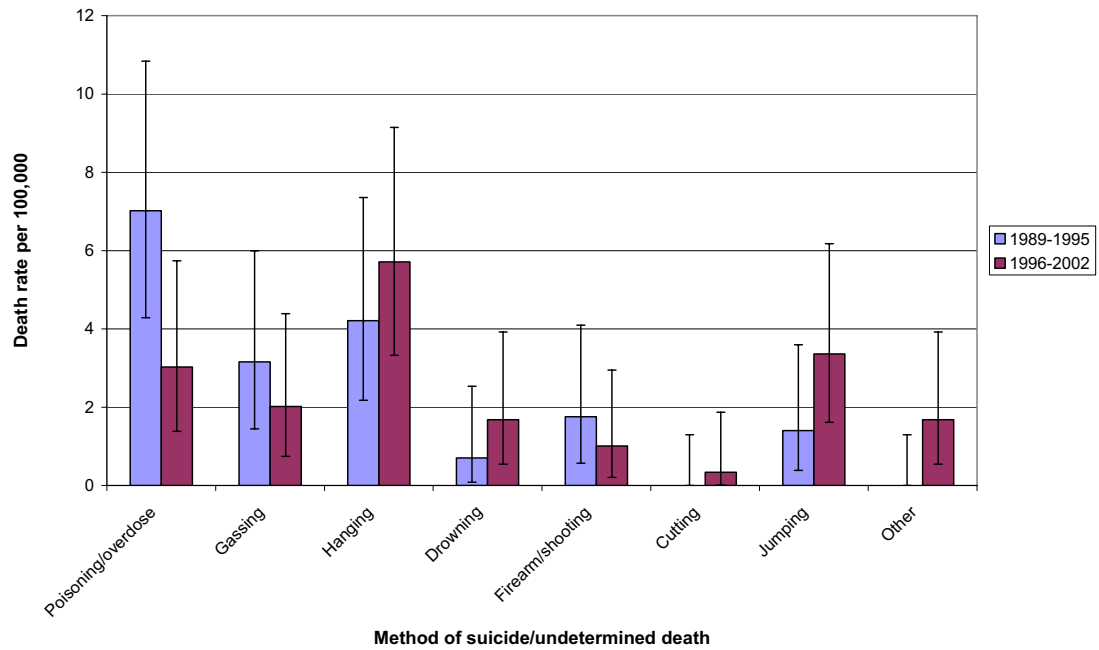
Death rate by method of suicide and undetermined death, East Ayrshire, 1989-1995 and 1996-2002, females



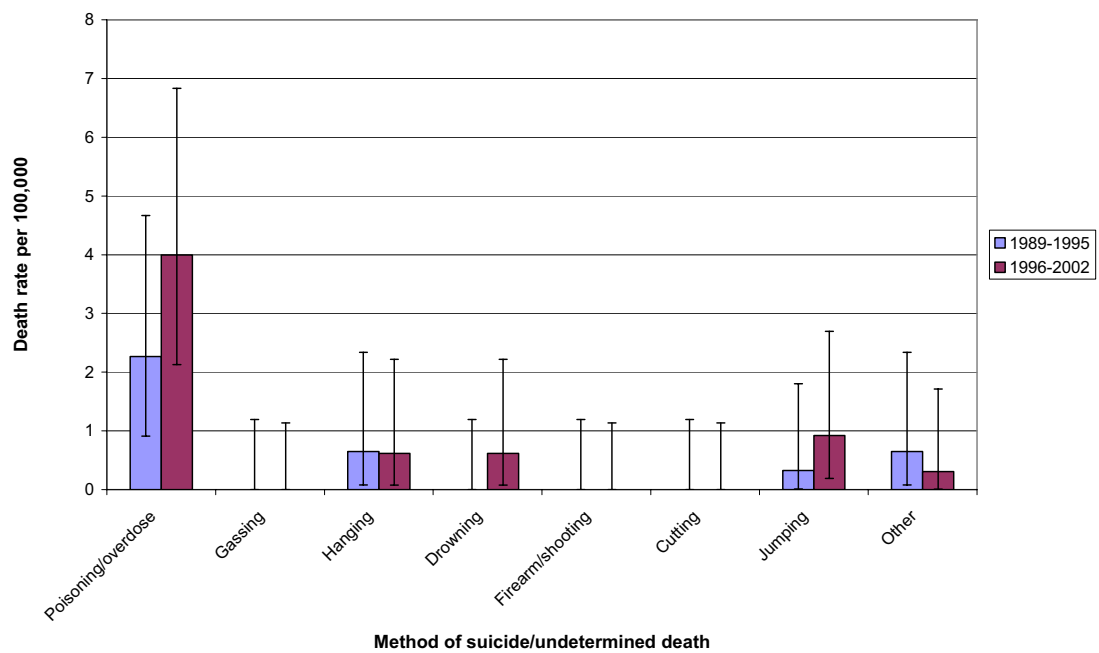
Death rate by method of suicide and undetermined death, East Dunbartonshire, 1989-1995 and 1996-2002, males



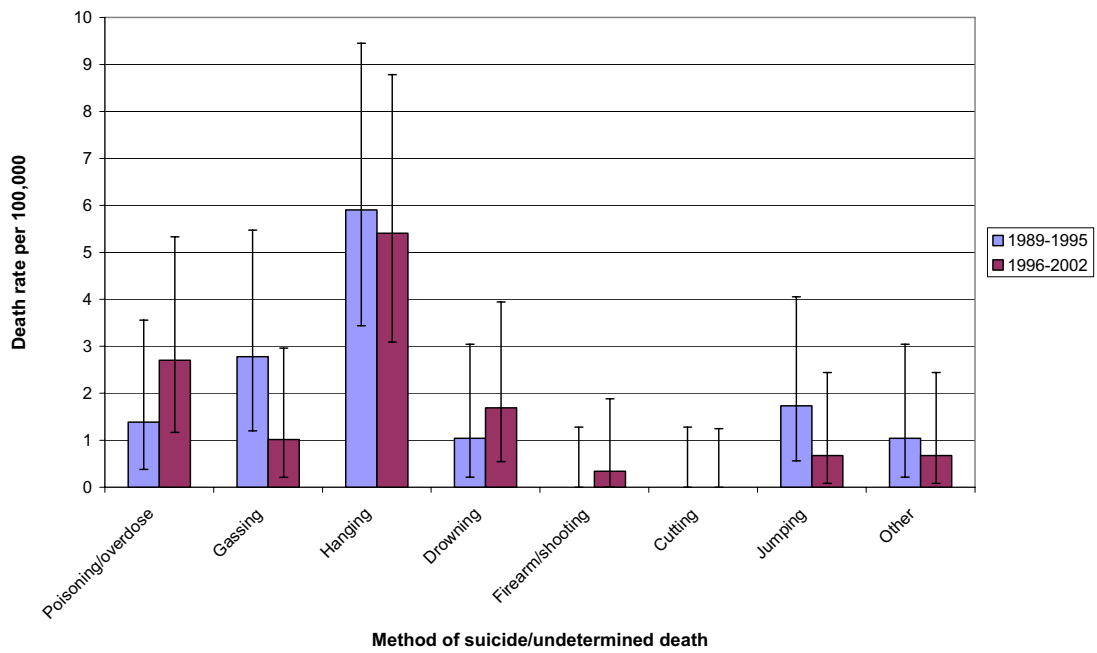
Death rate by method of suicide and undetermined death, East Dunbartonshire, 1989-1995 and 1996-2002, females



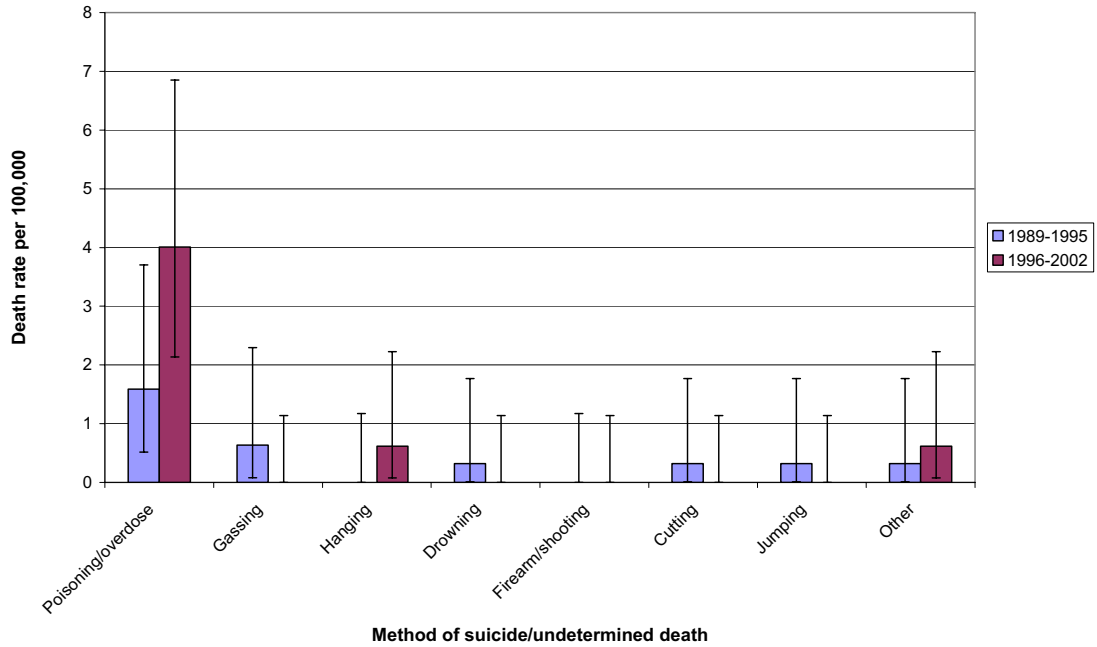
Death rate by method of suicide and undetermined death, East Lothian, 1989-1995 and 1996-2002, males



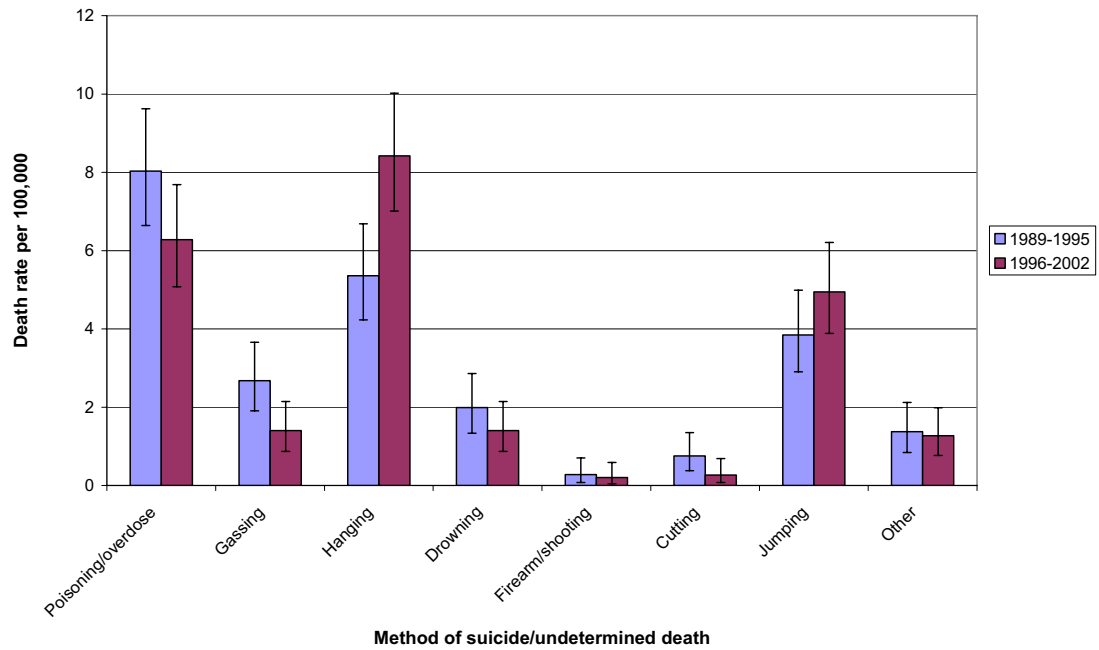
Death rate by method of suicide and undetermined death, East Lothian, 1989-1995 and 1996-2002, females



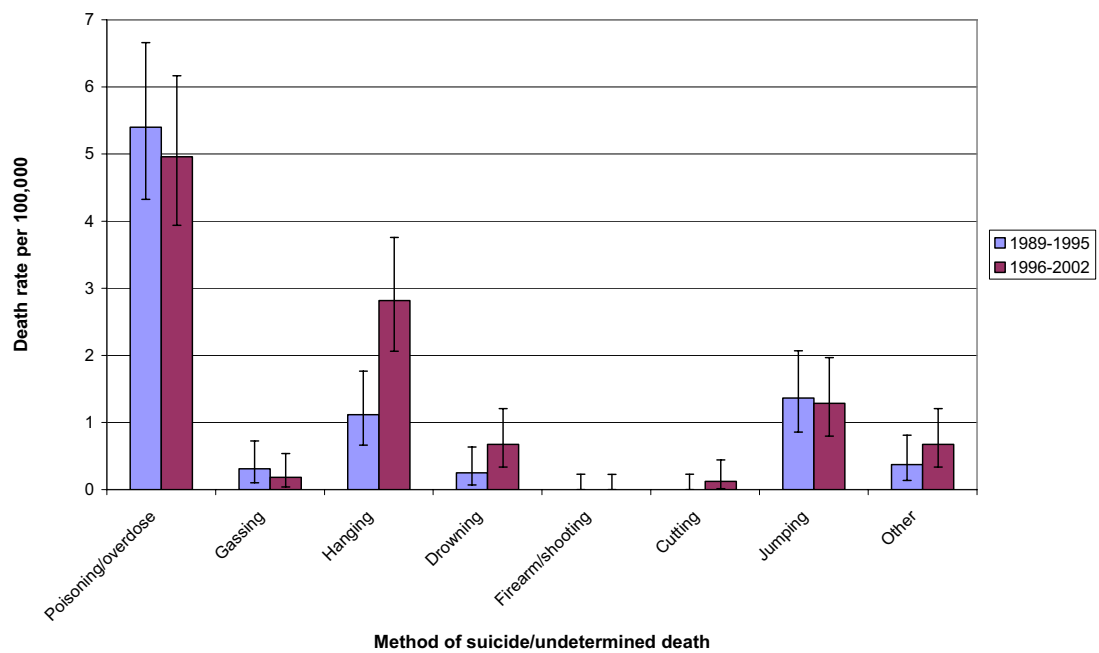
Death rate by method of suicide and undetermined death, East Renfrewshire, 1989-1995 and 1996-2002, males



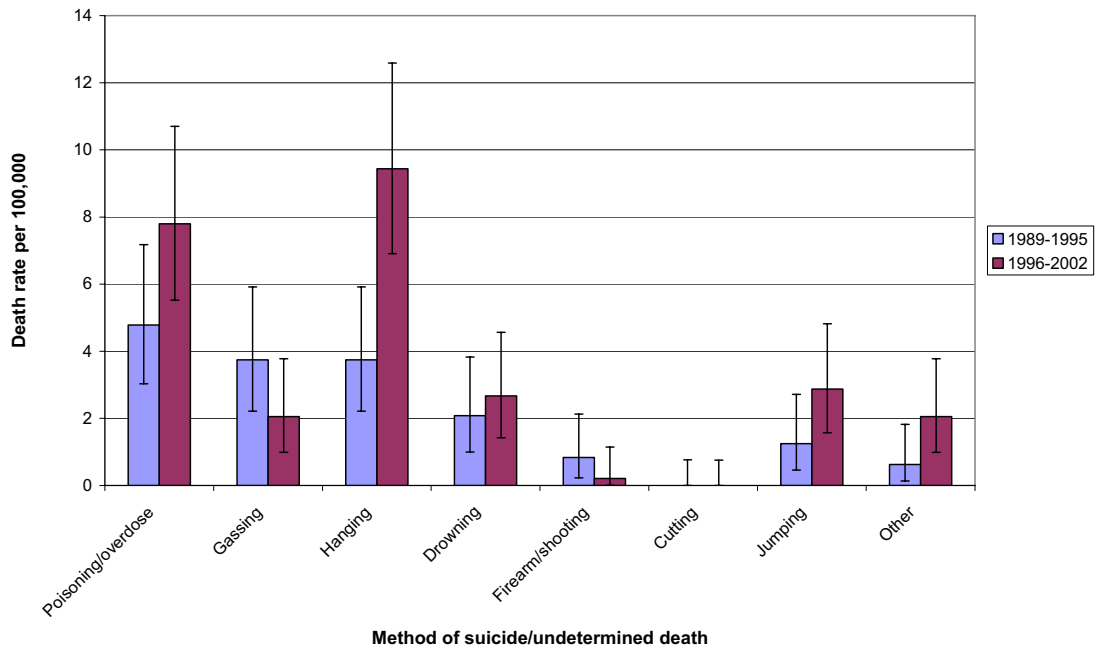
Death rate by method of suicide and undetermined death, East Renfrewshire, 1989-1995 and 1996-2002, females



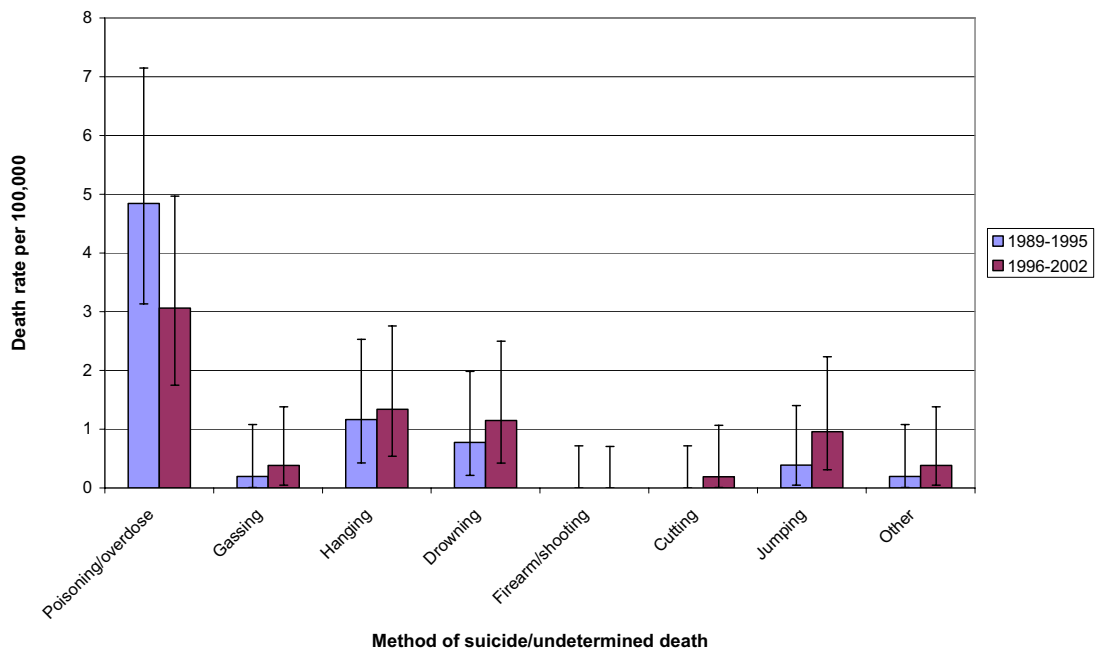
Death rate by method of suicide and undetermined death, Edinburgh City, 1989-1995 and 1996-2002, males



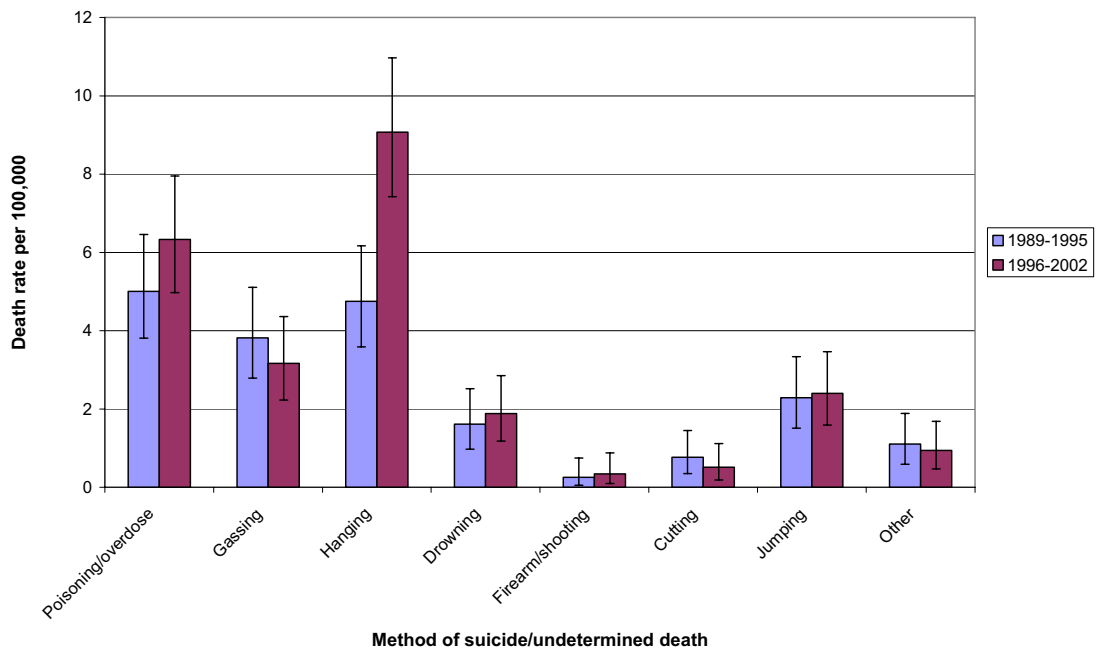
Death rate by method of suicide and undetermined death, Edinburgh City, 1989-1995 and 1996-2002, females



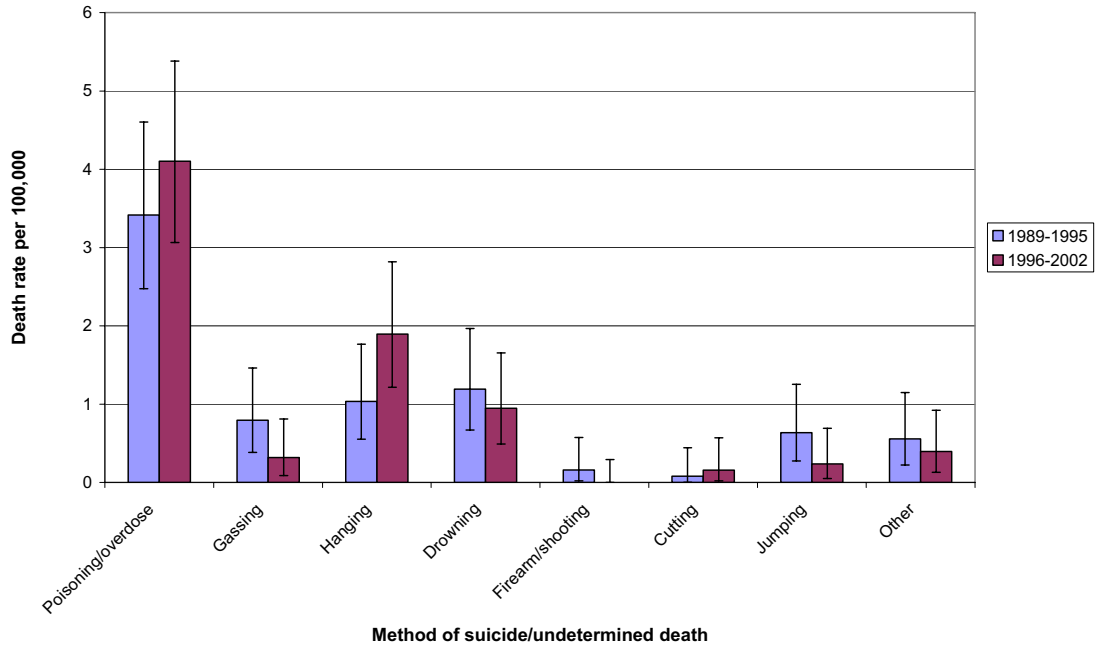
Death rate by method of suicide and undetermined death, Falkirk, 1989-1995 and 1996-2002, males



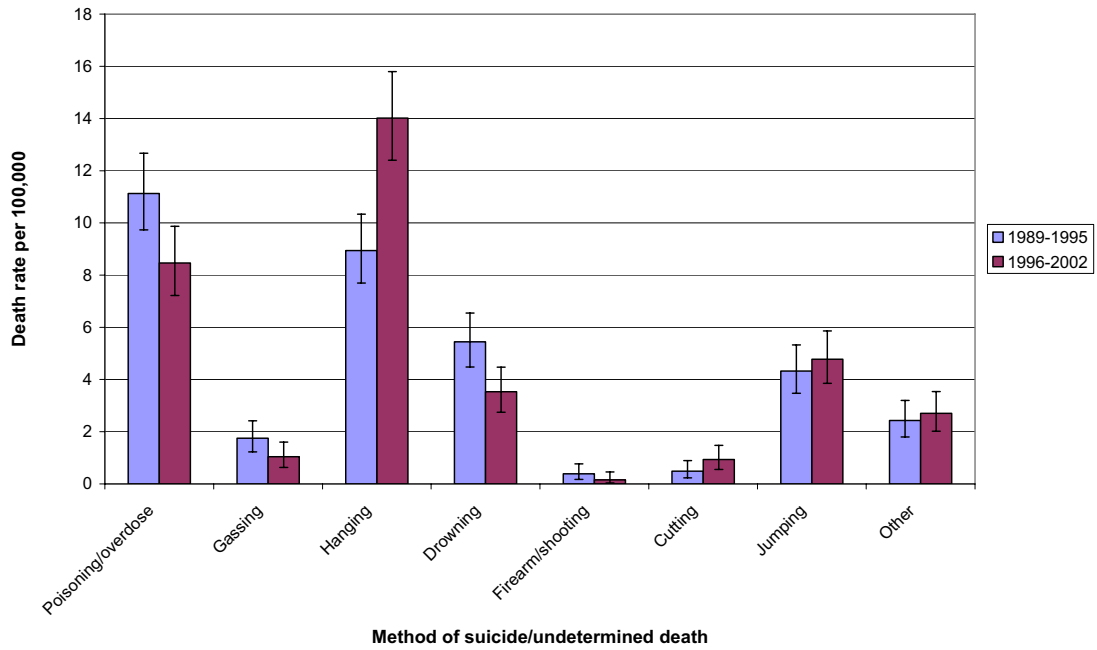
Death rate by method of suicide and undetermined death, Falkirk, 1989-1995 and 1996-2002, females



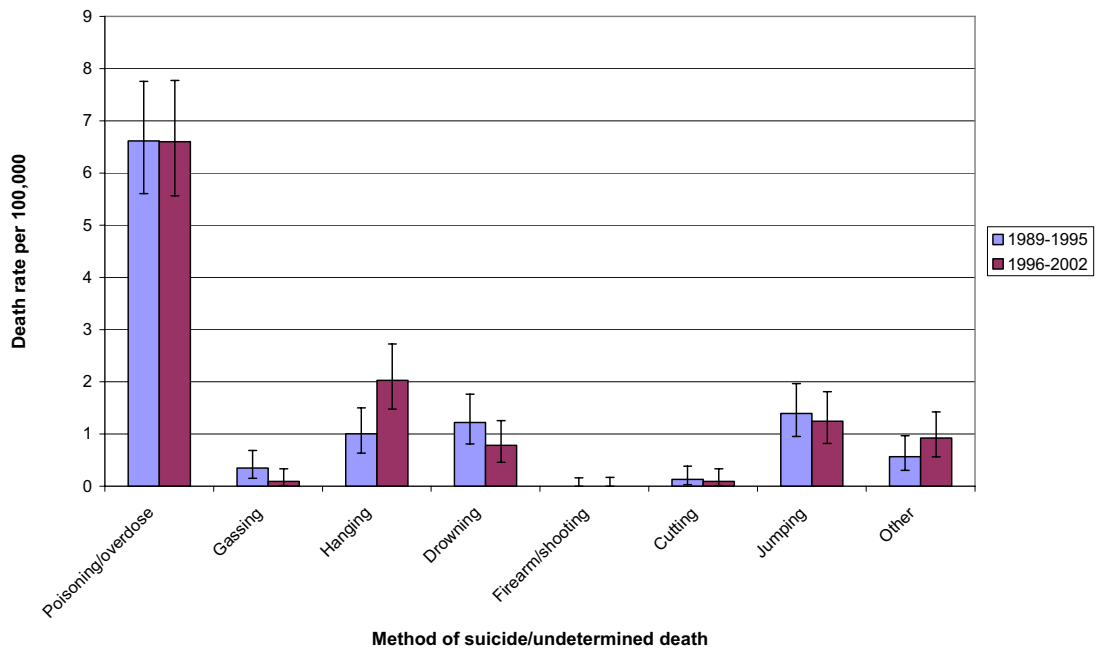
Death rate by method of suicide and undetermined death, Fife, 1989-1995 and 1996-2002, males



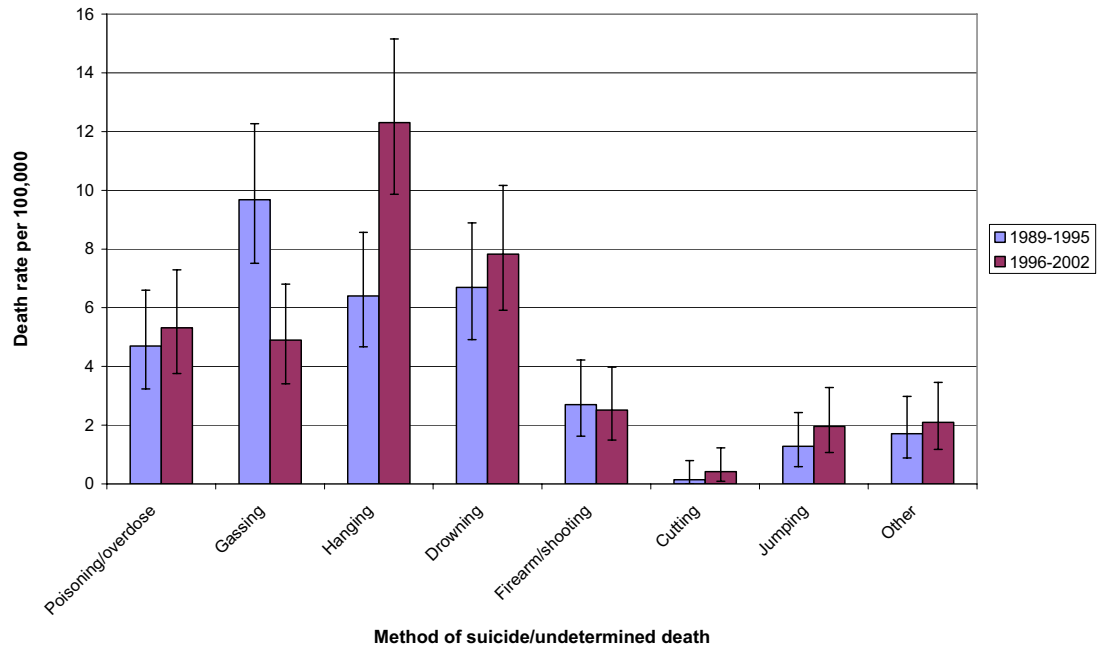
Death rate by method of suicide and undetermined death, Fife, 1989-1995 and 1996-2002, females



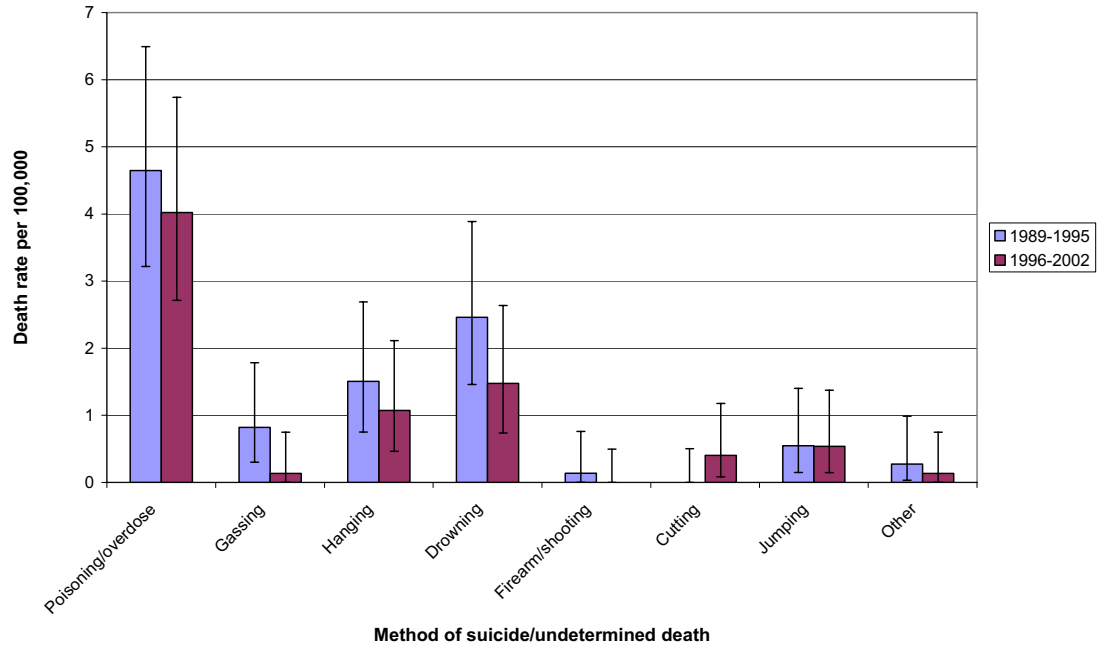
Death rate by method of suicide and undetermined death, Glasgow City, 1989-1995 and 1996-2002, males



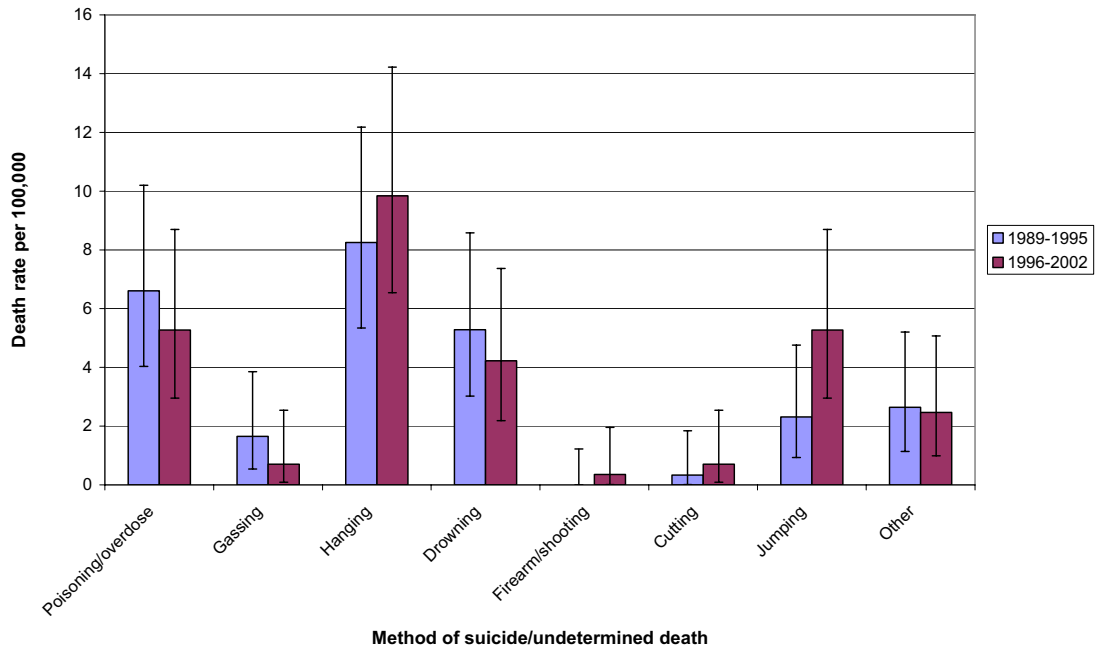
Death rate by method of suicide and undetermined death, Glasgow City, 1989-1995 and 1996-2002, females



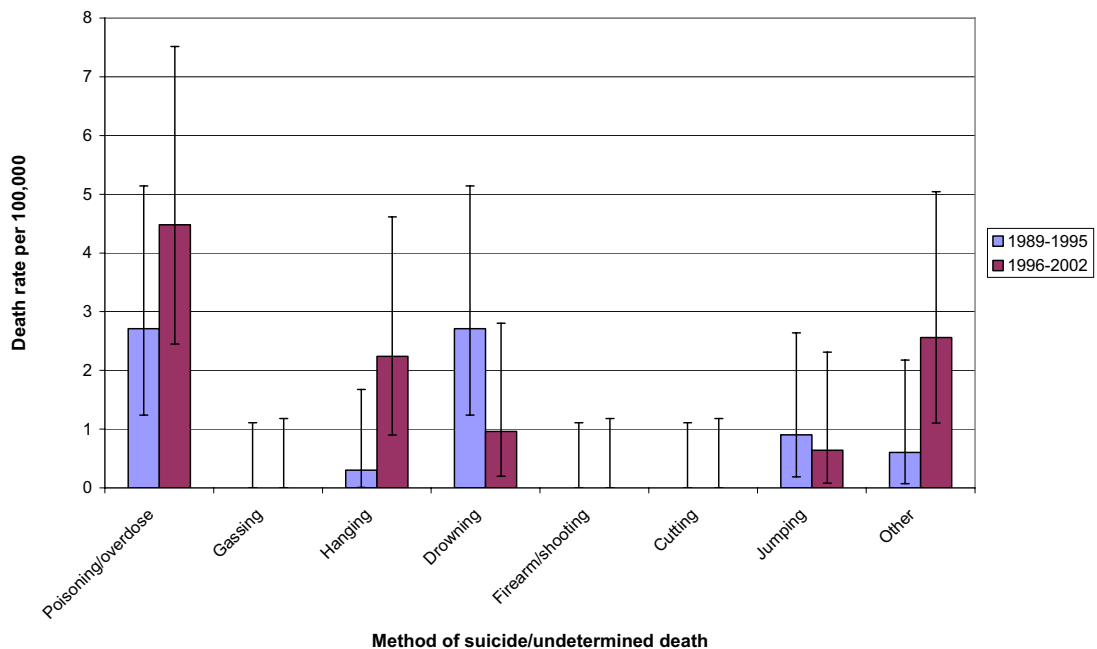
Death rate by method of suicide and undetermined death, Highland, 1989-1995 and 1996-2002, males



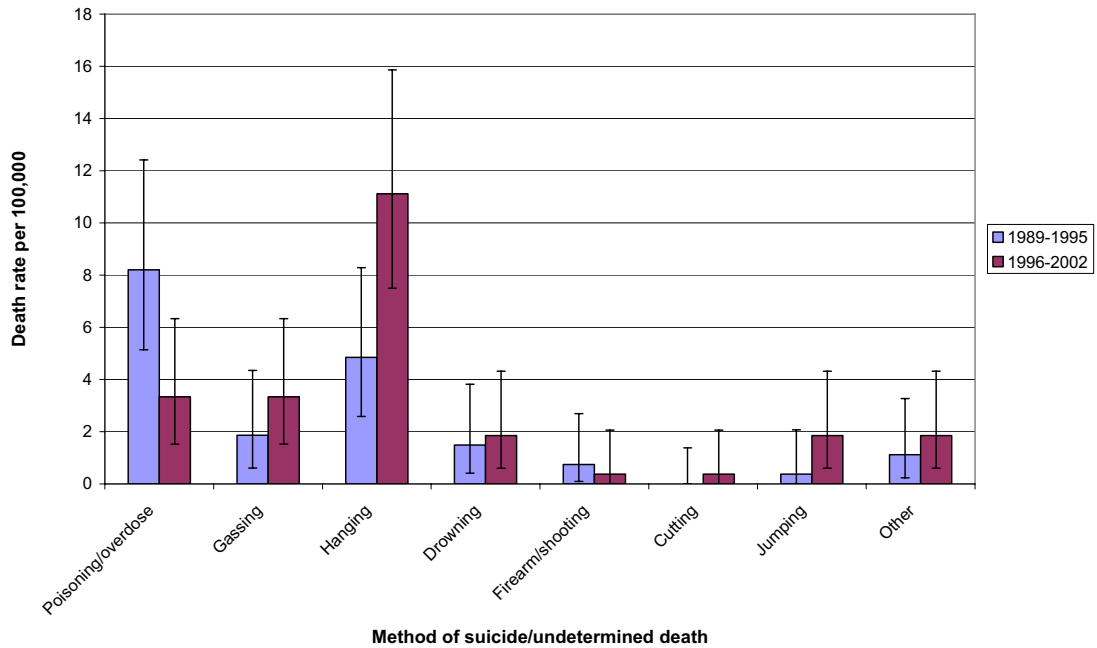
Death rate by method of suicide and undetermined death, Highland, 1989-1995 and 1996-2002, females



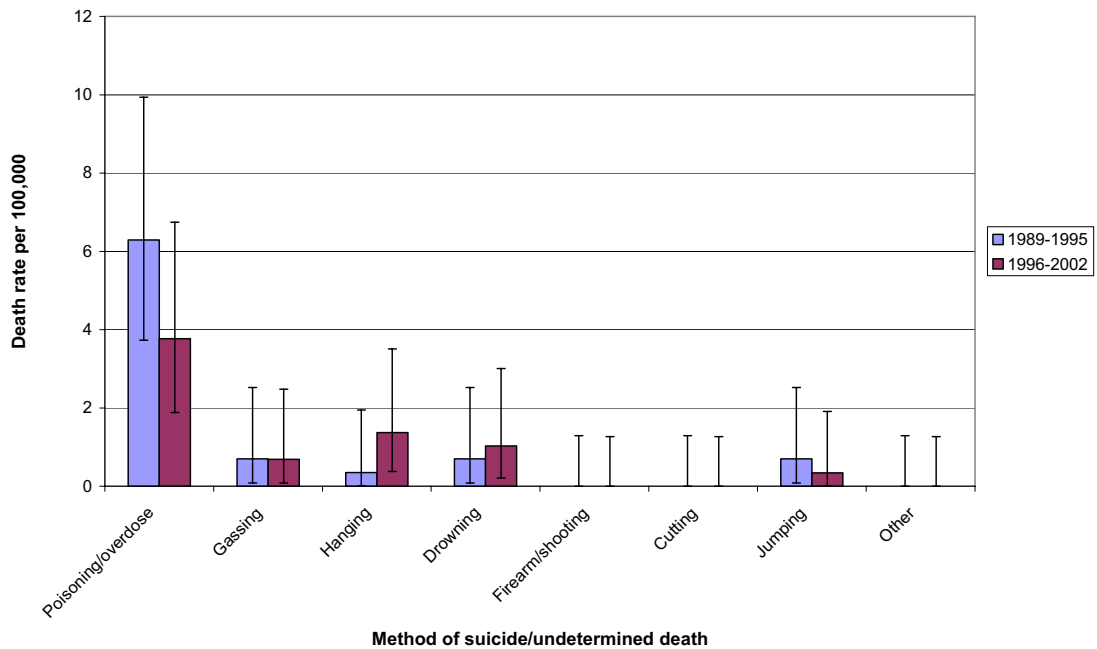
Death rate by method of suicide and undetermined death, Inverclyde, 1989-1995 and 1996-2002, males



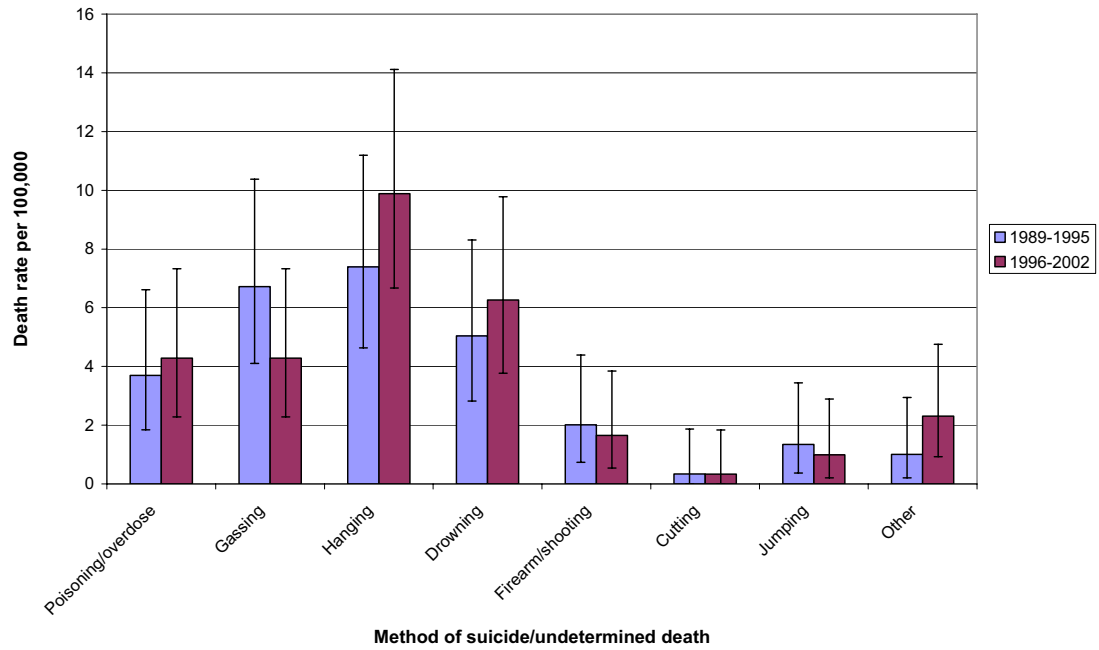
Death rate by method of suicide and undetermined death, Inverclyde, 1989-1995 and 1996-2002, females



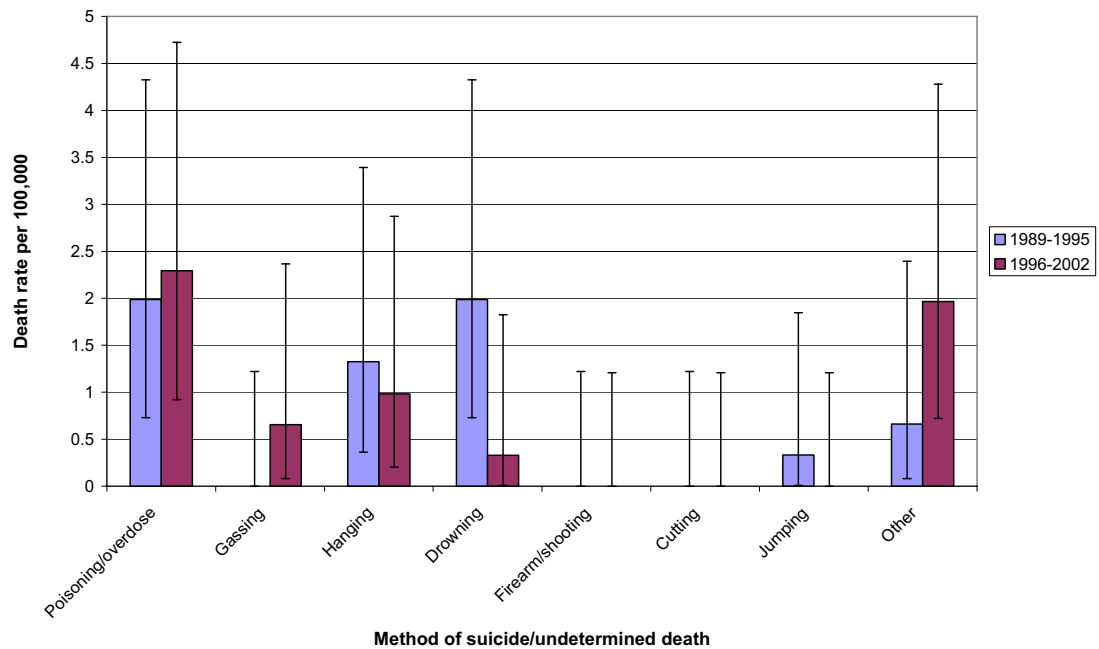
Death rate by method of suicide and undetermined death, Midlothian, 1989-1995 and 1996-2002, males



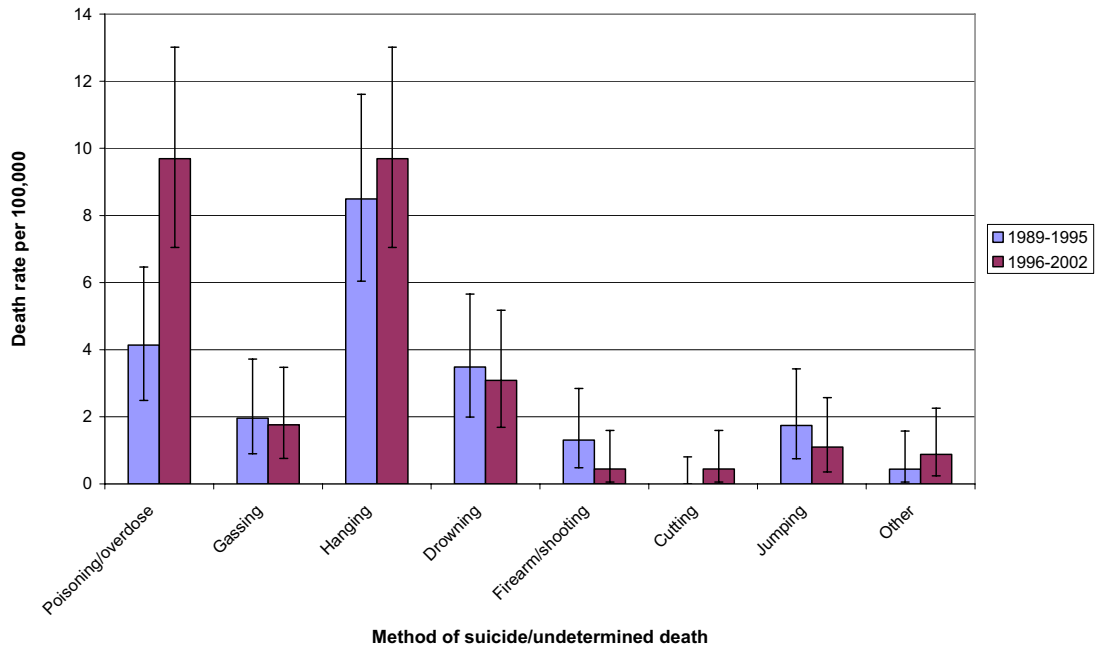
Death rate by method of suicide and undetermined death, Midlothian, 1989-1995 and 1996-2002, females



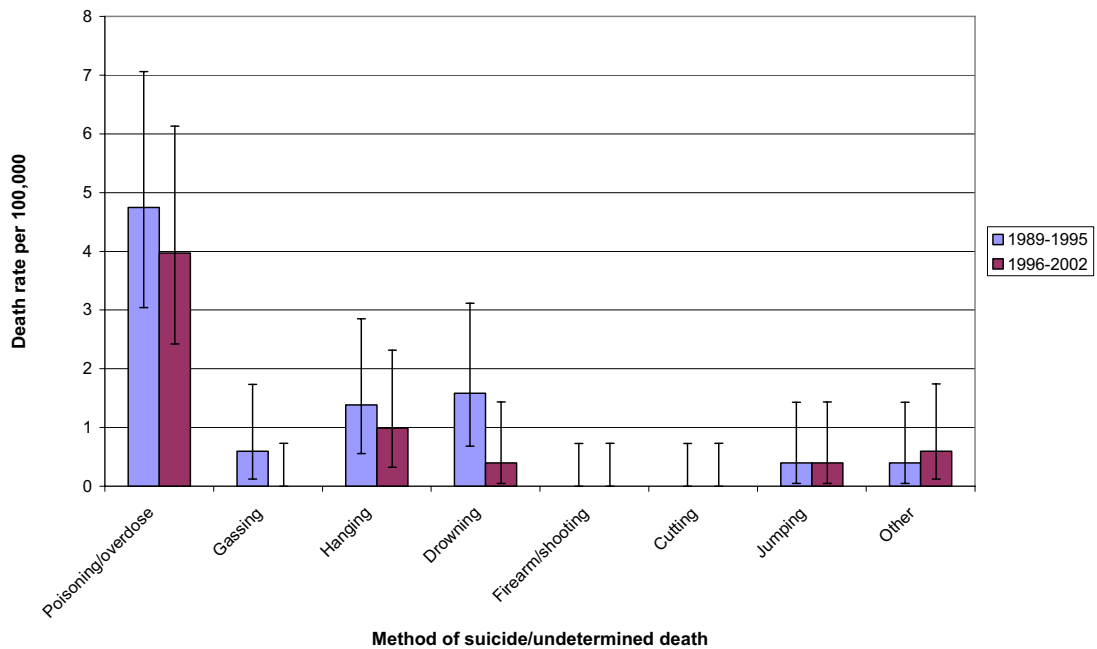
Death rate by method of suicide and undetermined death, Moray, 1989-1995 and 1996-2002, males



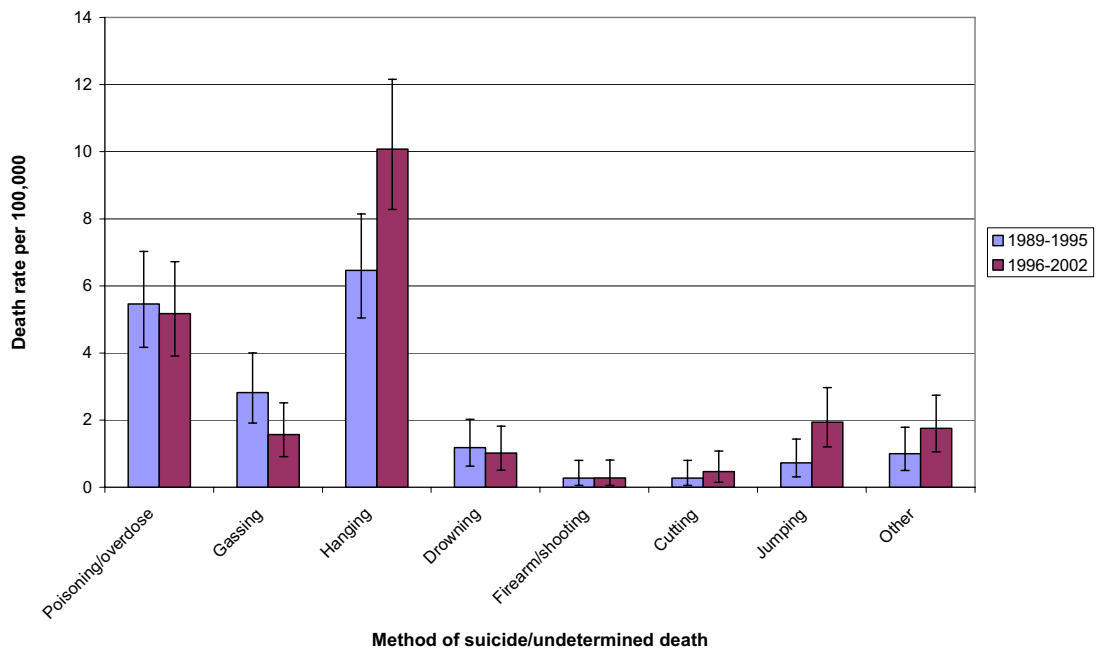
Death rate by method of suicide and undetermined death, Moray, 1989-1995 and 1996-2002, females



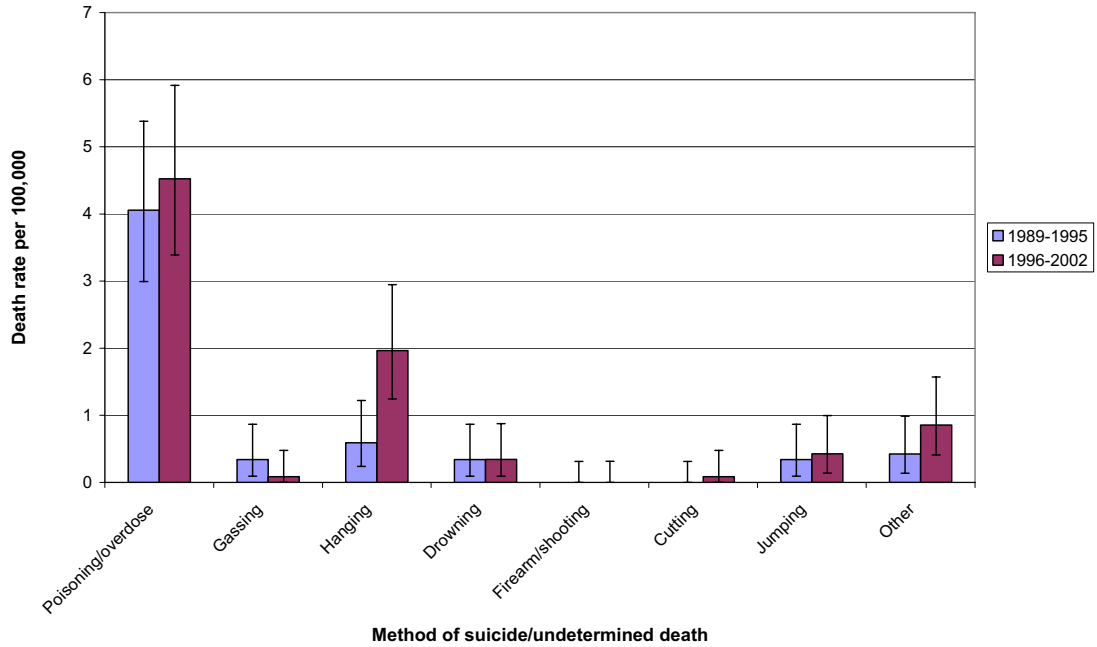
Death rate by method of suicide and undetermined death, North Ayrshire, 1989-1995 and 1996-2002, males



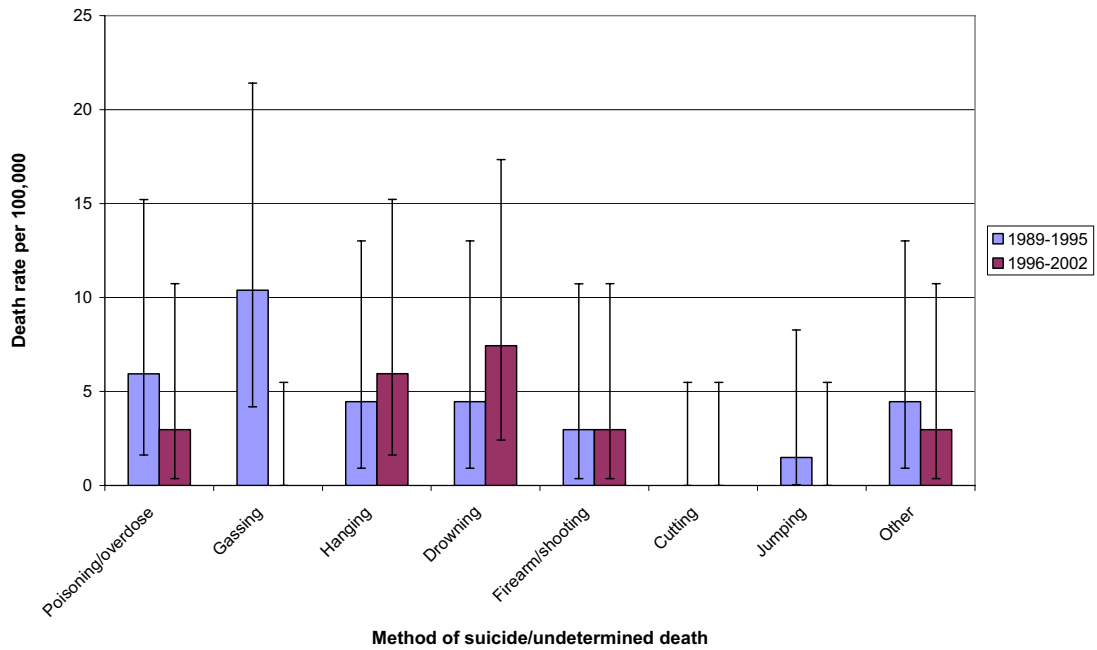
Death rate by method of suicide and undetermined death, North Ayrshire, 1989-1995 and 1996-2002, females



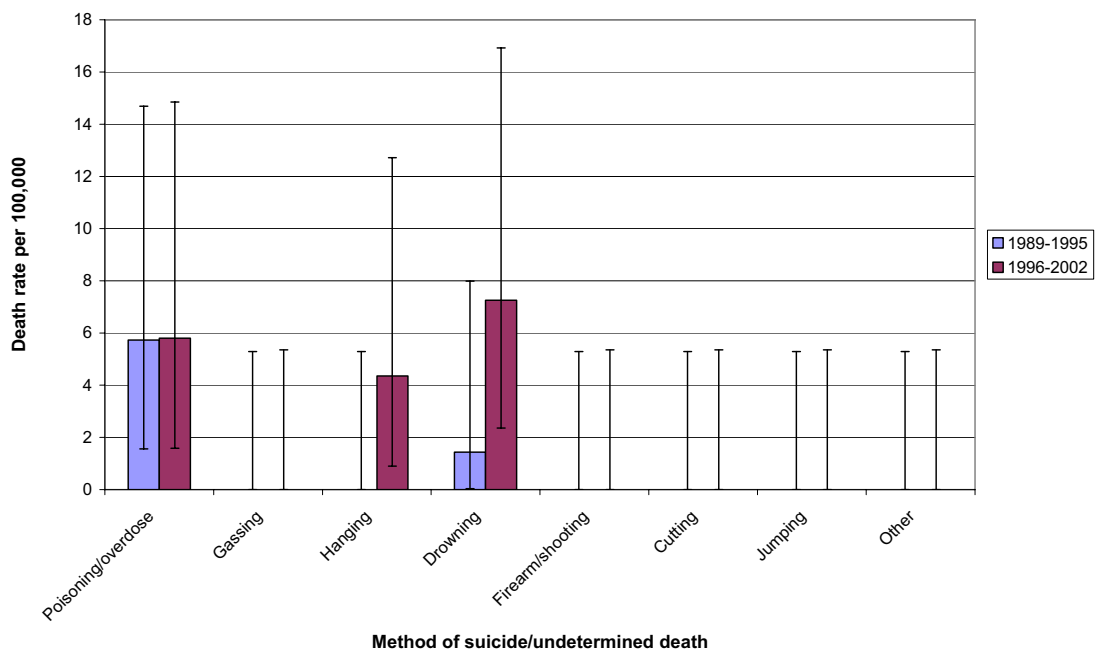
Death rate by method of suicide and undetermined death, North Lanarkshire, 1989-1995 and 1996-2002, males



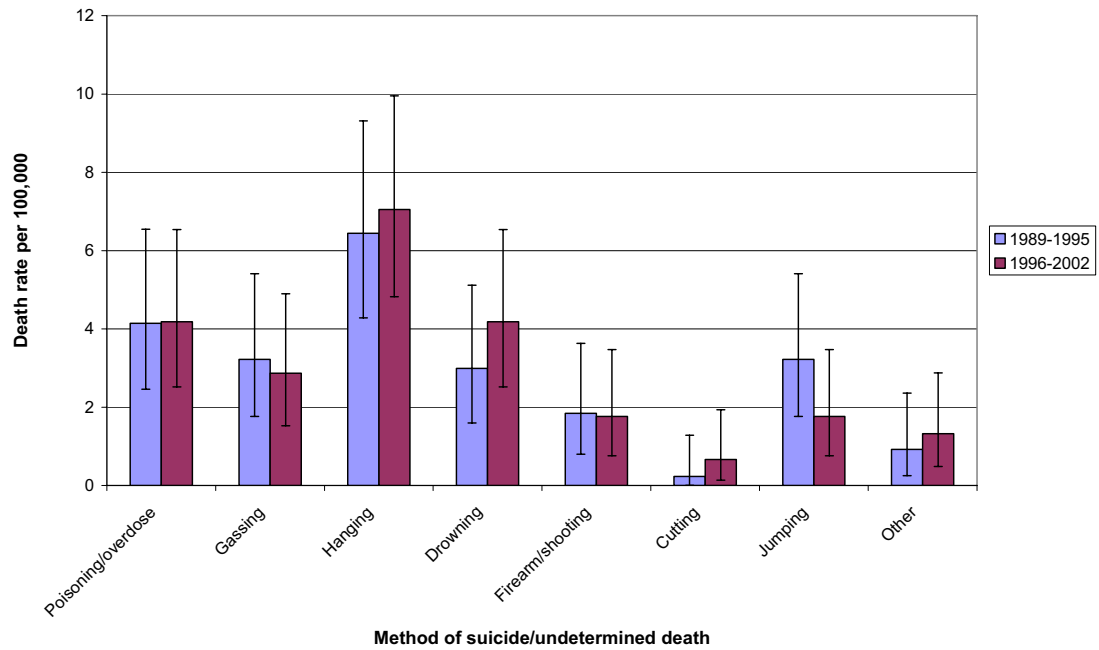
Death rate by method of suicide and undetermined death, North Lanarkshire, 1989-1995 and 1996-2002, females



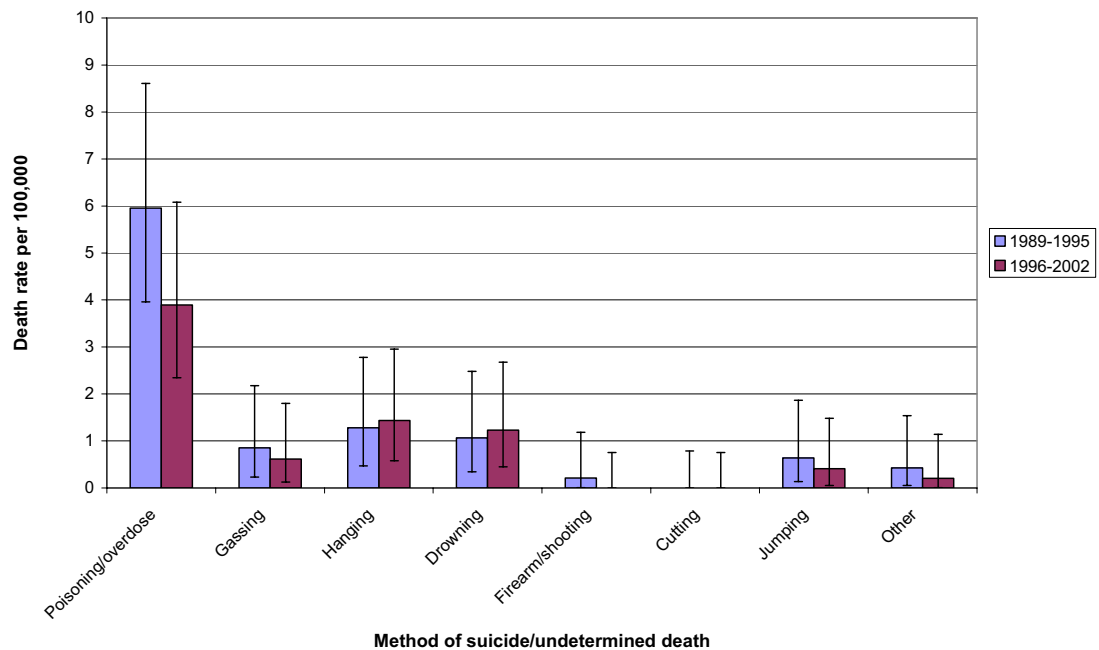
Death rate by method of suicide and undetermined death, Orkney, 1989-1995 and 1996-2002, males



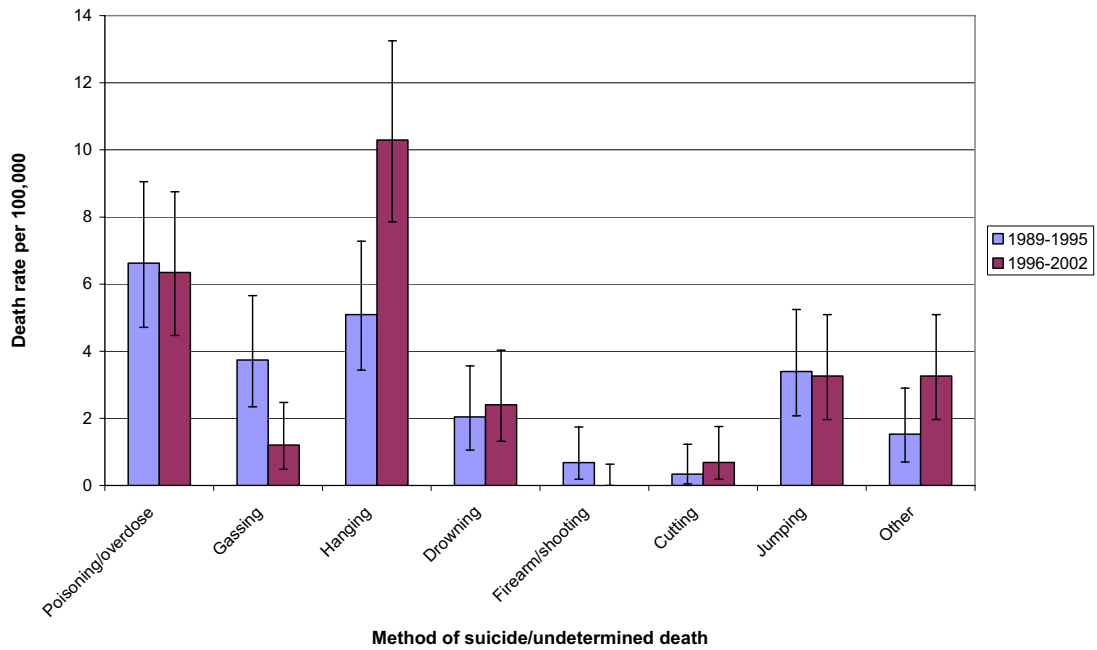
Death rate by method of suicide and undetermined death, Orkney, 1989-1995 and 1996-2002, females



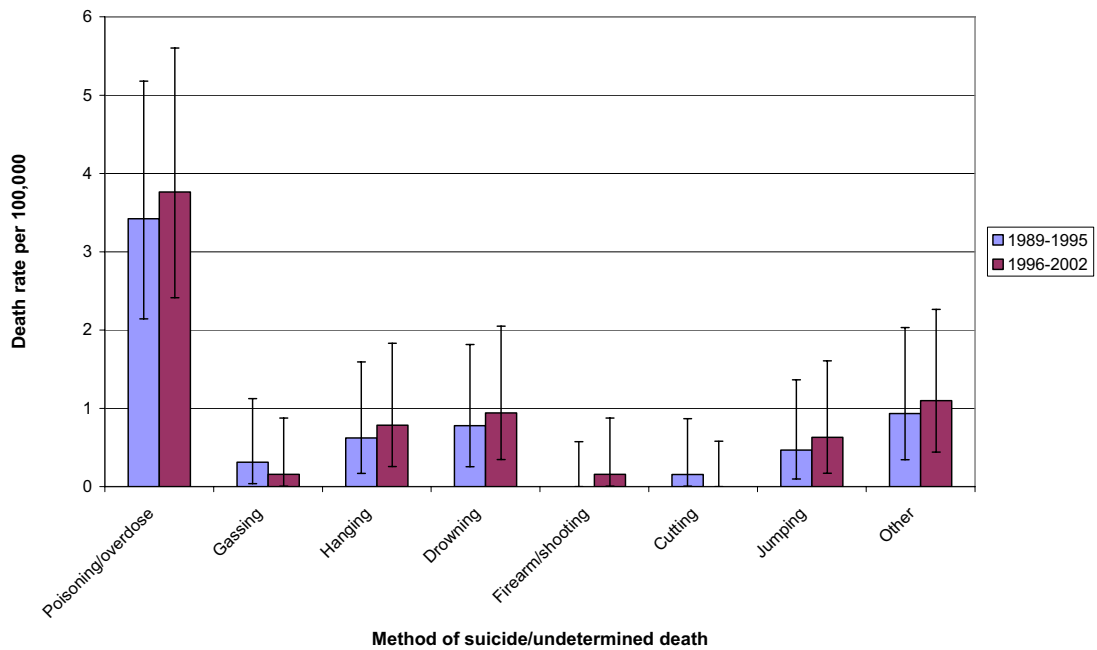
Death rate by method of suicide and undetermined death, Perth & Kinross, 1989-1995 and 1996-2002, males



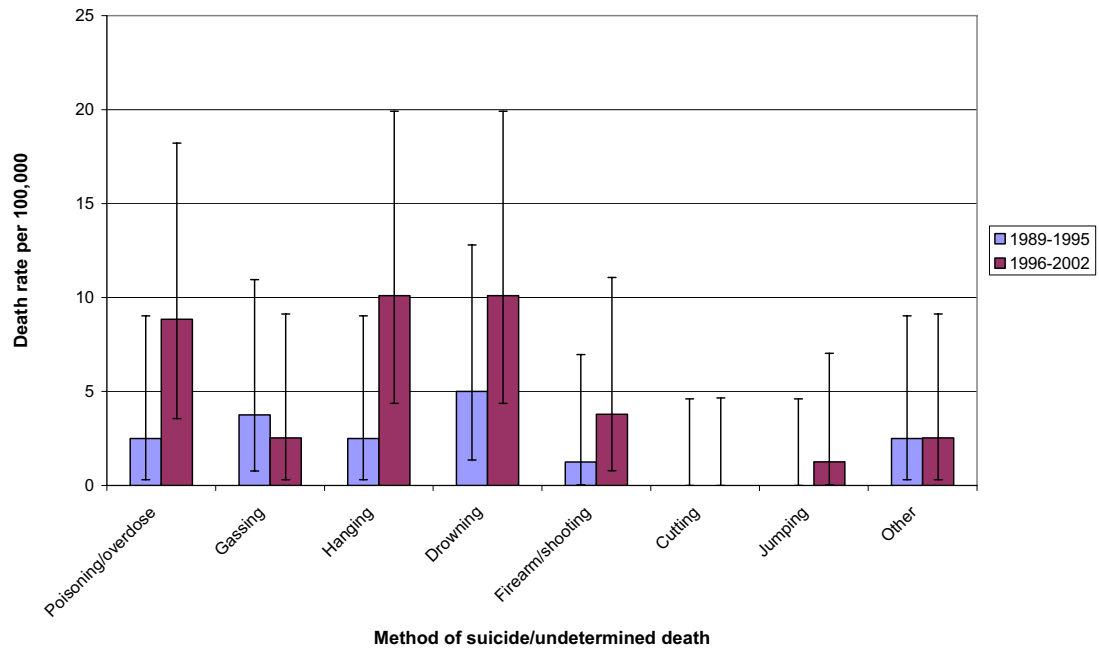
Death rate by method of suicide and undetermined death, Perth & Kinross, 1989-1995 and 1996-2002, females



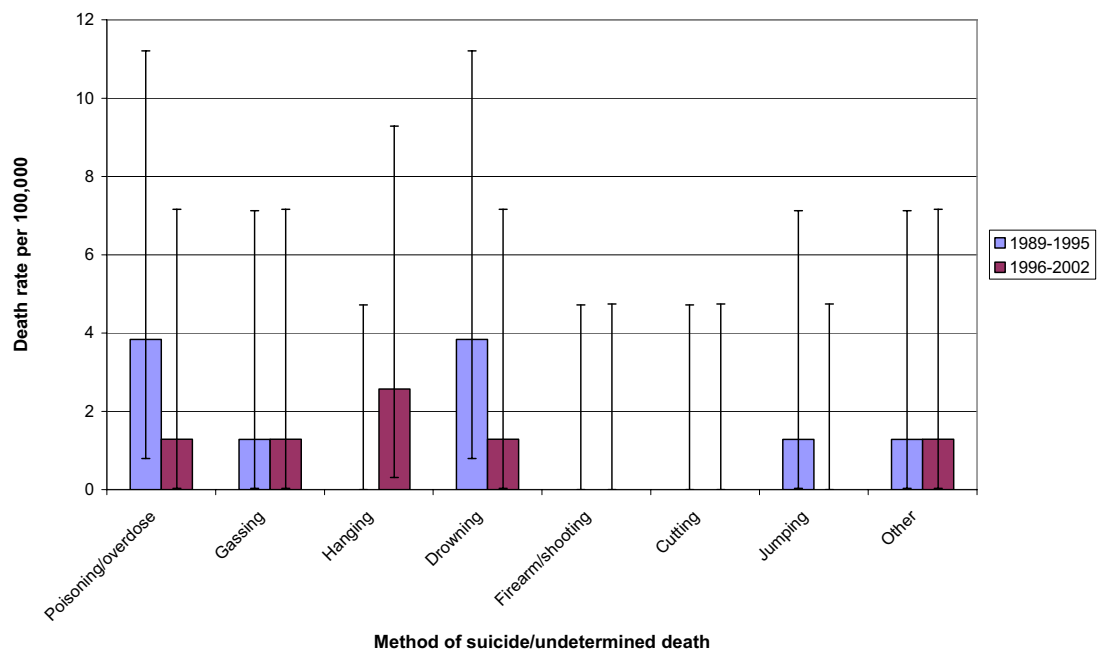
Death rate by method of suicide and undetermined death, Renfrewshire, 1989-1995 and 1996-2002, males



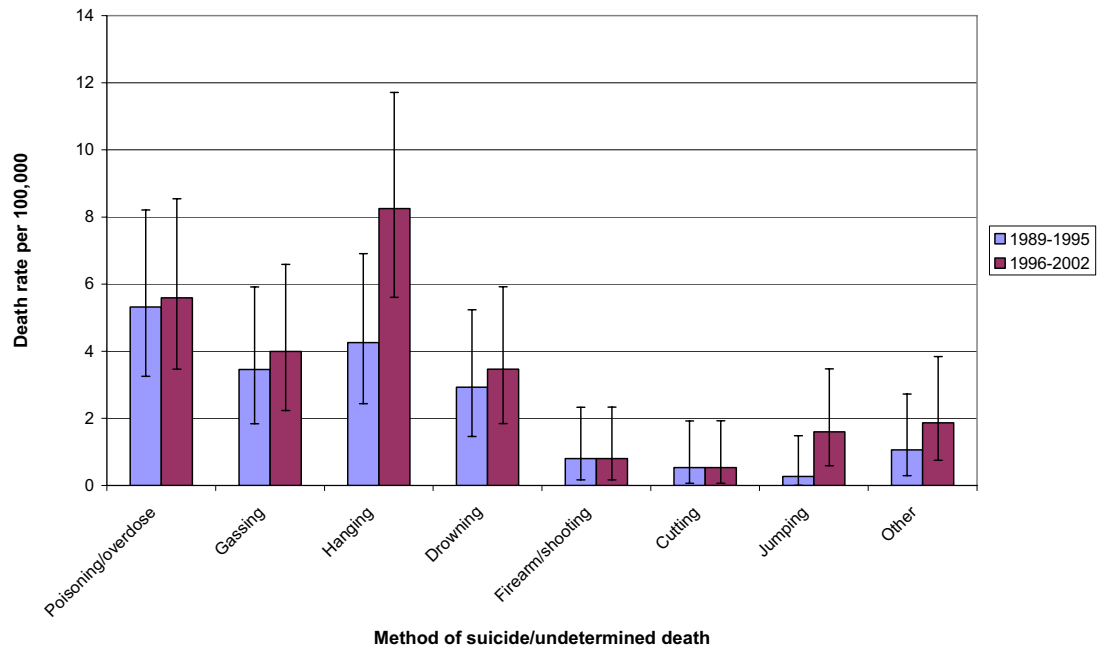
Death rate by method of suicide and undetermined death, Renfrewshire, 1989-1995 and 1996-2002, females



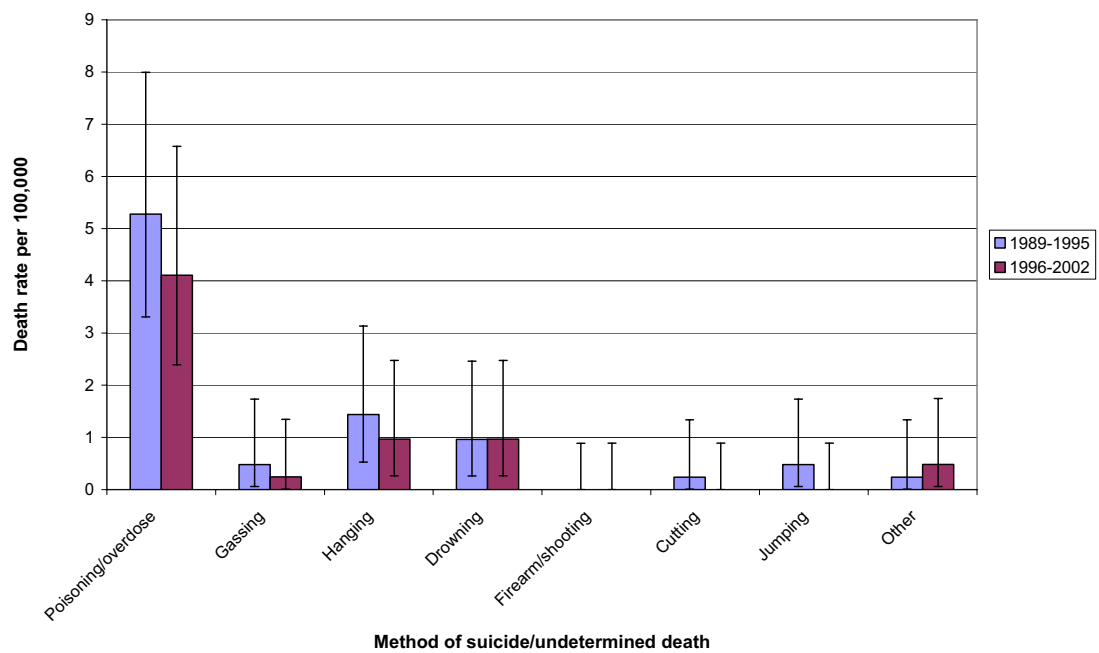
Death rate by method of suicide and undetermined death, Shetland, 1989-1995 and 1996-2002, males



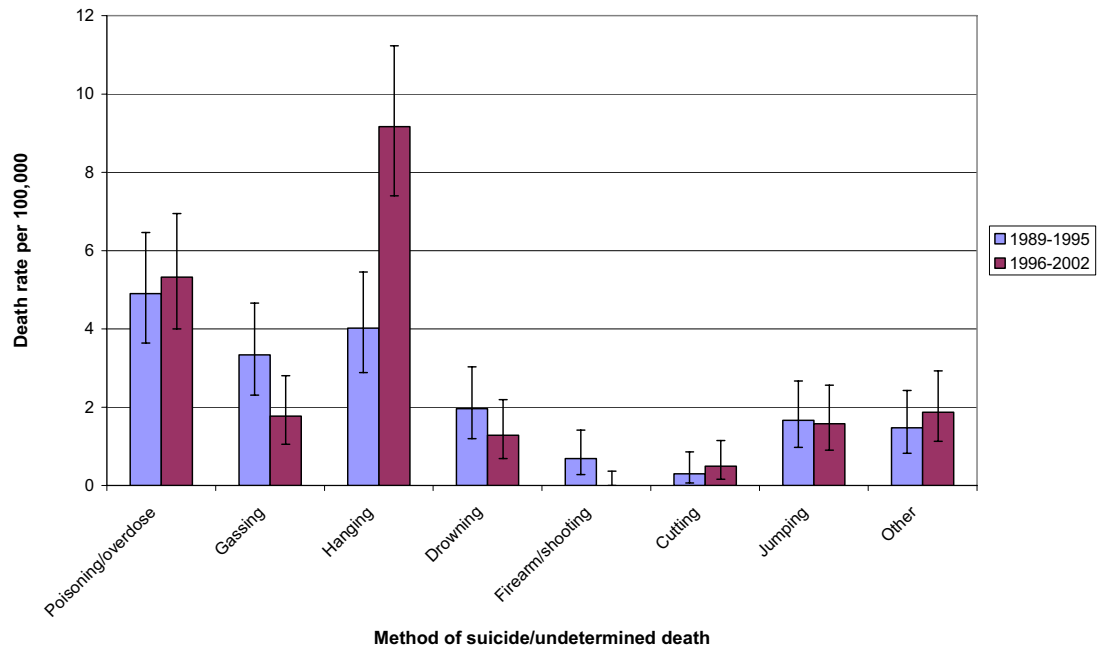
Death rate by method of suicide and undetermined death, Shetland, 1989-1995 and 1996-2002, females



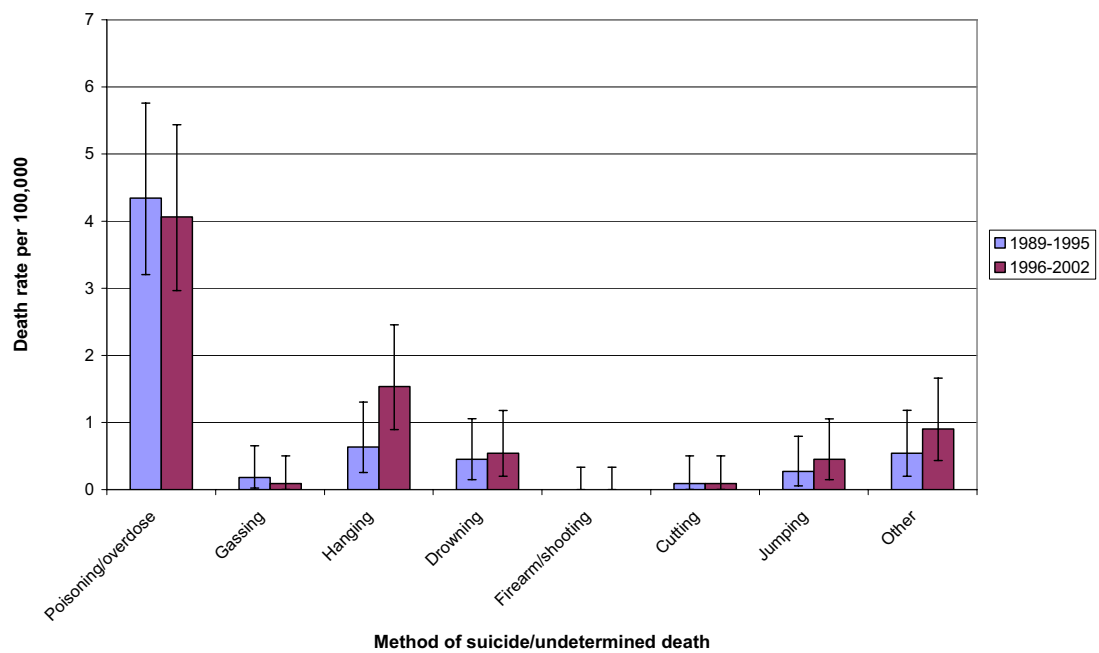
Death rate by method of suicide and undetermined death, South Ayrshire, 1989-1995 and 1996-2002, males



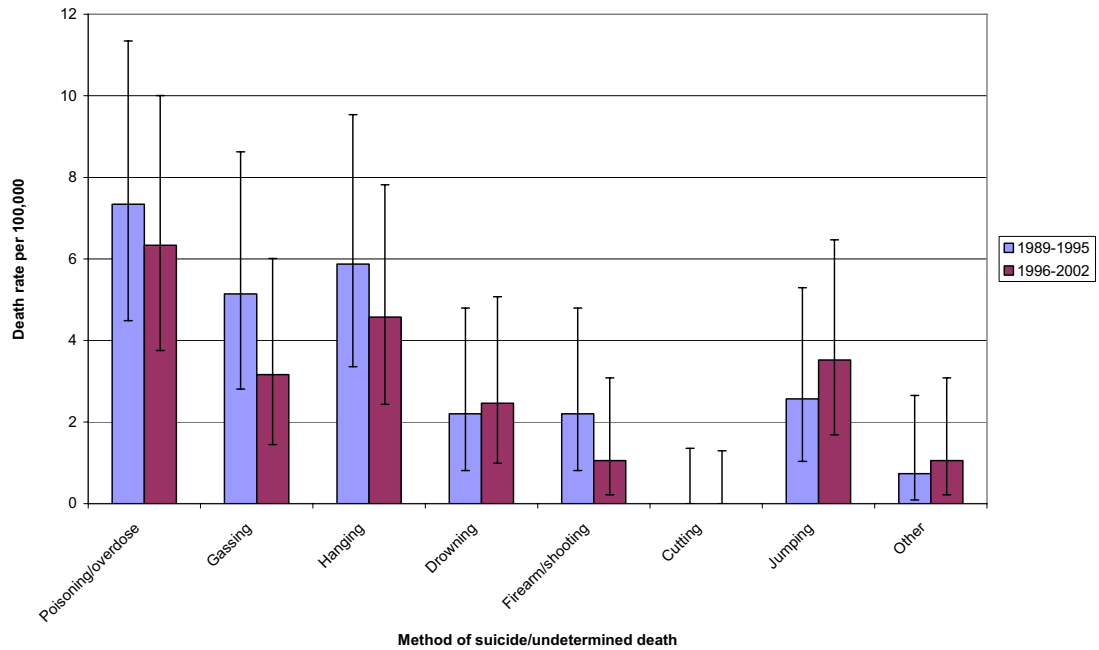
Death rate by method of suicide and undetermined death, South Ayrshire, 1989-1995 and 1996-2002, females



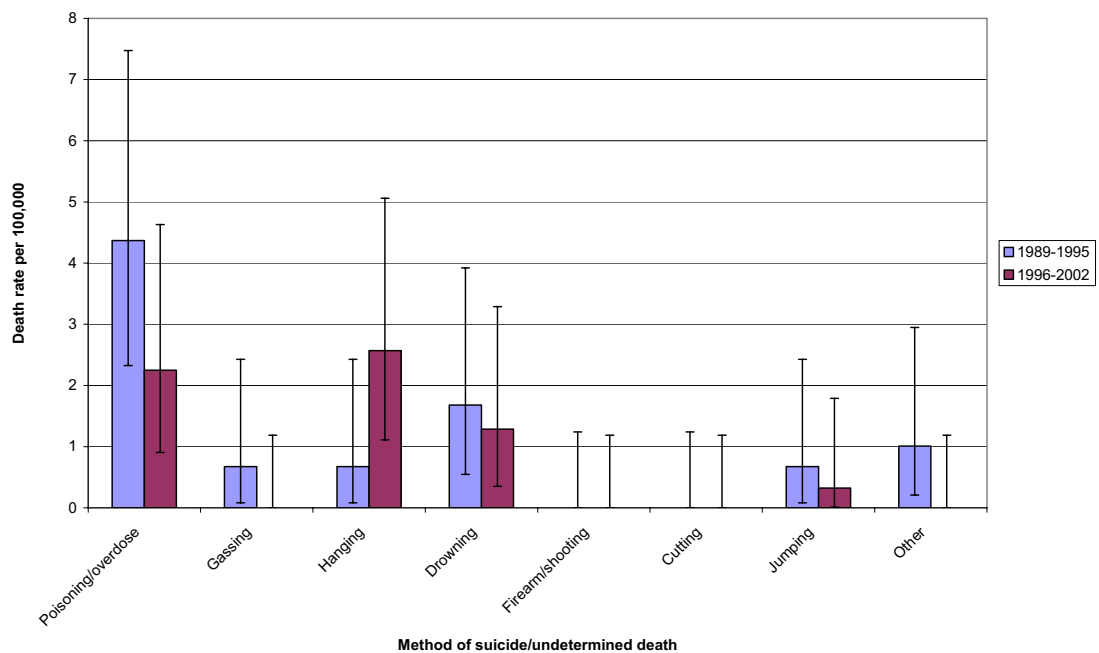
Death rate by method of suicide and undetermined death, South Lanarkshire, 1989-1995 and 1996-2002, males



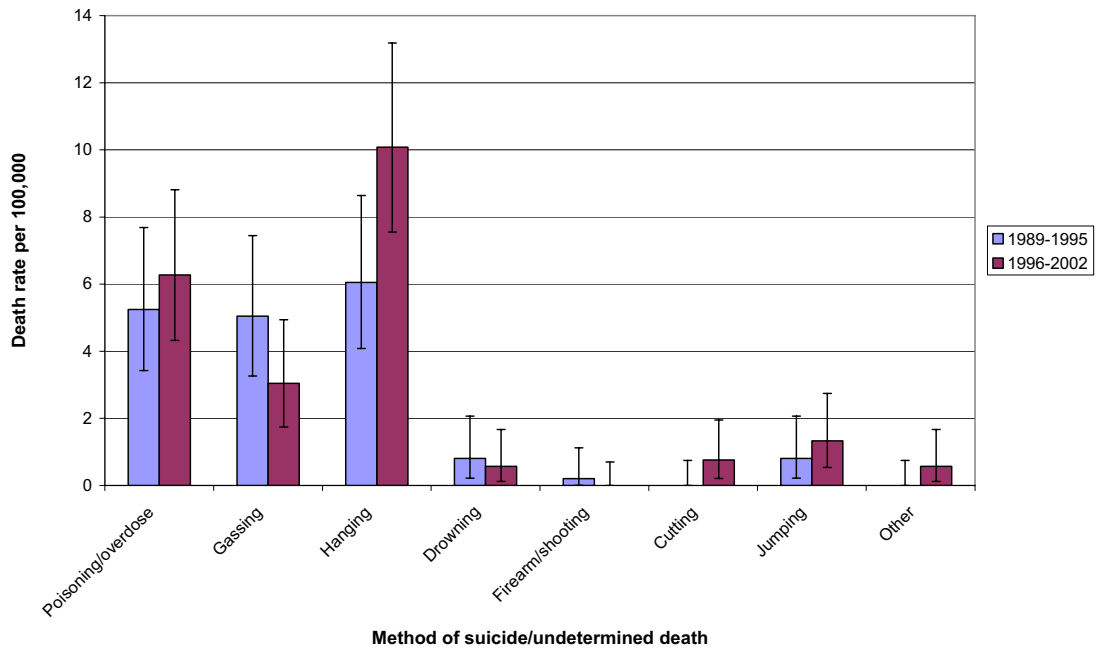
Death rate by method of suicide and undetermined death, South Lanarkshire, 1989-1995 and 1996-2002, females



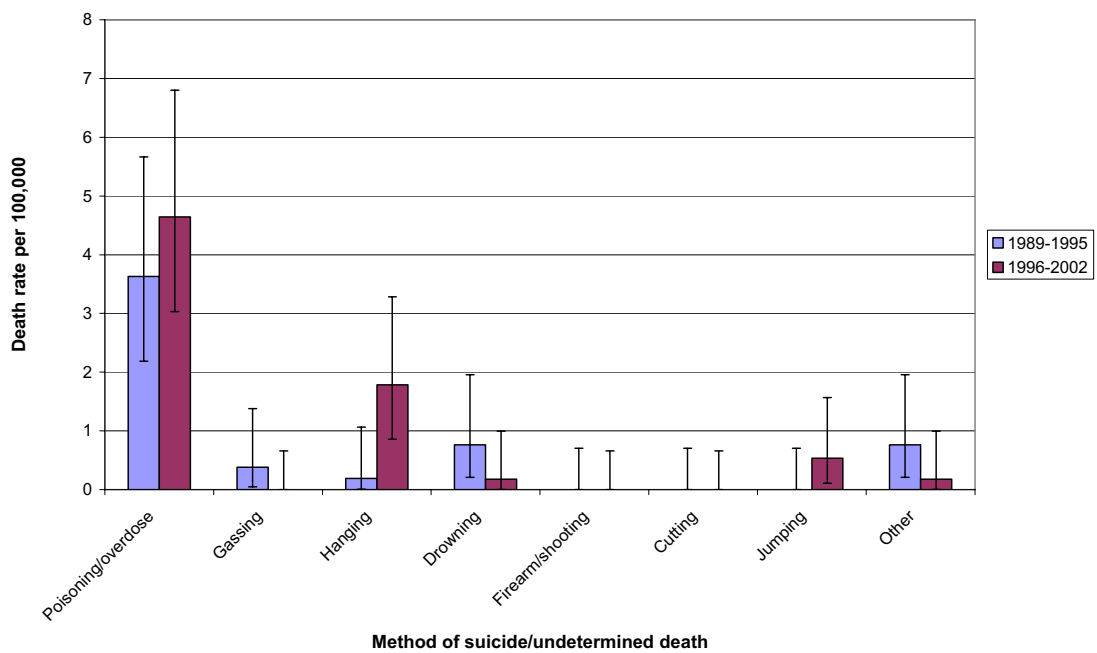
Death rate by method of suicide and undetermined death, Stirling, 1989-1995 and 1996-2002, males



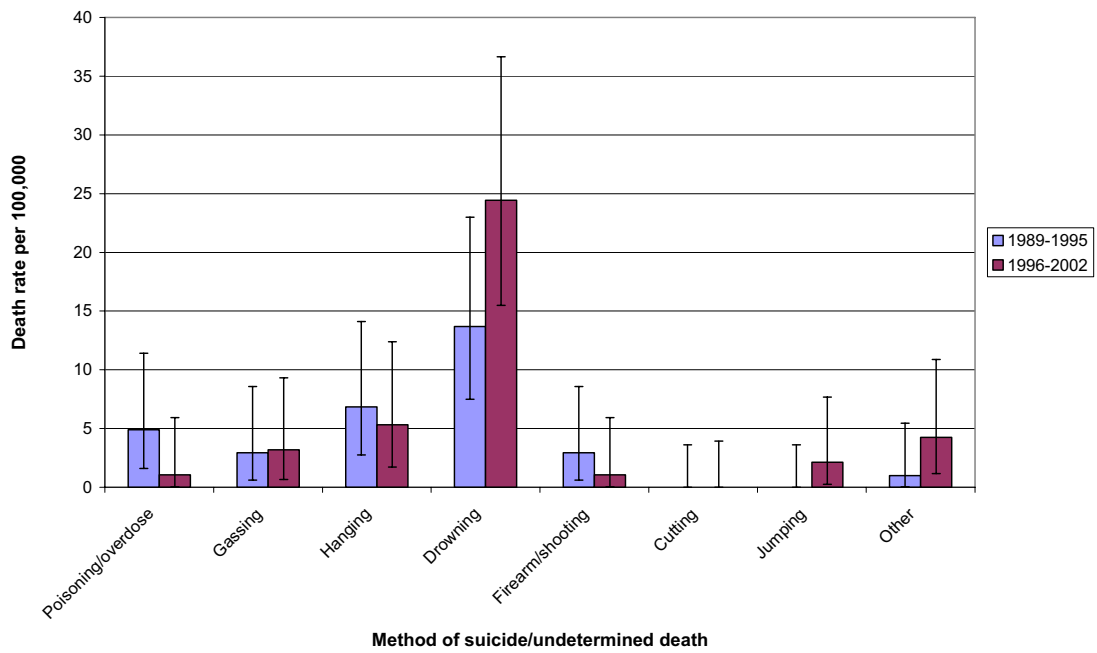
Death rate by method of suicide and undetermined death, Stirling, 1989-1995 and 1996-2002, females



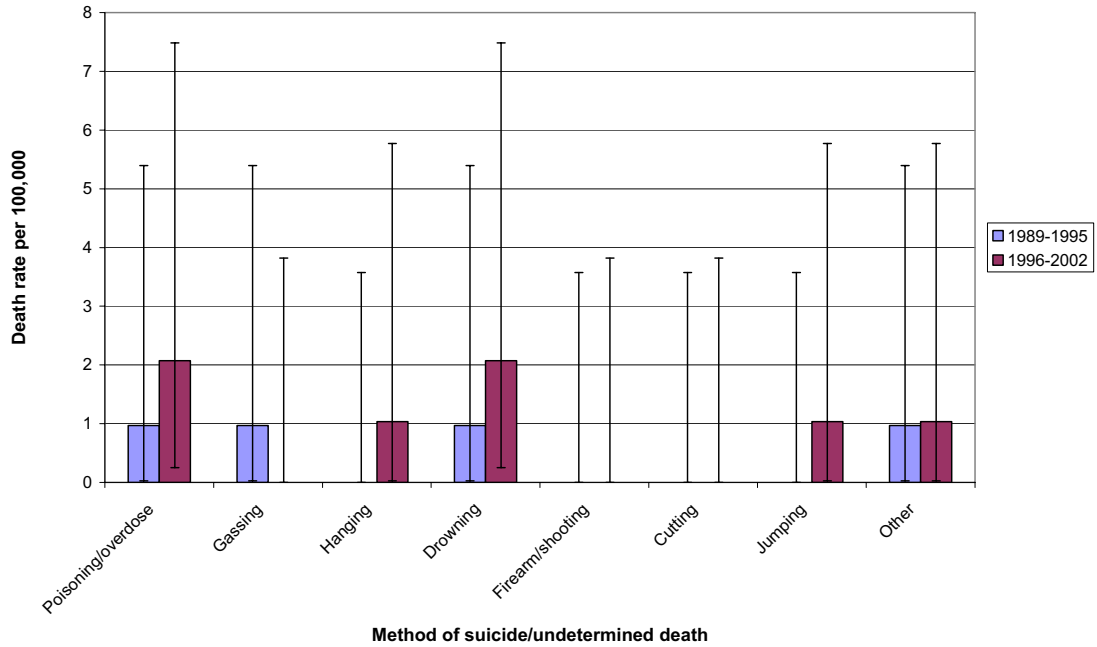
Death rate by method of suicide and undetermined death, West Lothian, 1989-1995 and 1996-2002, males



Death rate by method of suicide and undetermined death, West Lothian, 1989-1995 and 1996-2002, females

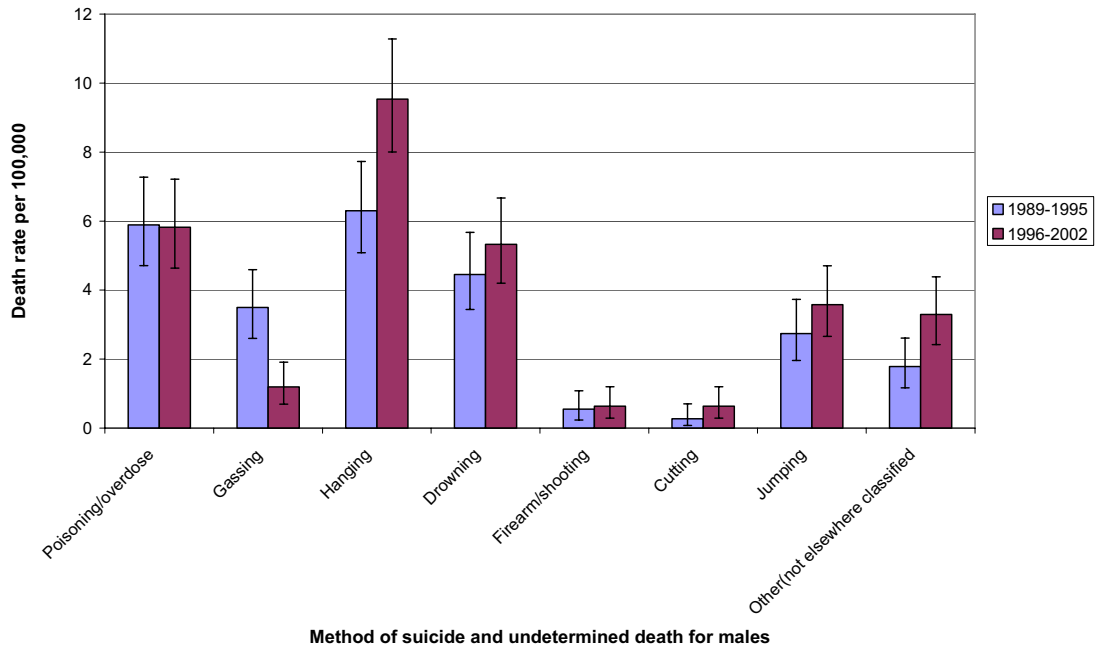


Death rate by method of suicide and undetermined death, Eilean Siar, 1989-1995 and 1996-2002, males

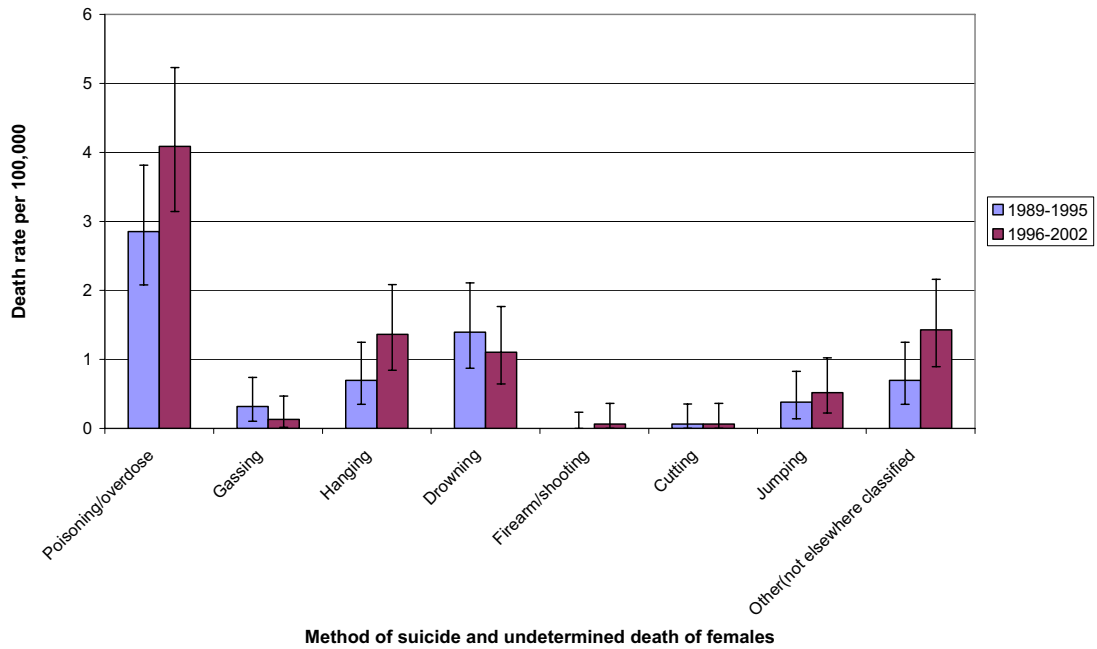


Death rate by method of suicide and undetermined death, Eilean Siar, 1989-1995 and 1996-2002, females

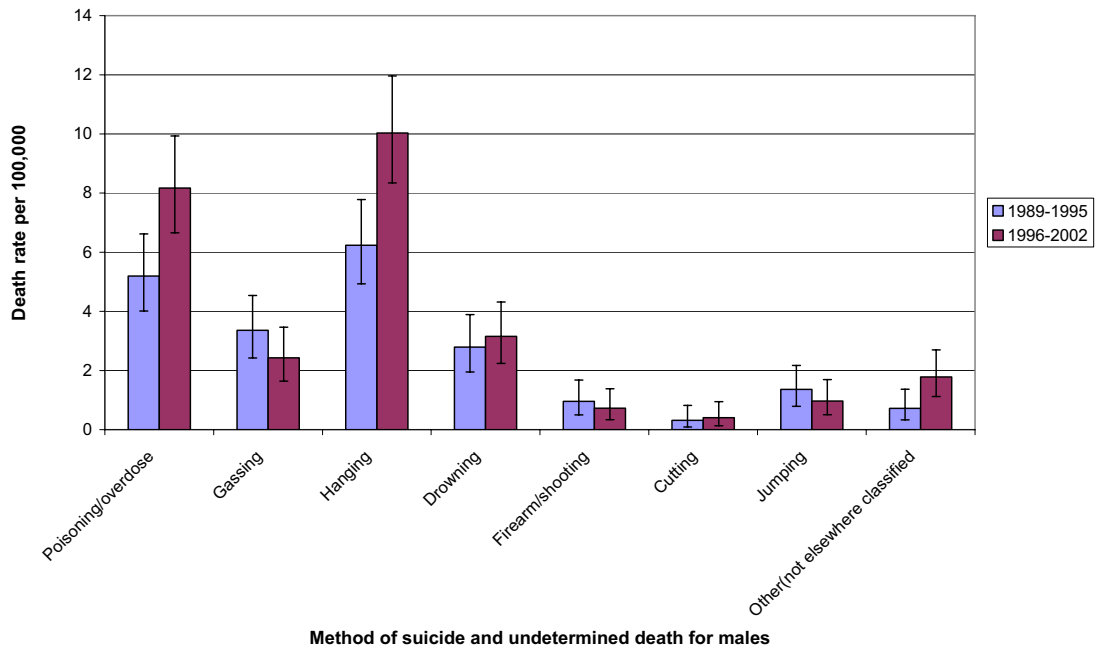
Annex 6 Suicide rates by method of suicide, by sex, separately for each health board, 1989-1995 and 1996-2002



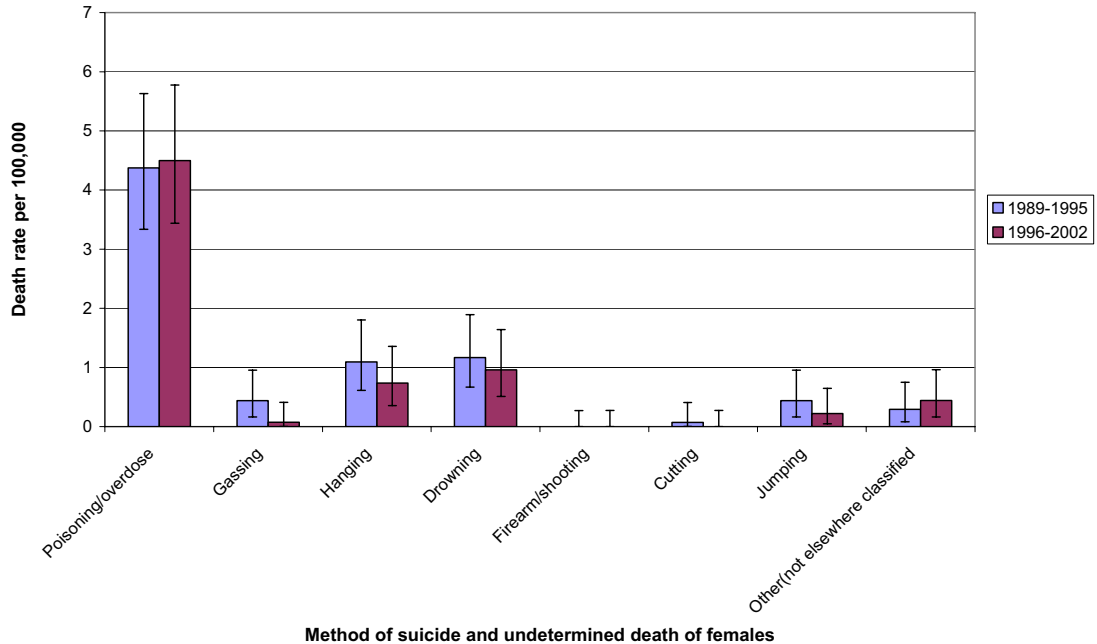
Death rate by method of suicide and undetermined death, Argyll & Clyde, 1989-1995 and 1996-2002, males



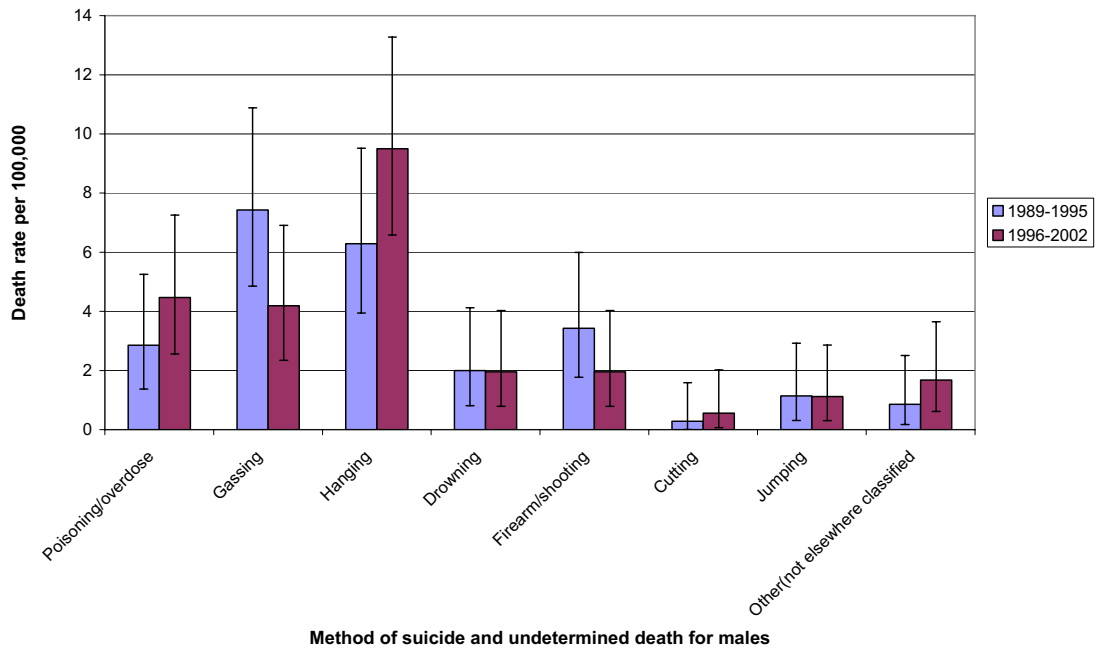
Death rate by method of suicide and undetermined death, Argyll & Clyde, 1989-1995 and 1996-2002, females



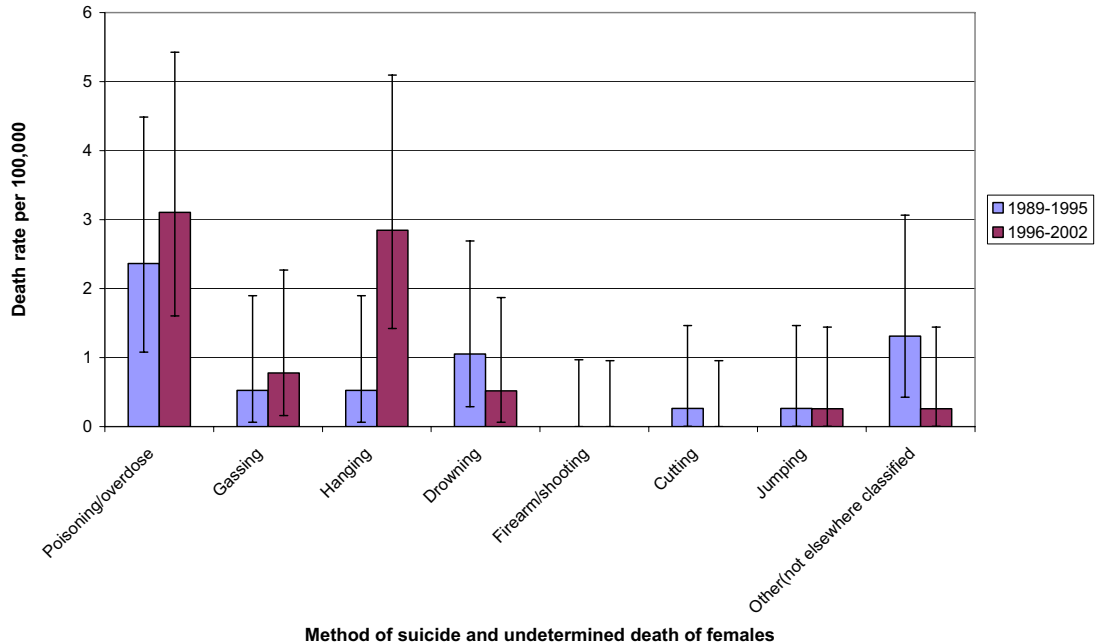
Death rates by method of suicide and undetermined death, Ayrshire & Arran 1989-1995 and 1996-2002, males



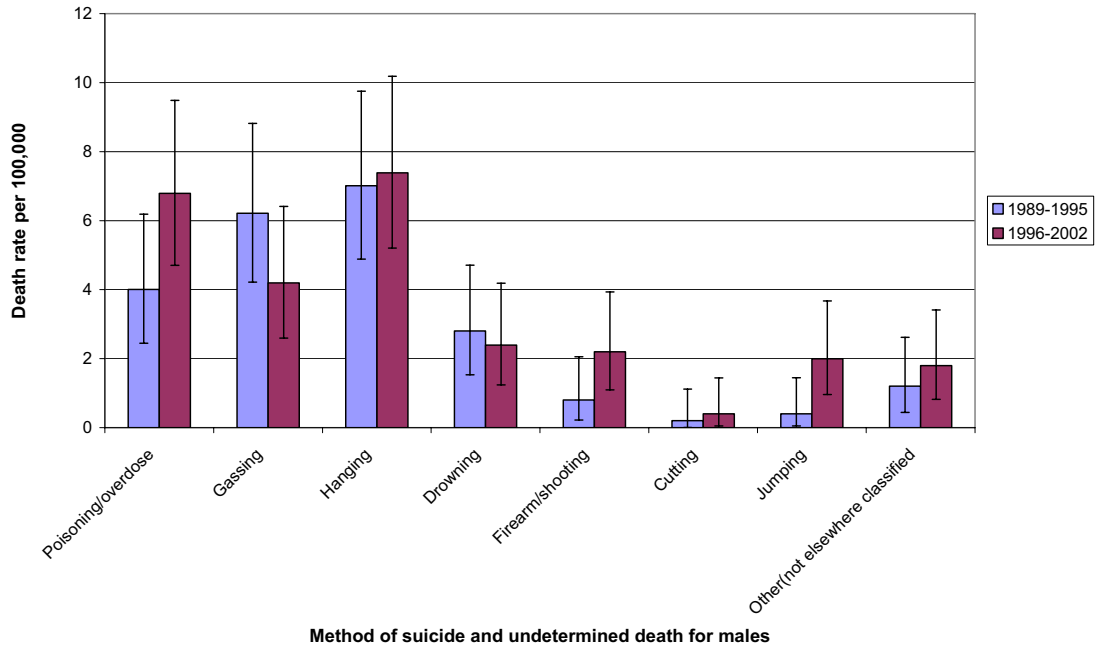
Death rates by method of suicide and undetermined death, Ayrshire & Arran 1989-1995 and 1996-2002, females



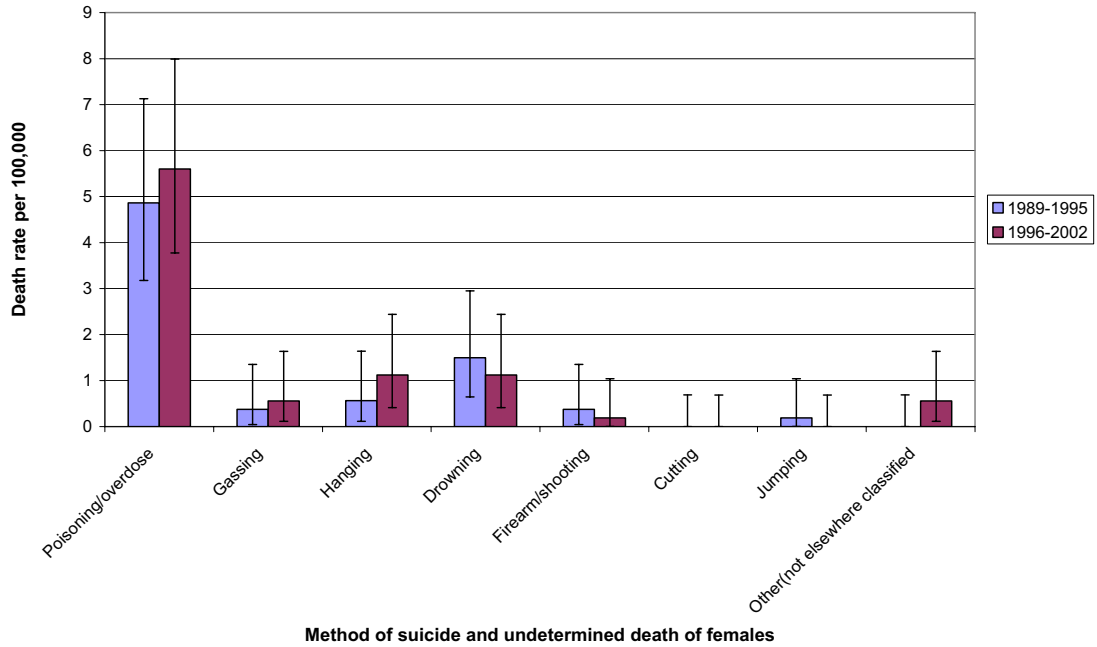
Death rate by method of suicide and undetermined death, Borders, 1989-1995 and 1996-2002, males



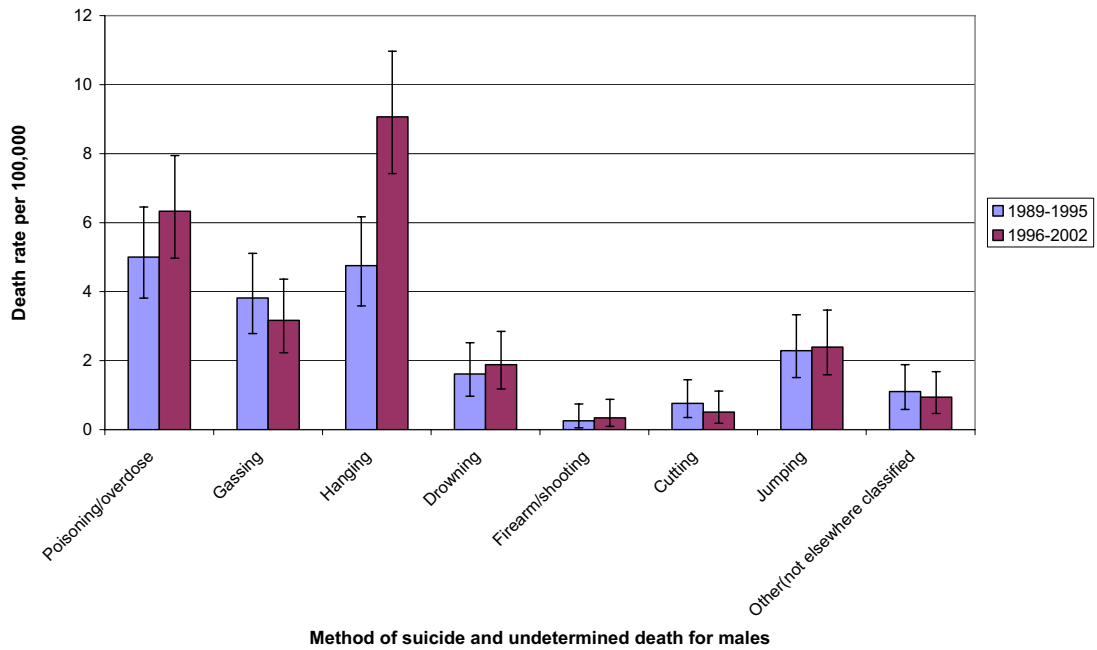
Death rate by method of suicide and undetermined death, Borders, 1989-1995 and 1996-2002, females



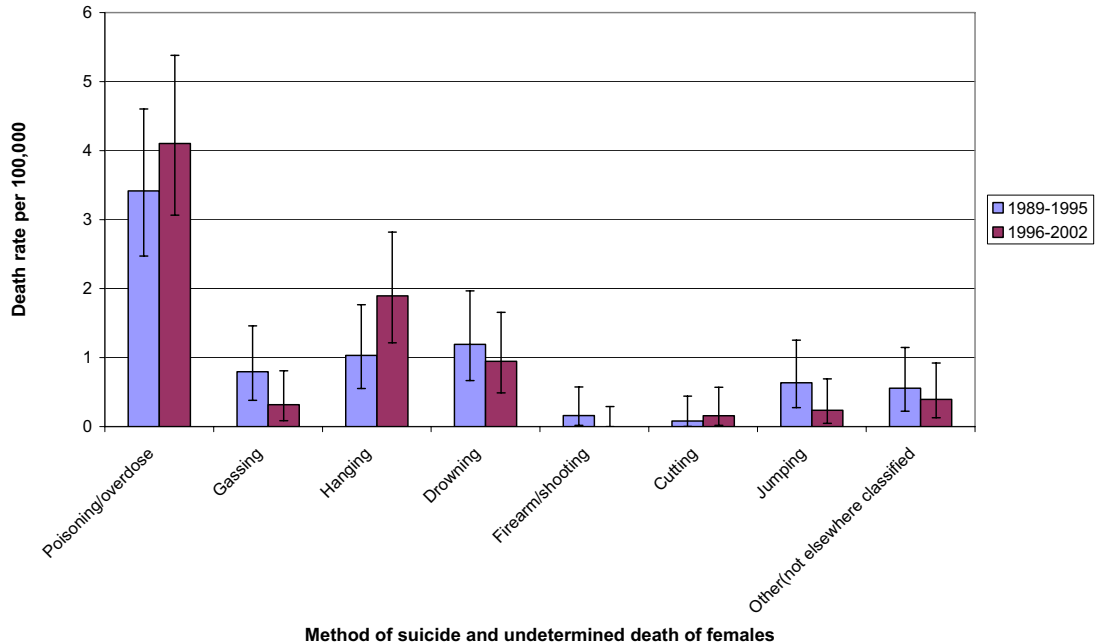
Death rates by method of suicide and undetermined death, Dumfries and Galloway 1989-1995 and 1996-2002, males



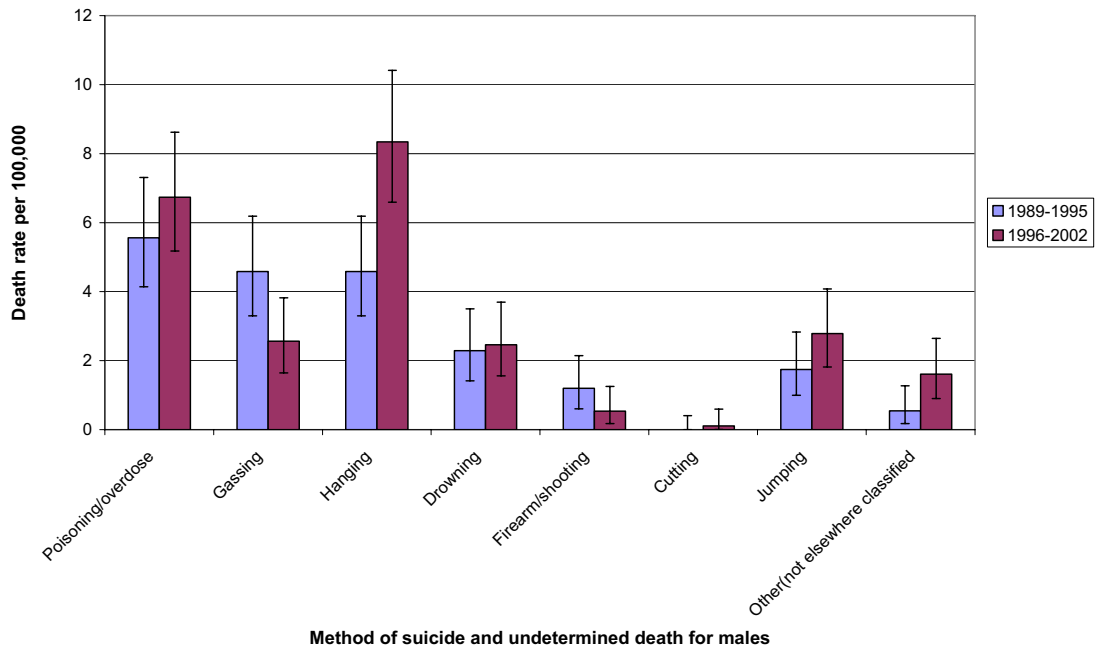
Death rates by method of suicide and undetermined death, Dumfries and Galloway 1989-1995 and 1996-2002, females



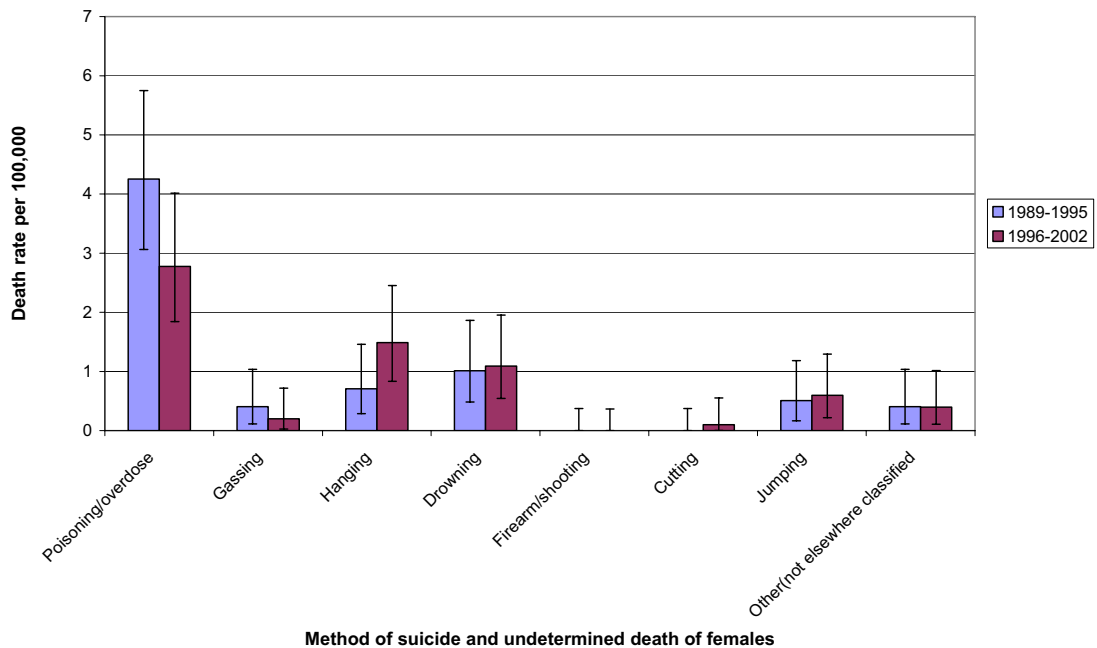
Death rate by method of suicide and undetermined death, Fife, 1989-1995 and 1996-2002, males



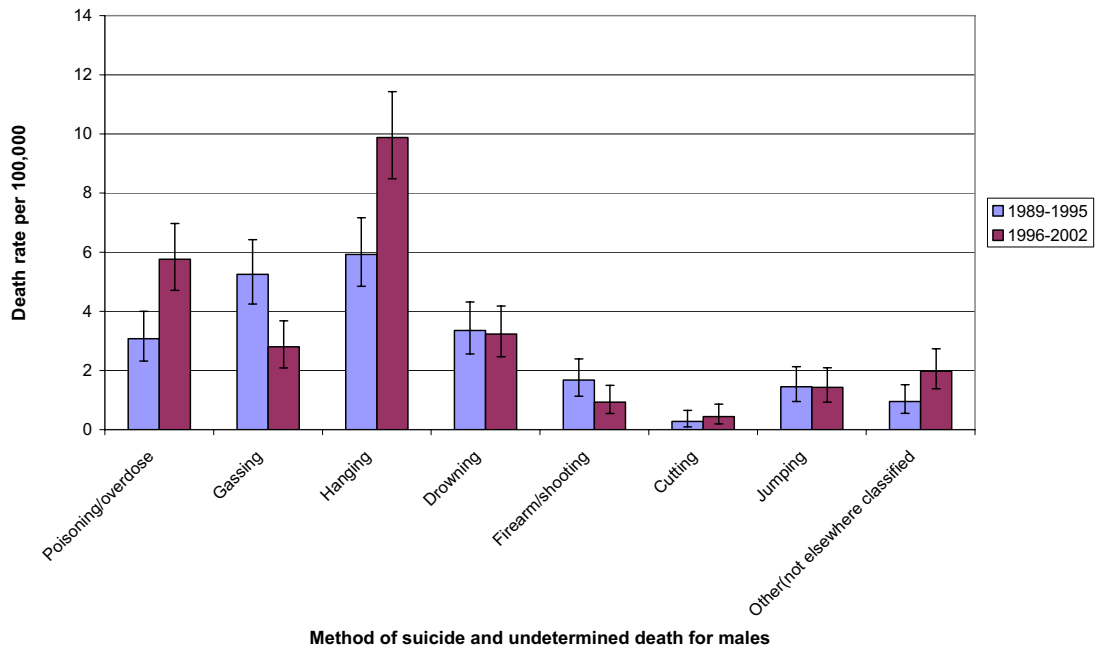
Death rate by method of suicide and undetermined death, Fife, 1989-1995 and 1996-2002, females



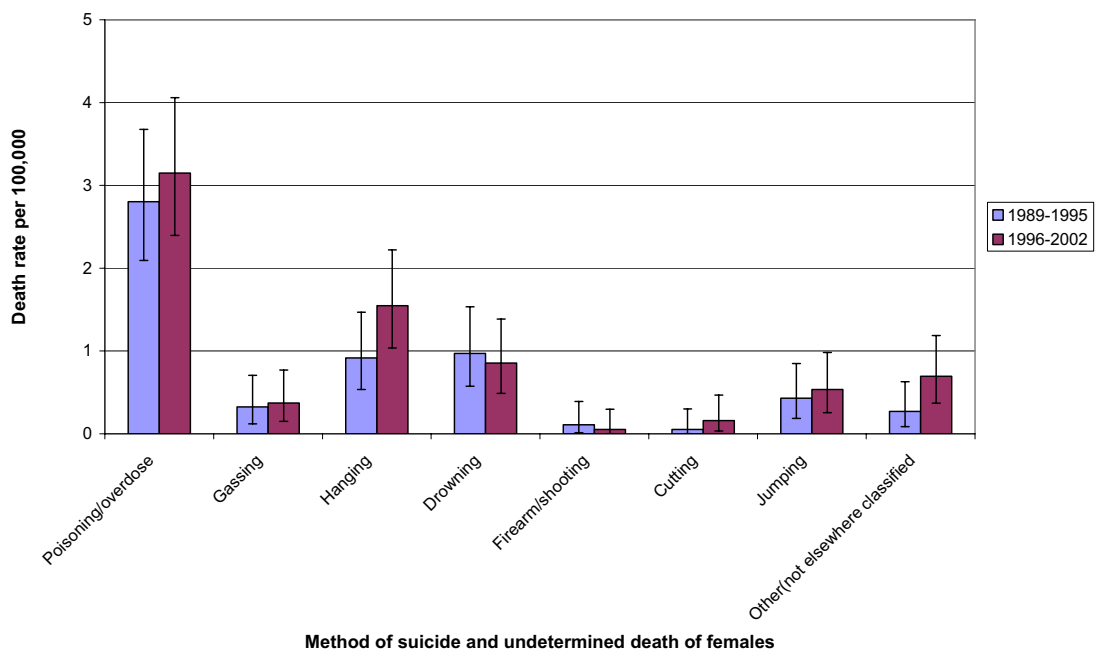
Death rate by method of suicide and undetermined death, Forth Valley, 1989-1995 and 1996-2002, males



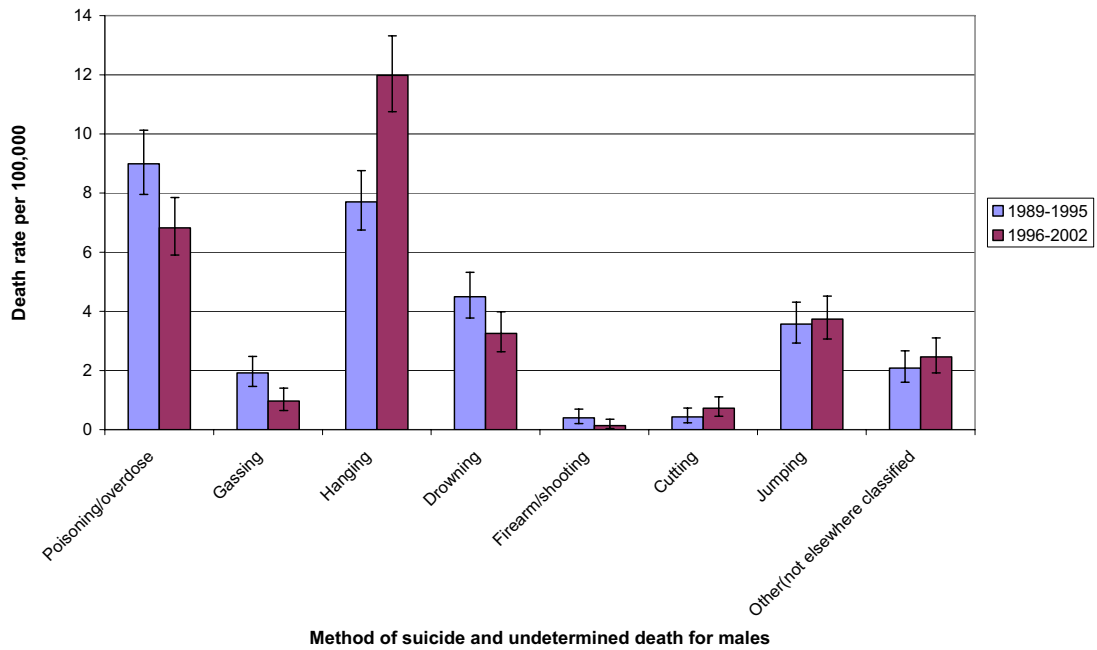
Death rate by method of suicide and undetermined death, Forth Valley, 1989-1995 and 1996-2002, females



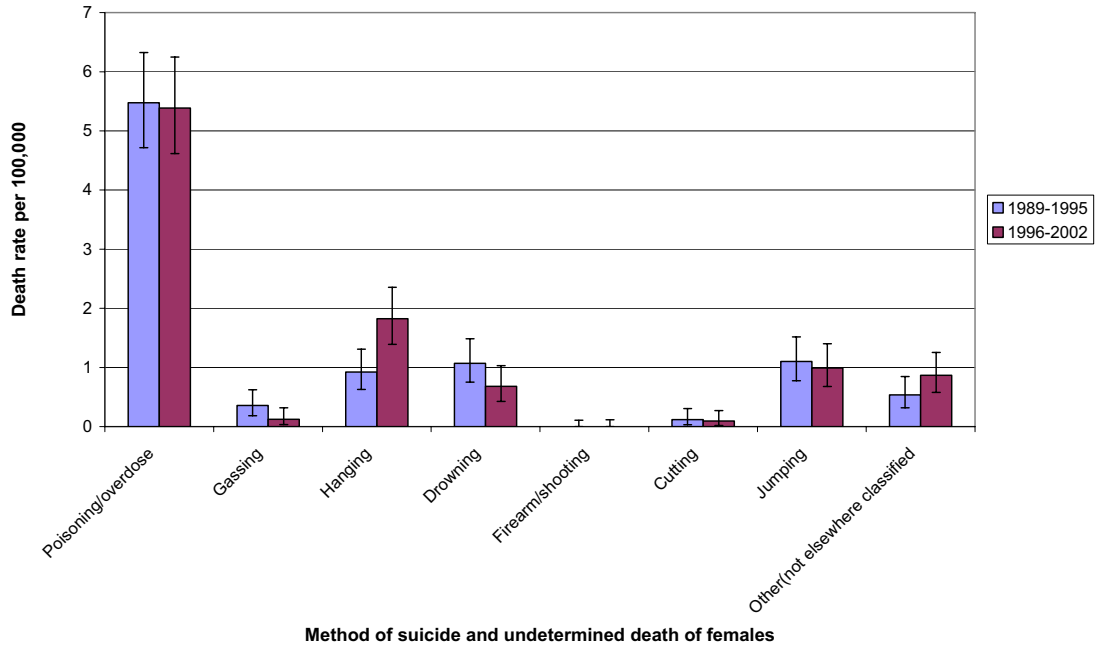
Death rate by method of suicide and undetermined death, Grampian, 1989-1995 and 1996-2002, males



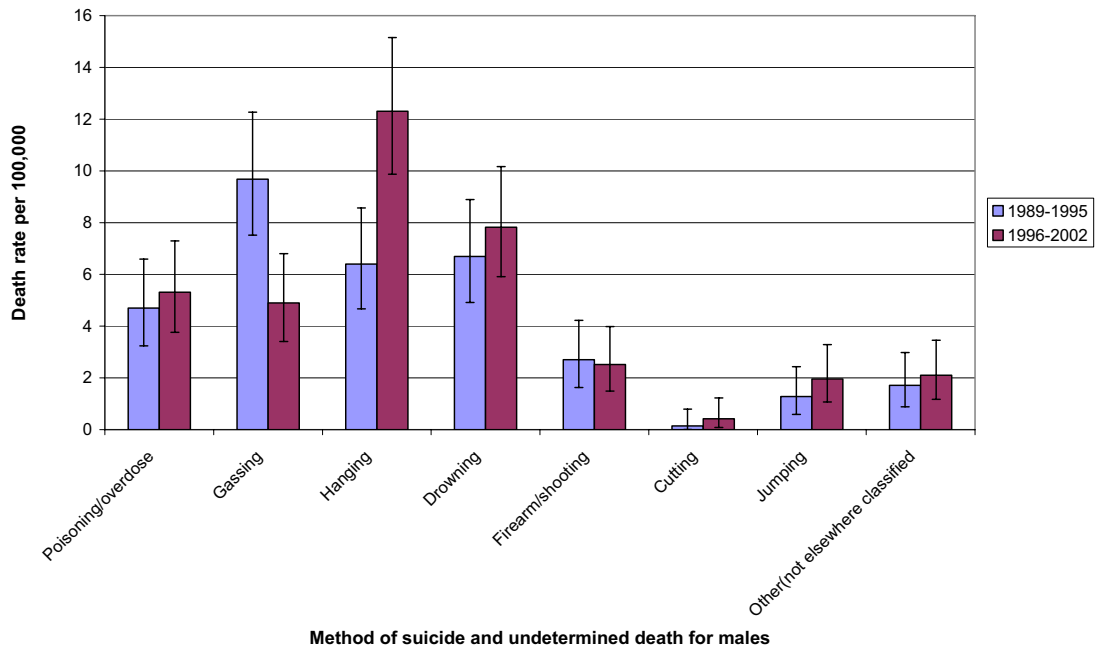
Death rate by method of suicide and undetermined death, Grampian, 1989-1995 and 1996-2002, females



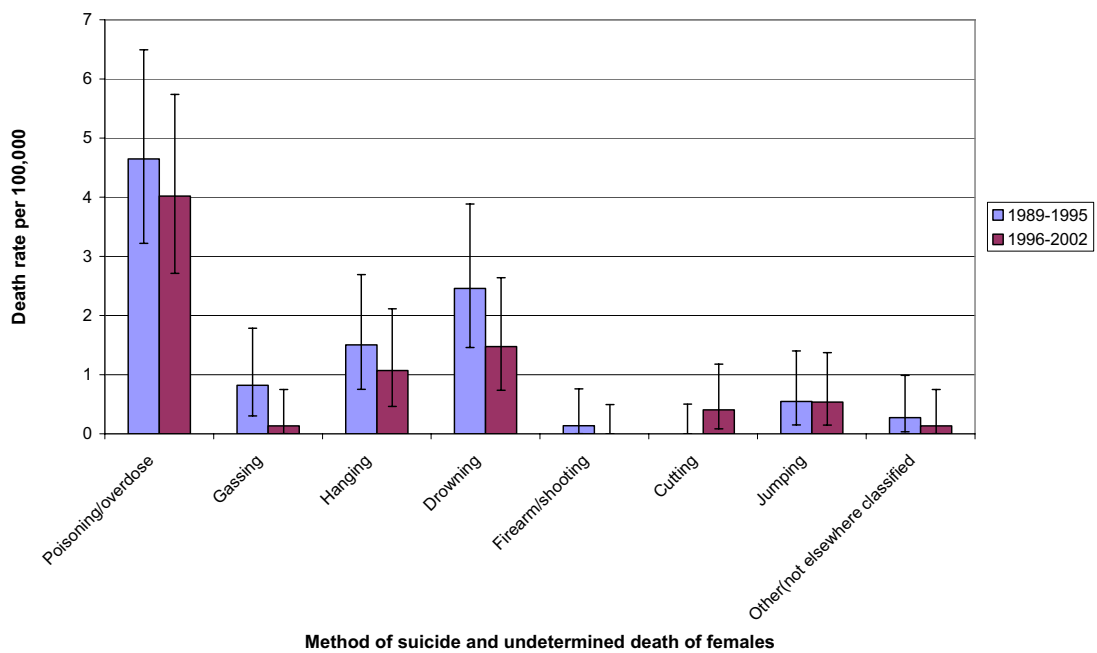
Death rate by method of suicide and undetermined death, Greater Glasgow, 1989-1995 and 1996-2002, males



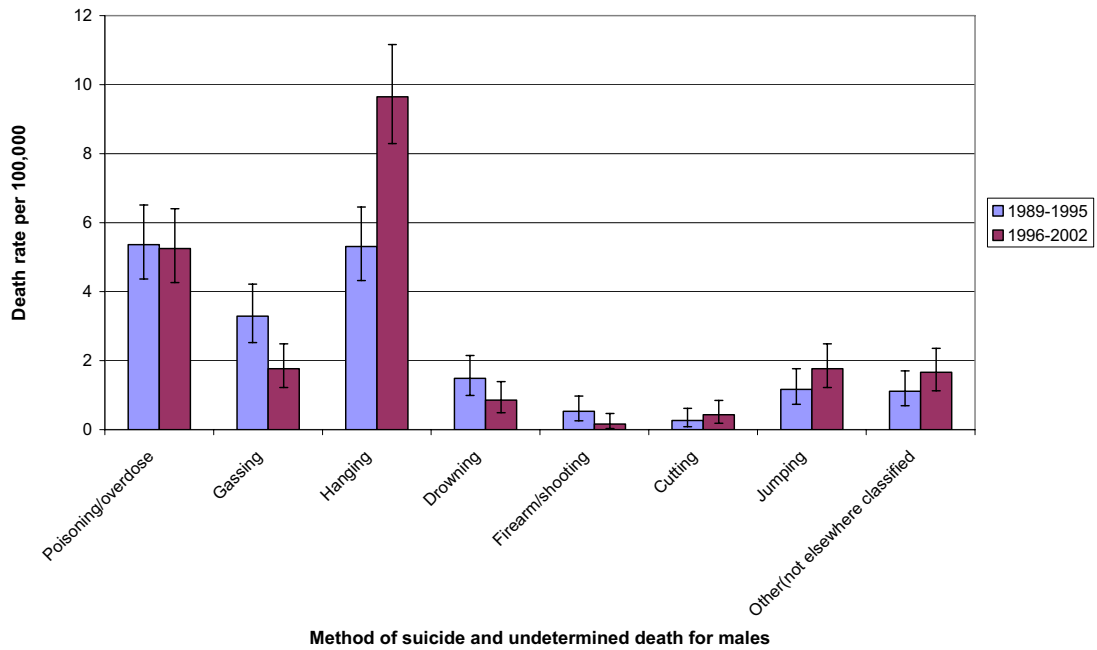
Death rate by method of suicide and undetermined death, Greater Glasgow, 1989-1995 and 1996-2002, females



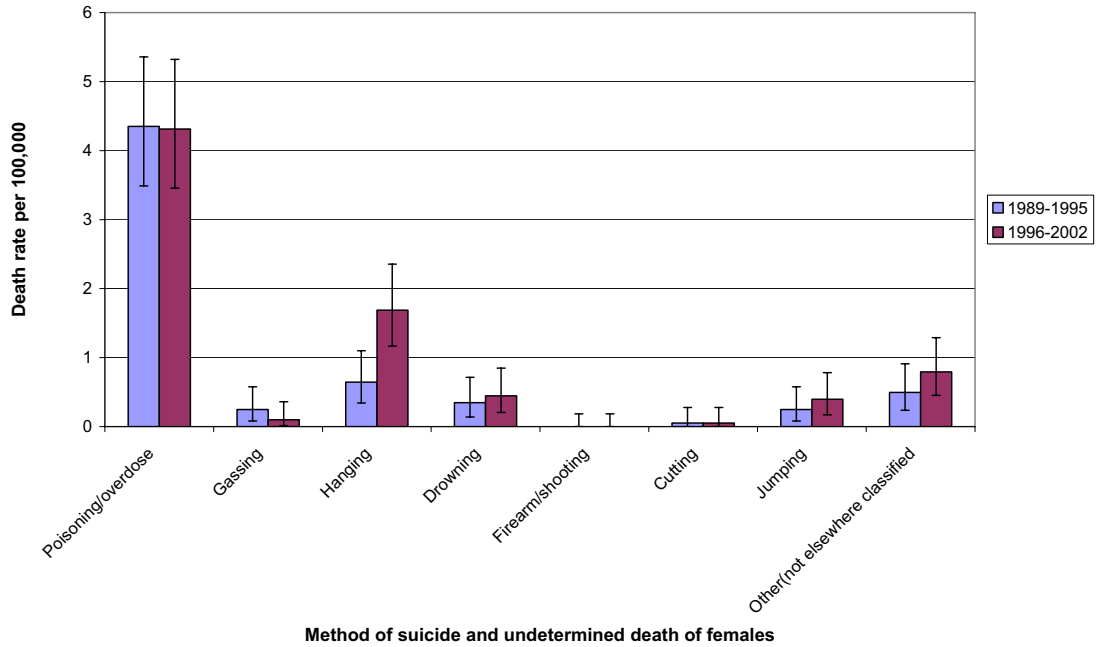
Death rate by method of suicide and undetermined death, Highland, 1989-1995 and 1996-2002, males



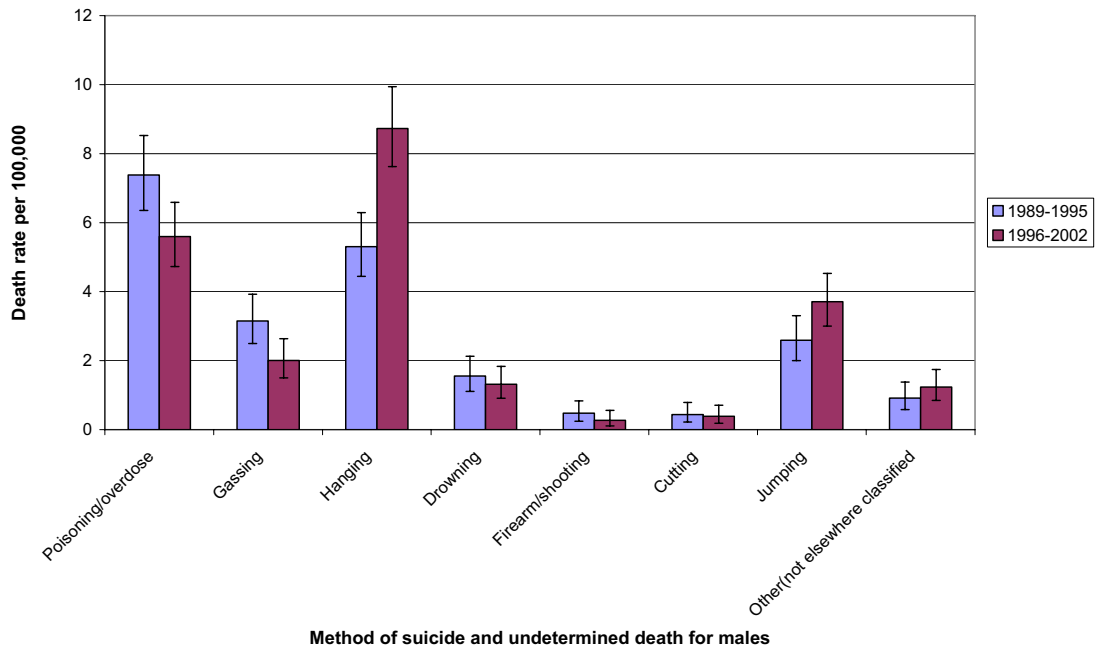
Death rate by method of suicide and undetermined death, Highland, 1989-1995 and 1996-2002, females



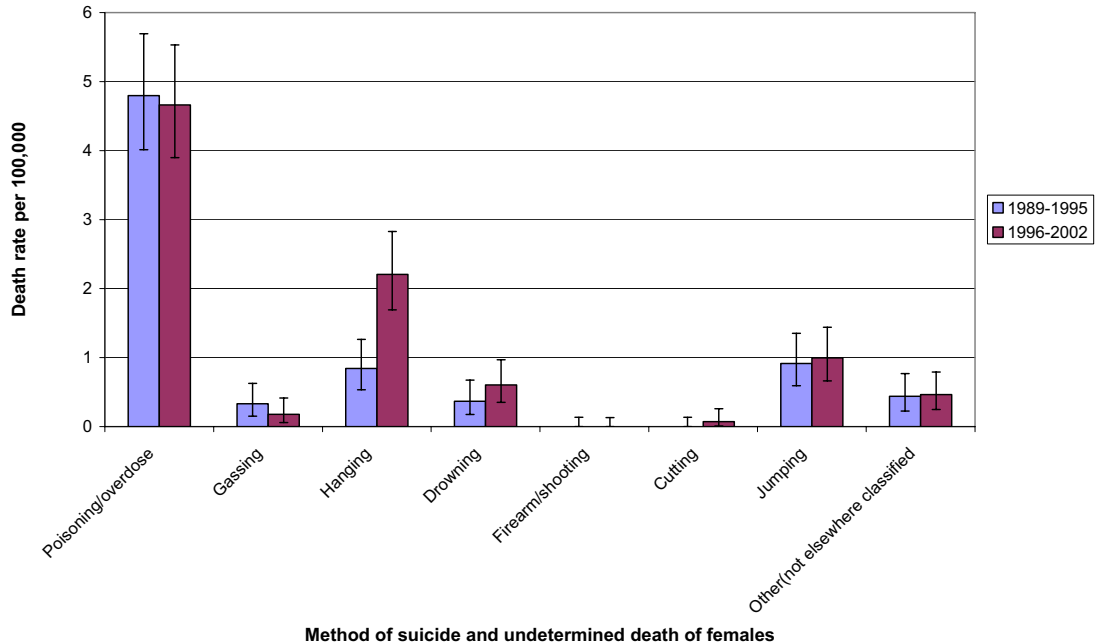
Death rates by method of suicide and undetermined death, Lanarkshire 1989-1995 and 1996-2002, males



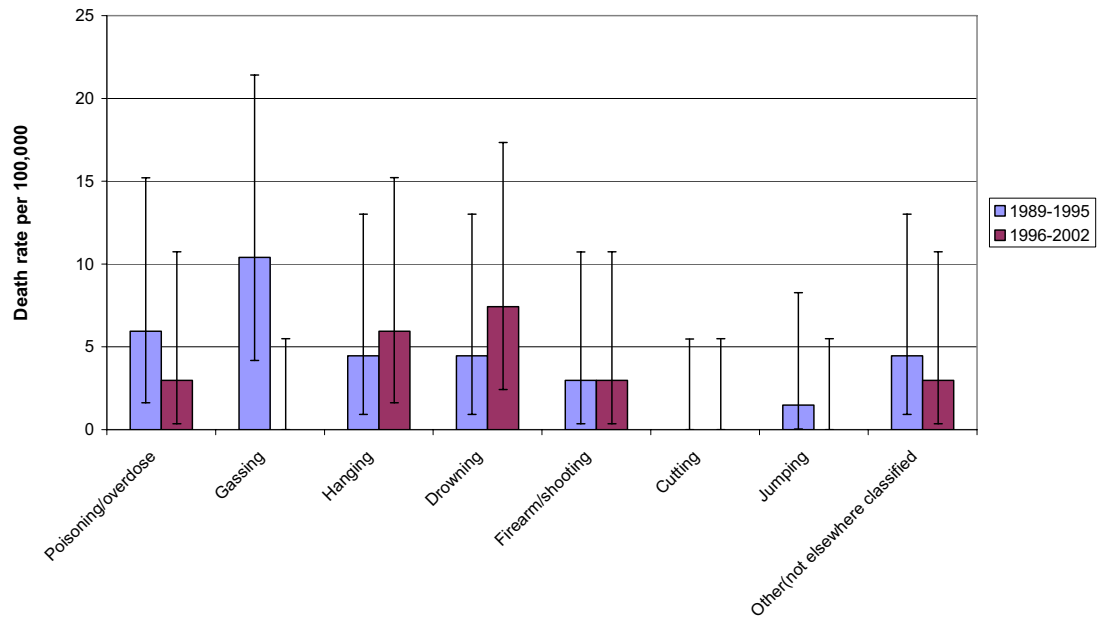
Death rates by method of suicide and undetermined death, Lanarkshire 1989-1995 and 1996-2002, females



Death rate by method of suicide and undetermined death, Lothian, 1989-1995 and 1996-2002, males

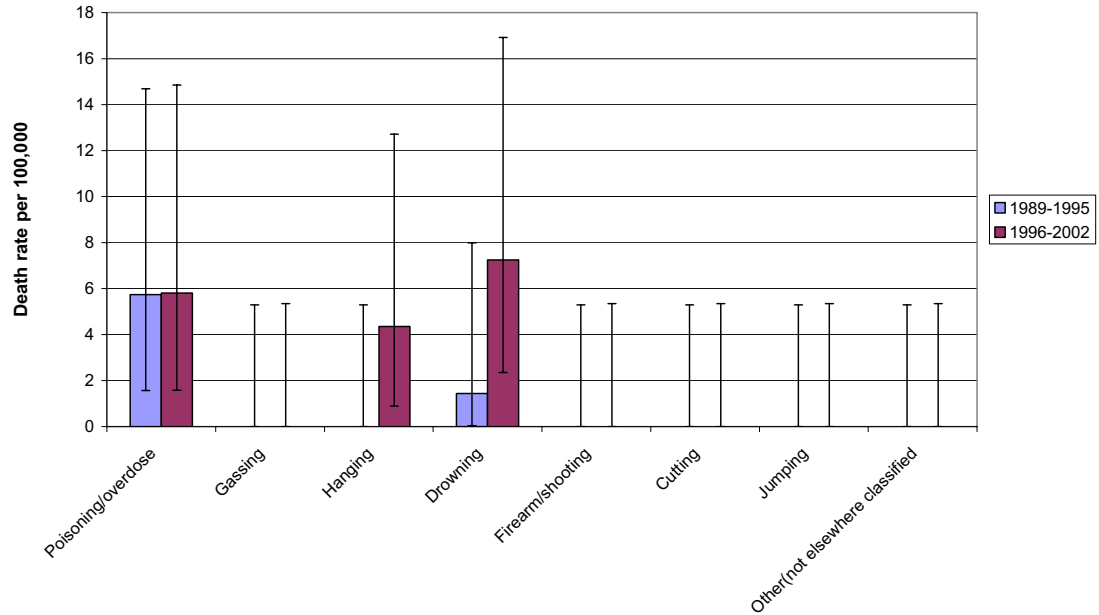


Death rate by method of suicide and undetermined death, Lothian, 1989-1995 and 1996-2002, females



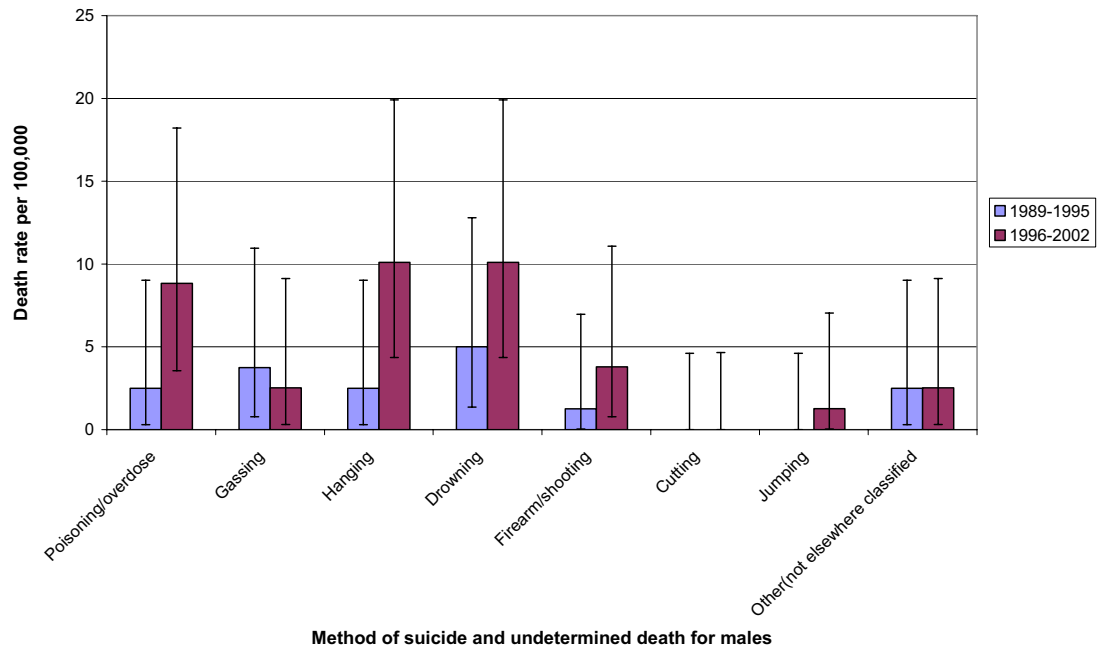
Method of suicide and undetermined death for males

Death rates by method of suicide and undetermined death, Orkney 1989-1995 and 1996-2002, males

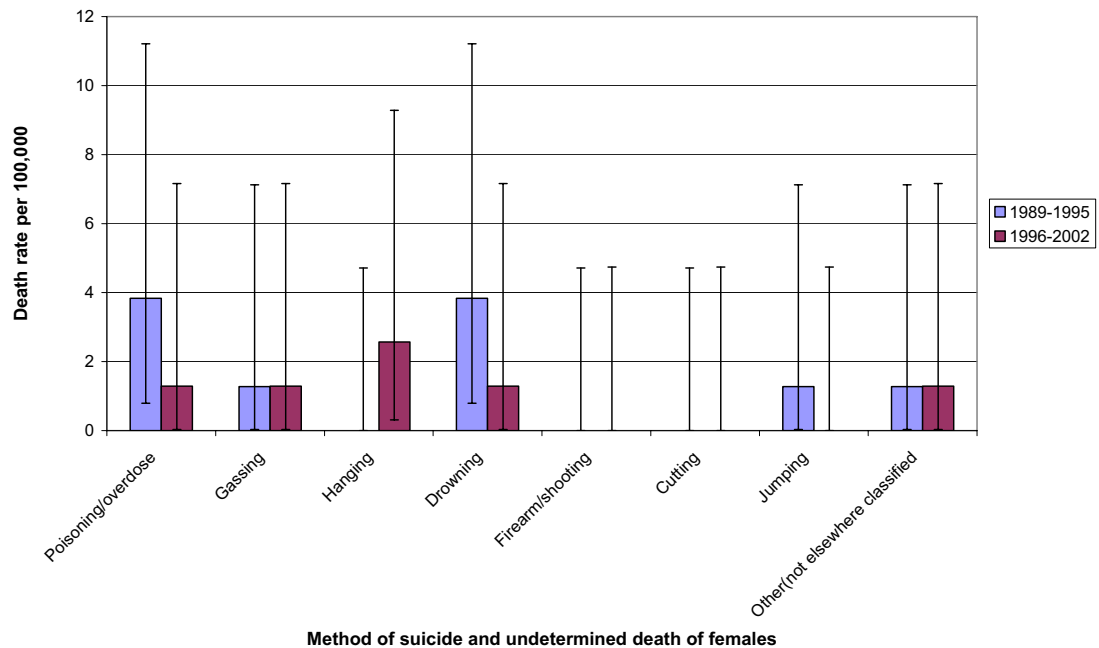


Method of suicide and undetermined death of females

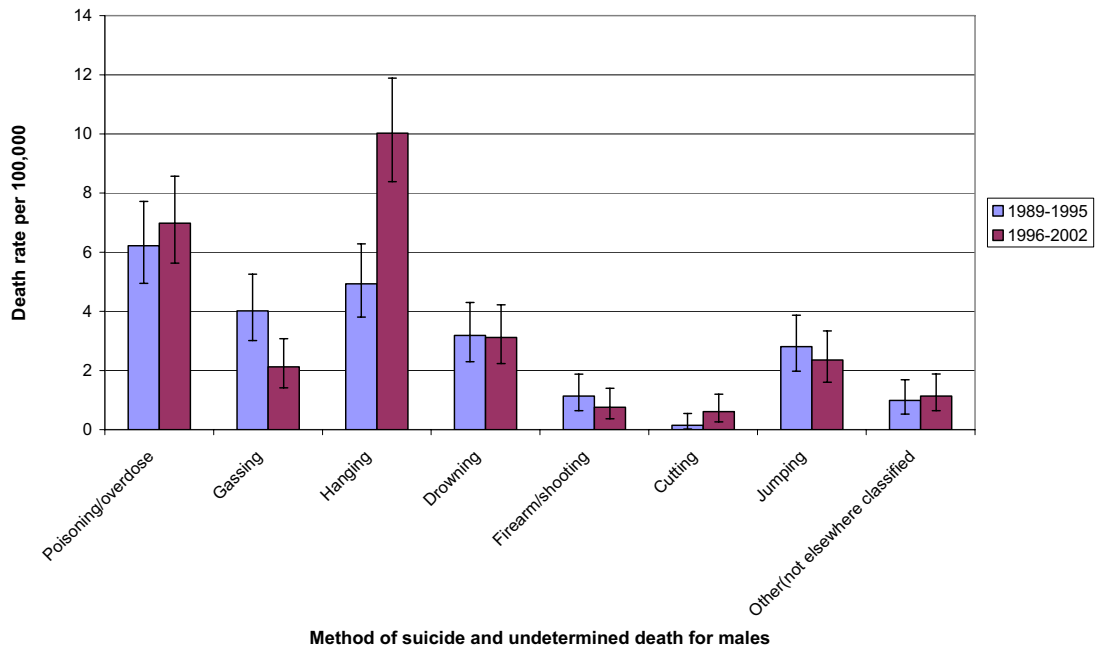
Death rates by method of suicide and undetermined death, Orkney 1989-1995 and 1996-2002, females



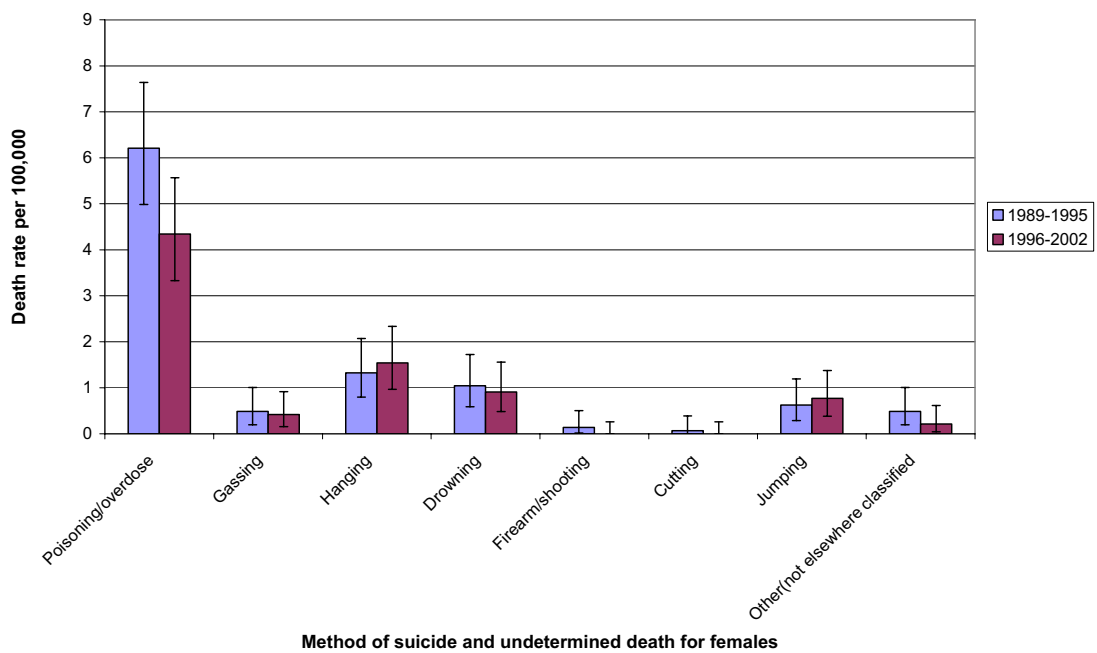
Death rates by method of suicide and undetermined death, Shetland 1989-1995 and 1996-2002, males



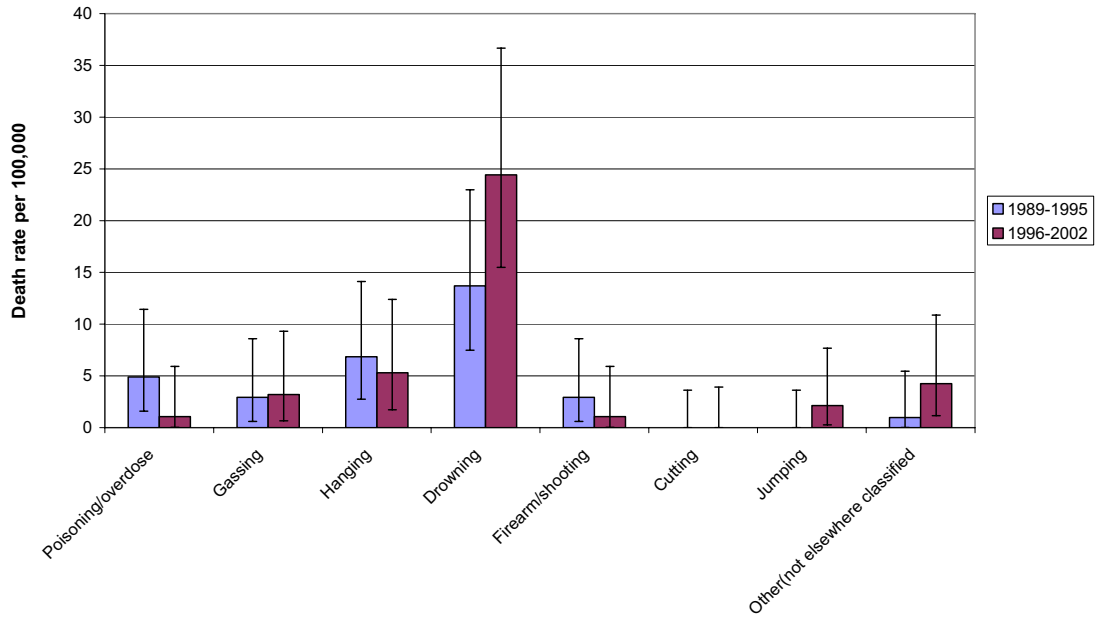
Death rates by method of suicide and undetermined death, Shetland 1989-1995 and 1996-2002, females



Death rate by method of suicide and undetermined death, Tayside, 1989-1995 and 1996-2002, males

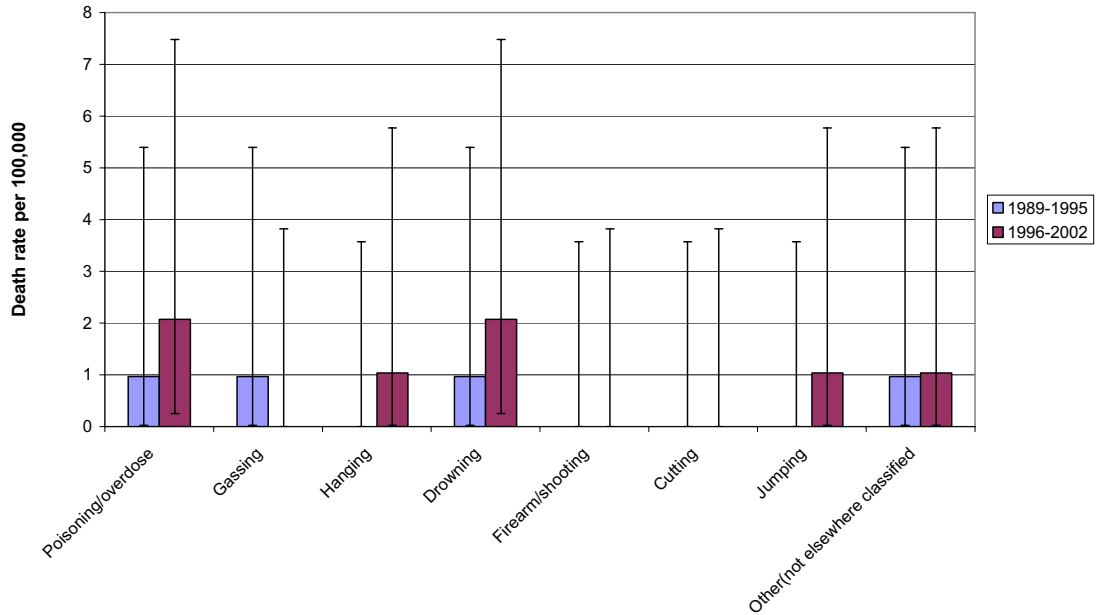


Death rate by method of suicide and undetermined death, Tayside, 1989-1995 and 1996-2002, females



Method of suicide and undetermined death for males

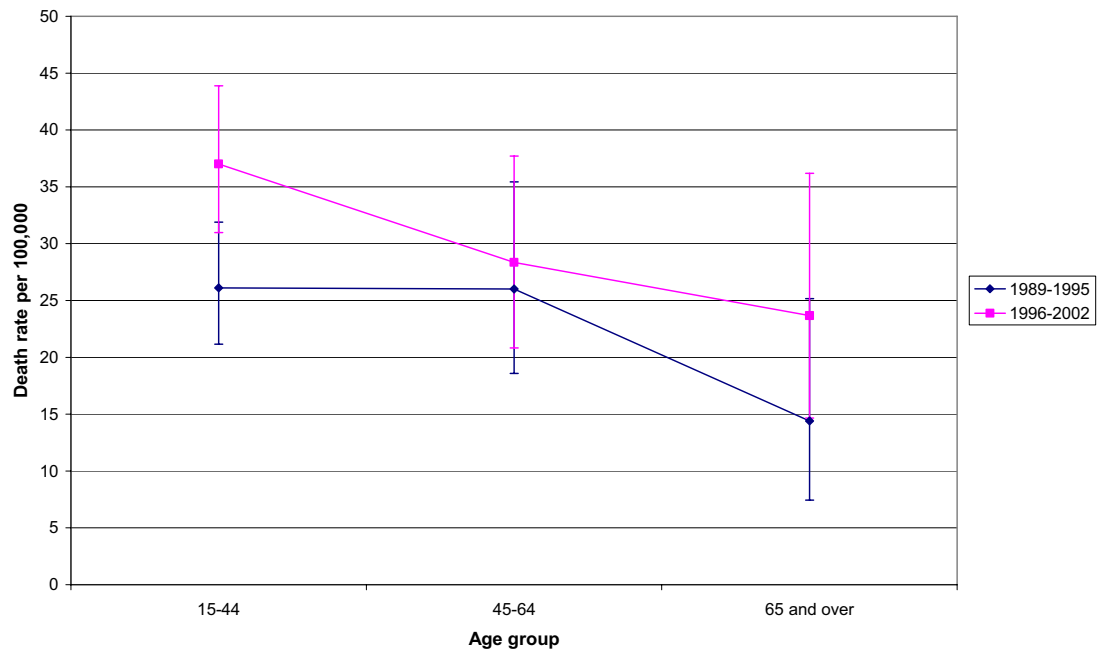
Death rates by method of suicide and undetermined death, Western Isles, 1989-1995 and 1996-2002, males



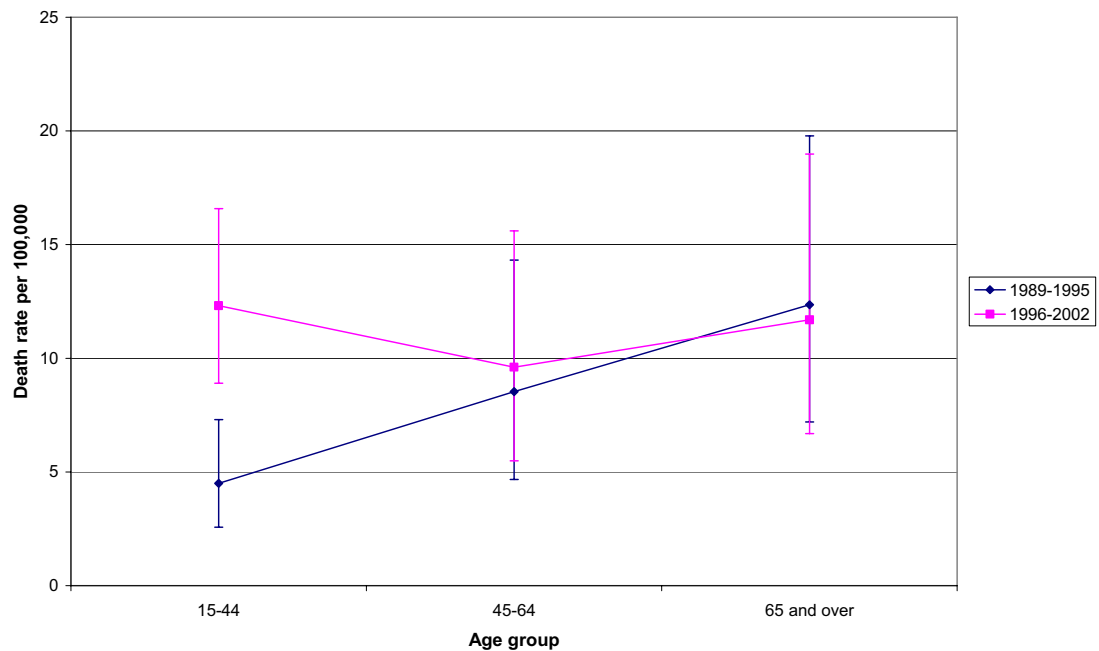
Method of suicide and undetermined death of females

Death rates by method of suicide and undetermined death, Western Isles, 1989-1995 and 1996-2002, females

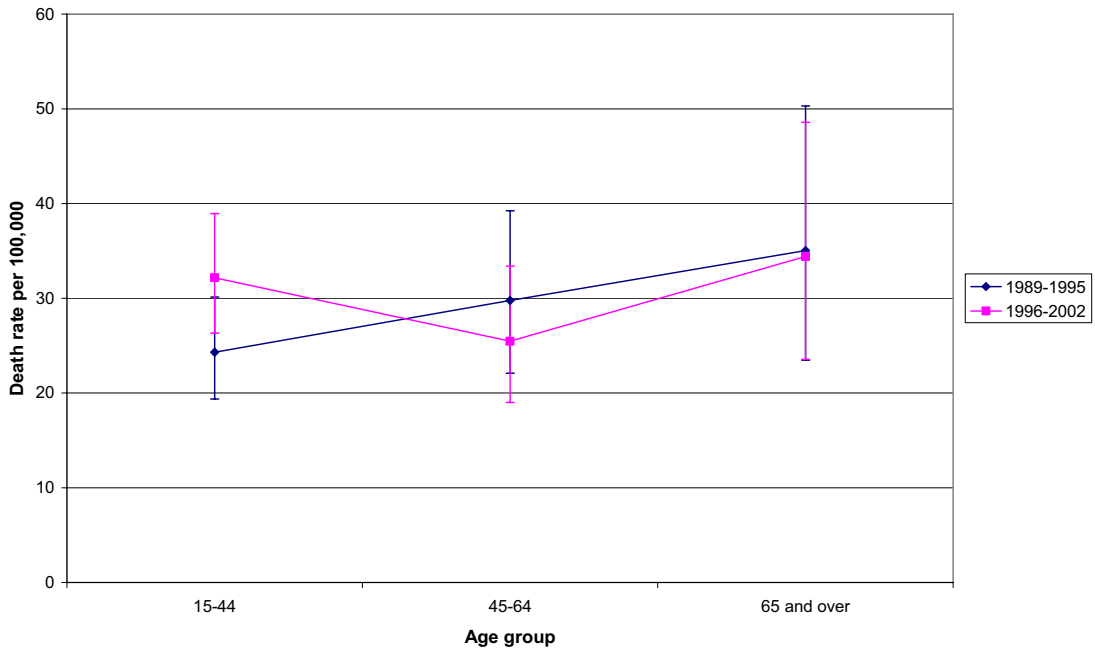
Annex 7 **Suicide rates by age group and sex, separately for each local authority, 1989-95 and 1996-2002**



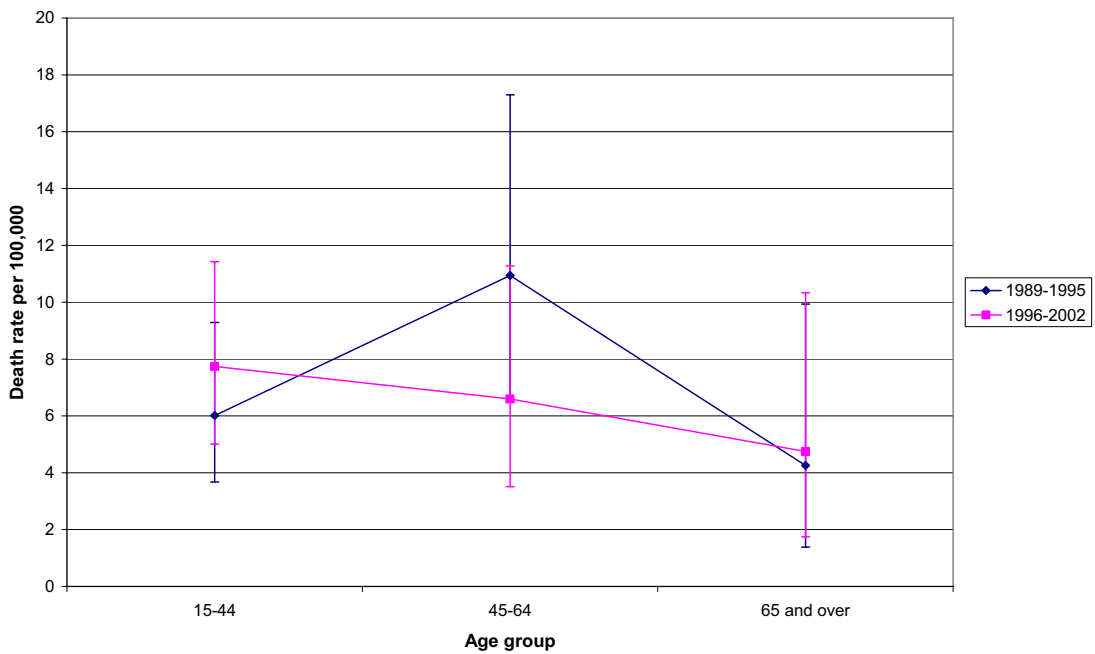
Death rates by age group, Aberdeen City, 1989-2002, males



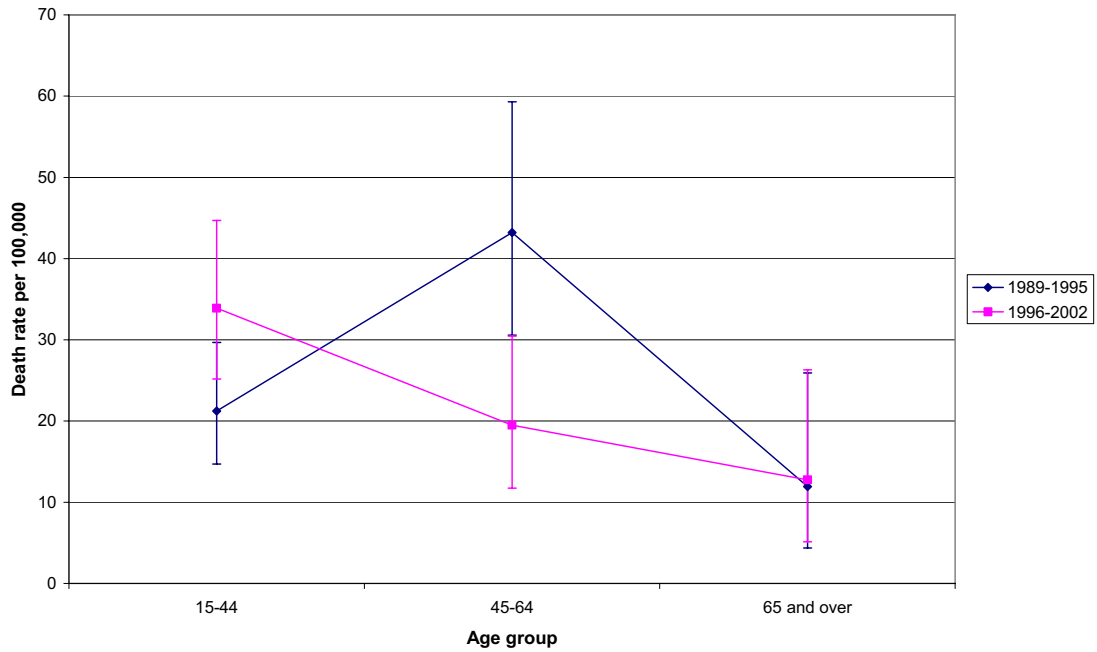
Death rates by age group, Aberdeen City, 1989-2002, females



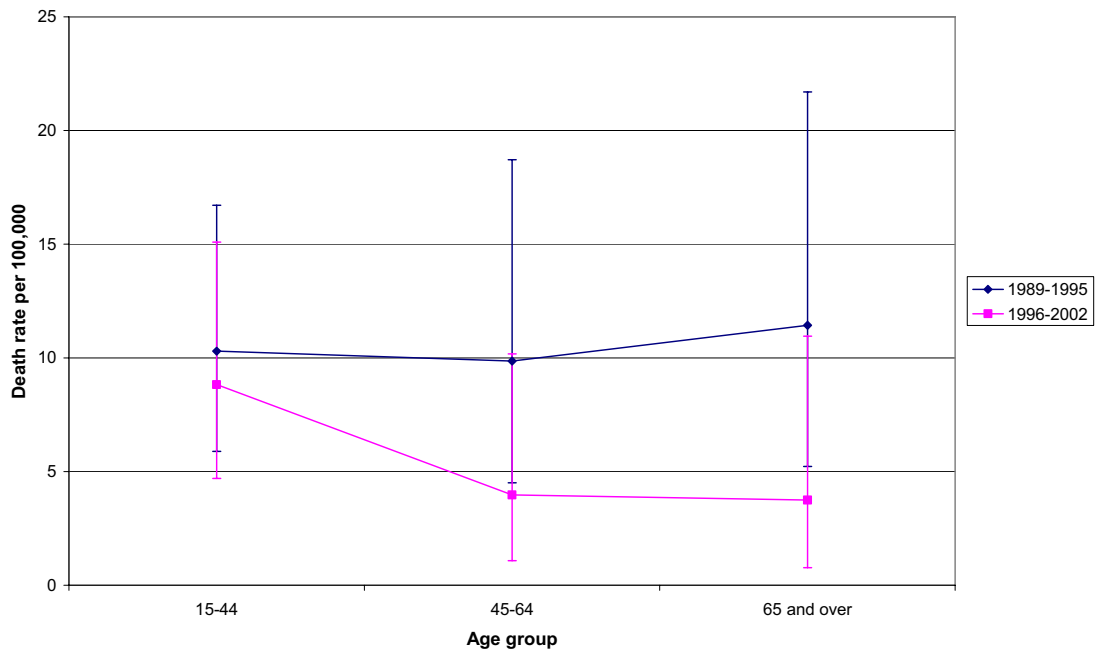
Death rates by age group, Aberdeenshire, 1989-2002, males



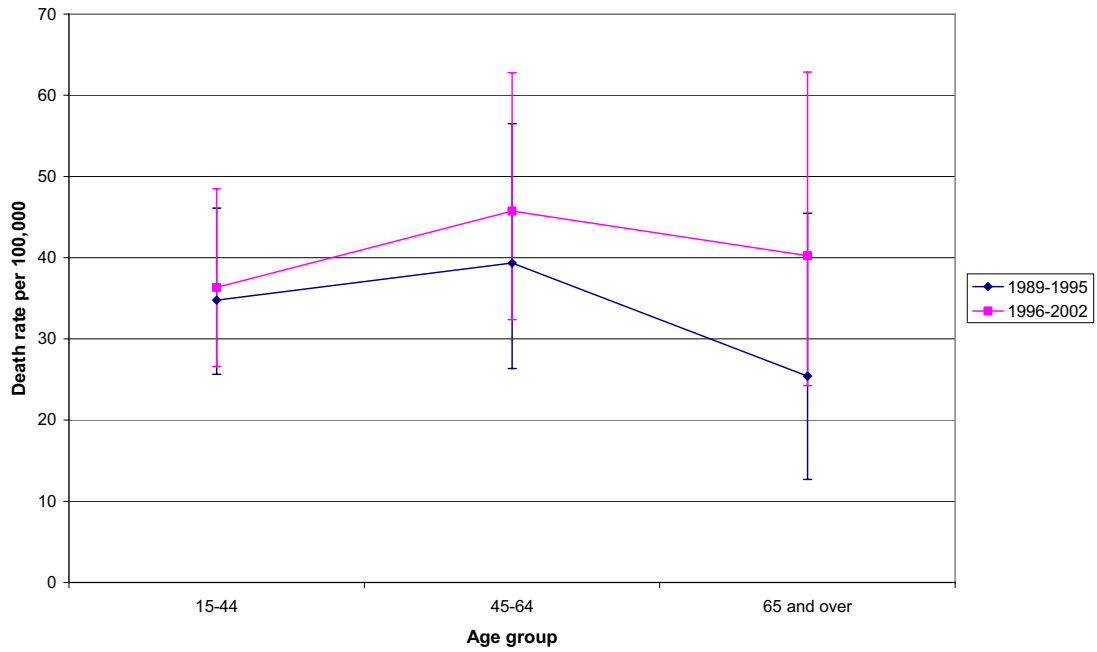
Death rates by age group, Aberdeenshire, 1989-2002, females



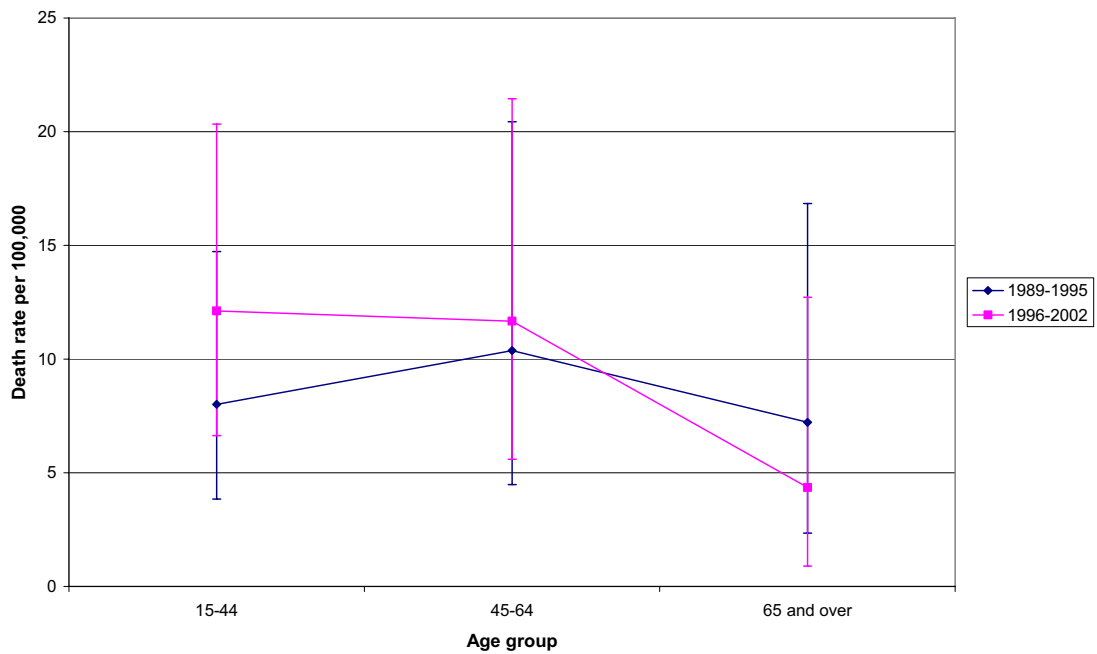
Death rates by age group, Angus, 1989-2002, males



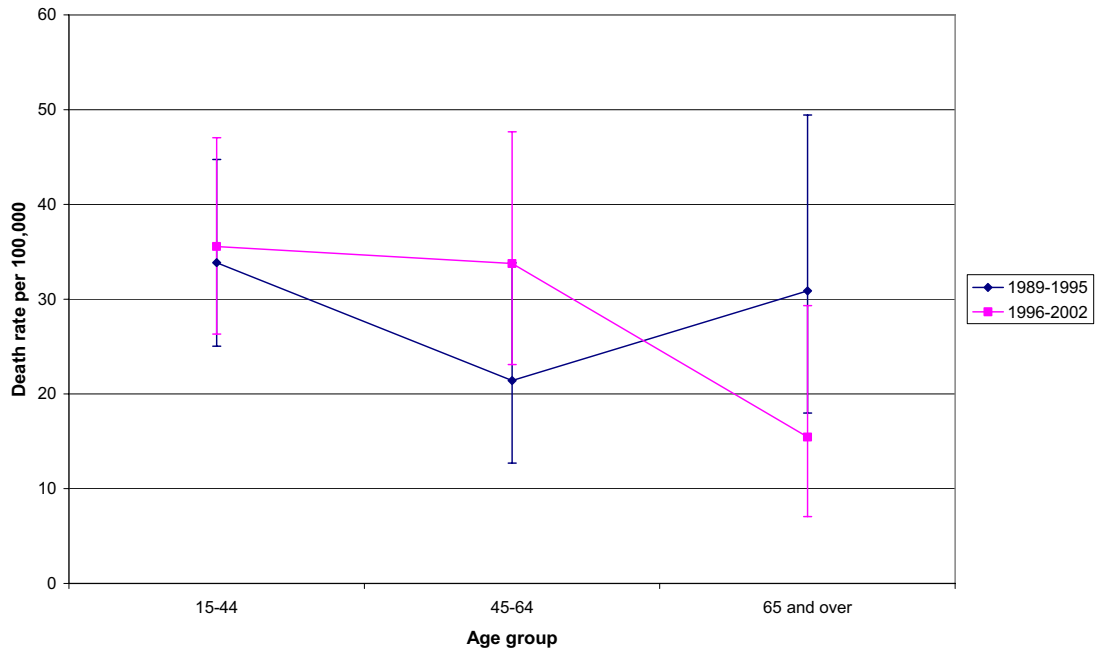
Death rates by age group, Angus, 1989-2002, females



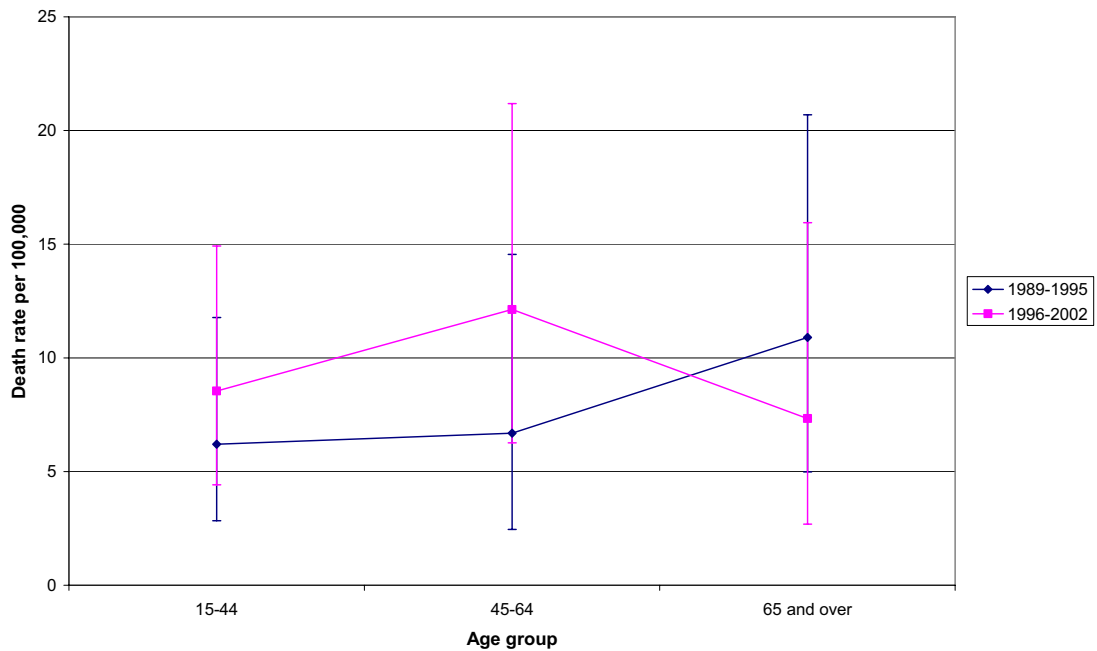
Death rates by age group, Argyll & Bute, 1989-2002, males



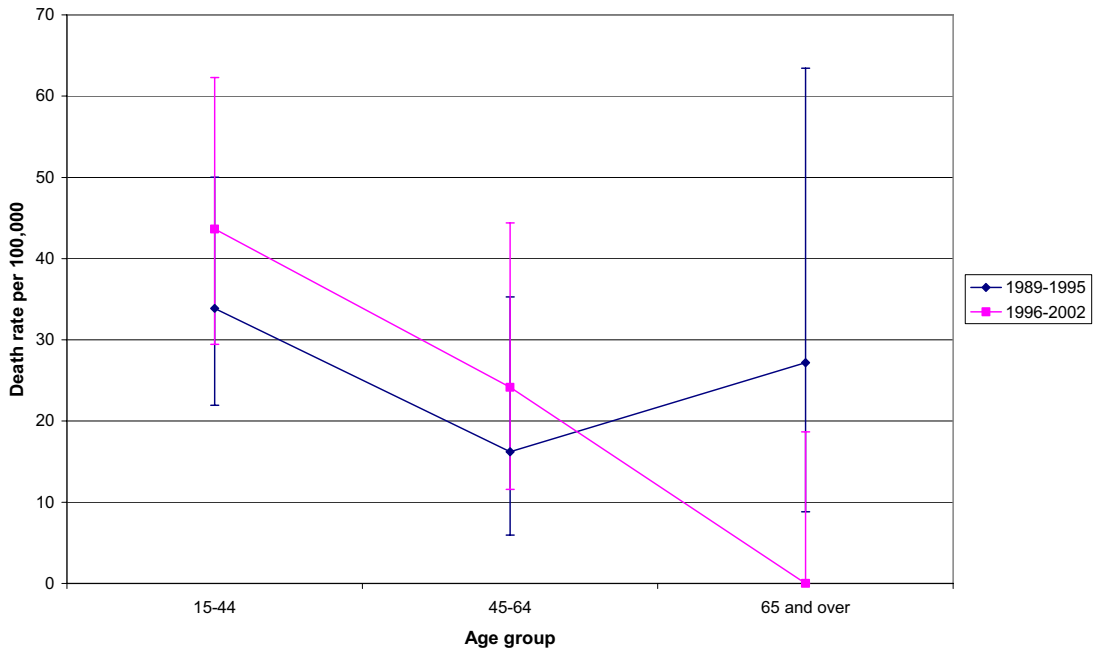
Death rates by age group, Argyll & Bute, 1989-2002, females



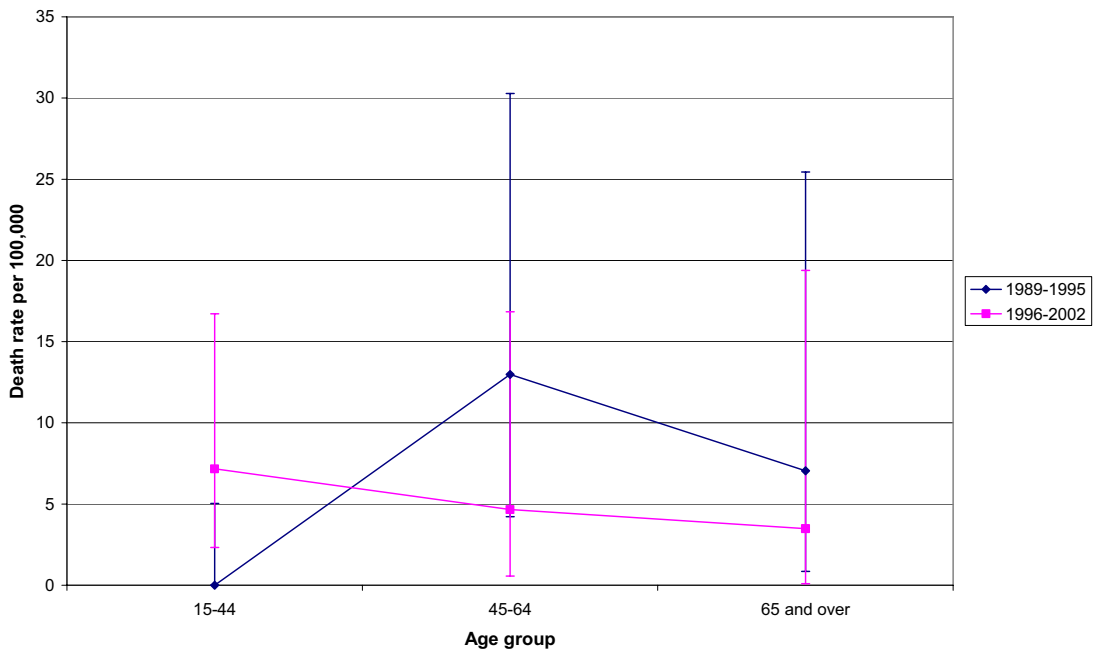
Death rates by age group, Scottish Borders, 1989-2002, males



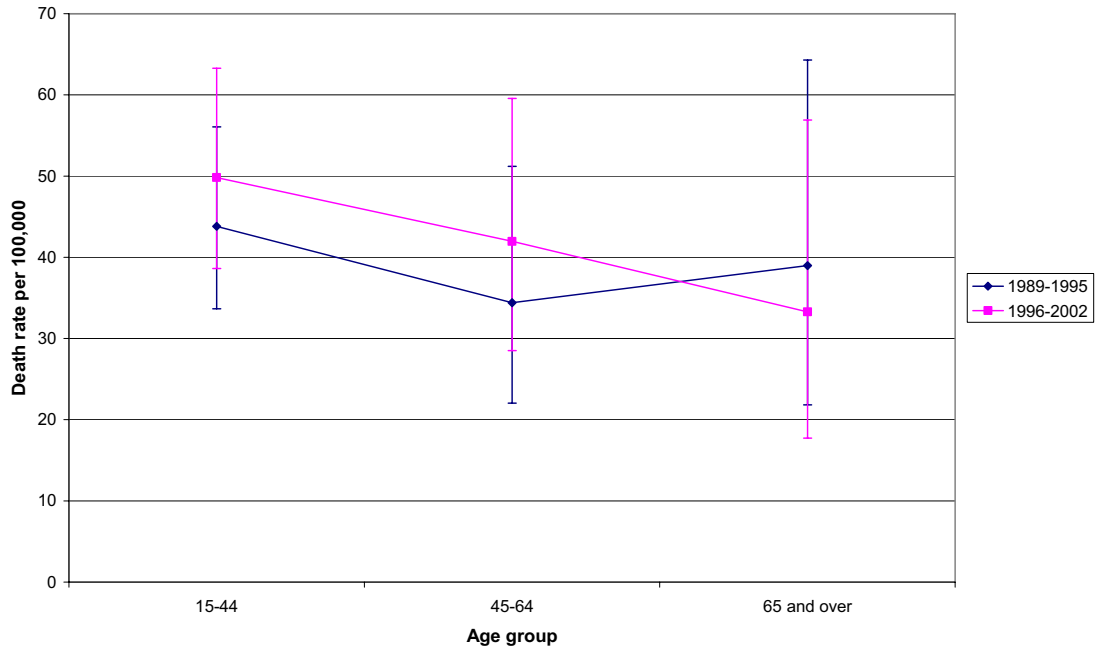
Death rates by age group, Scottish Borders, 1989-2002, females



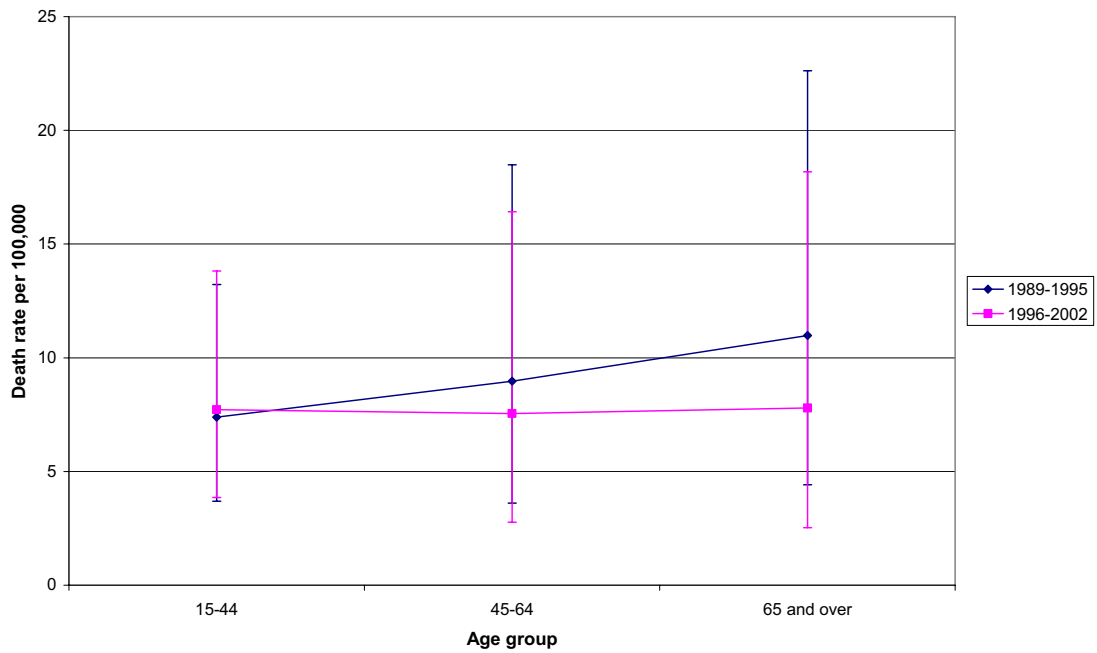
Death rates by age group, Clackmannanshire, 1989-2002, males



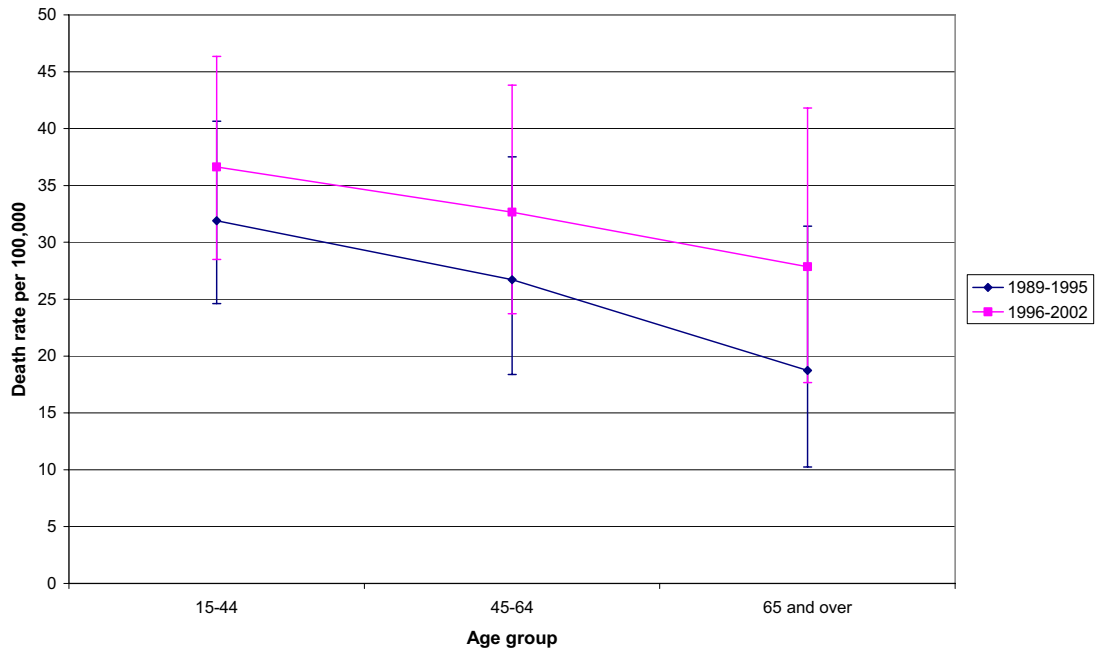
Death rates by age group, Clackmannanshire, 1989-2002, females



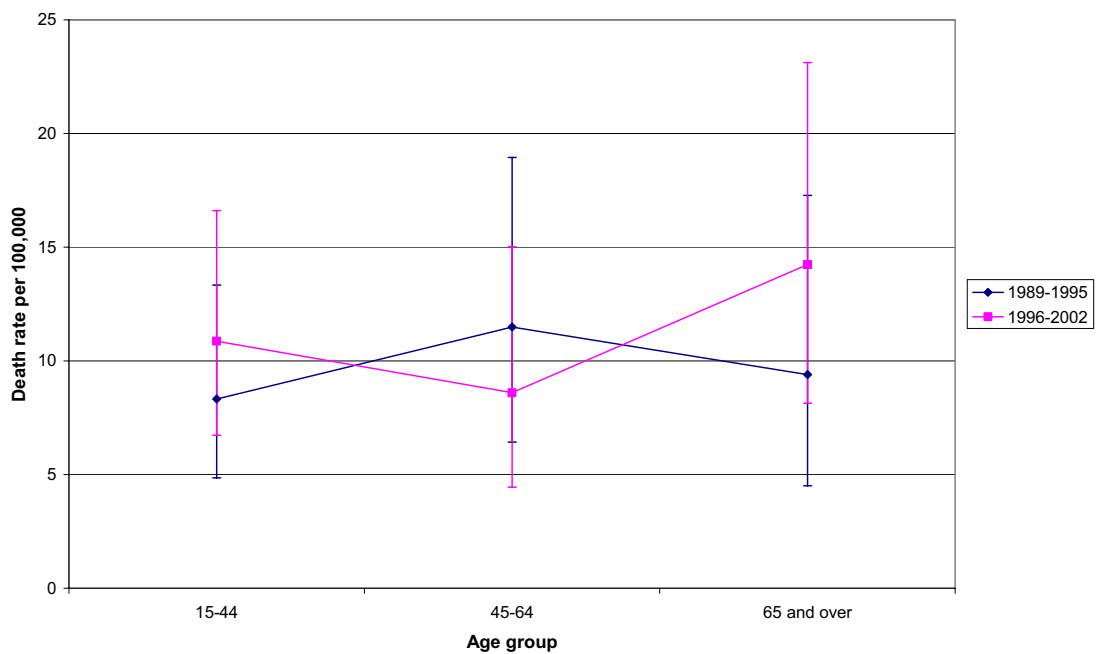
Death rates by age group, West Dunbartonshire, 1989-2002, males



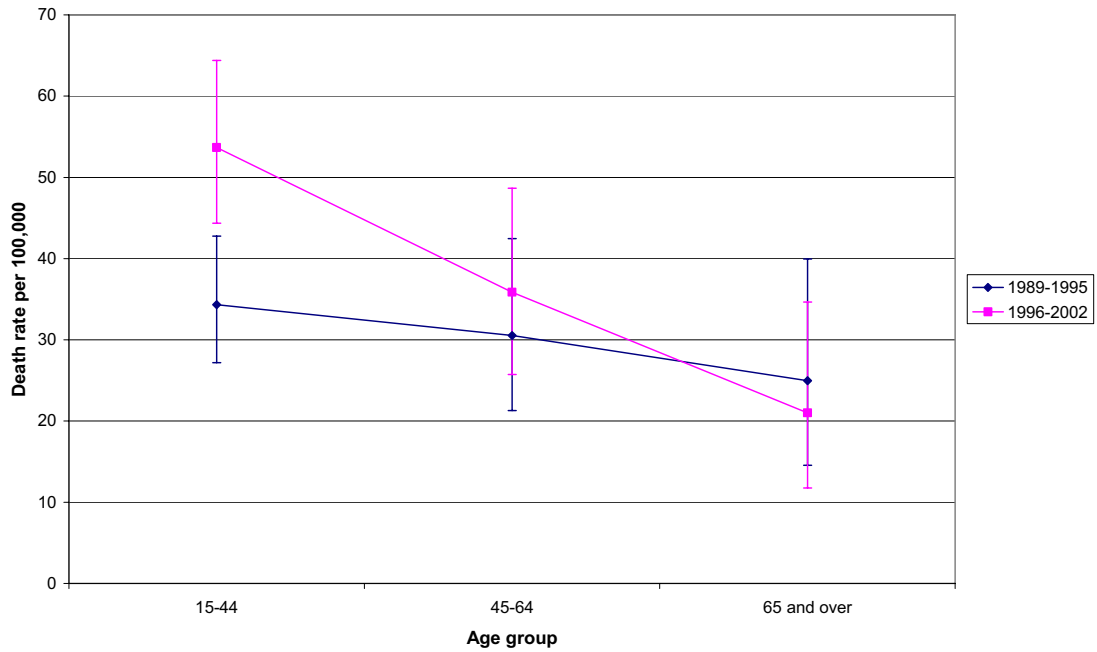
Death rates by age group, West Dunbartonshire, 1989-2002, females



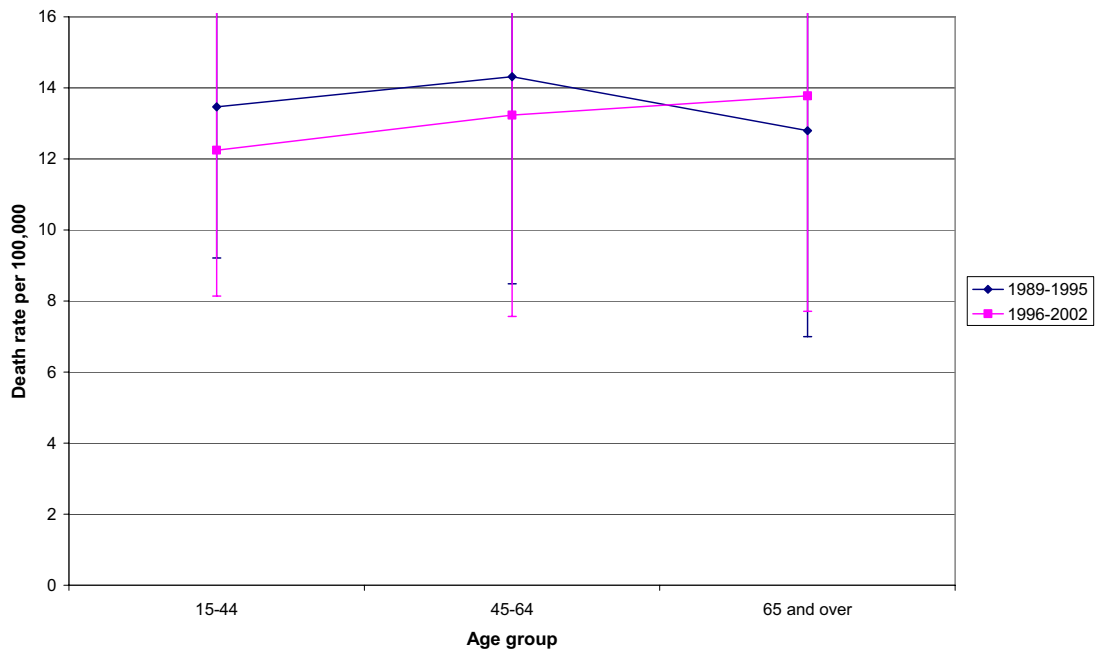
Death rates by age group, Dumfries & Galloway, 1989-2002, males



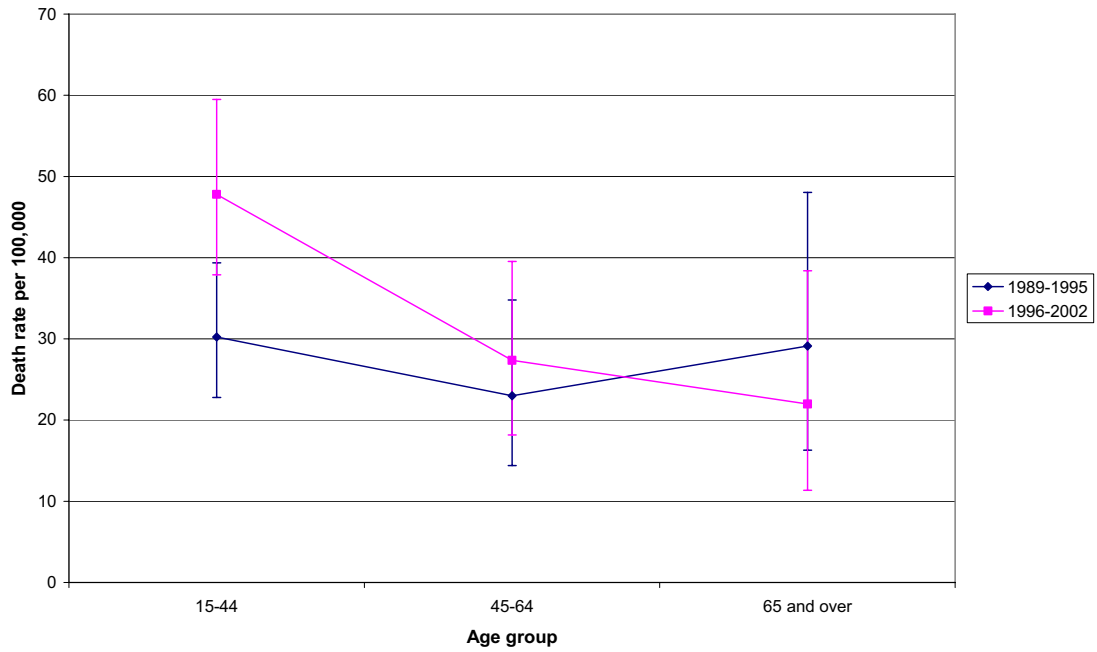
Death rates by age group, Dumfries & Galloway, 1989-2002, females



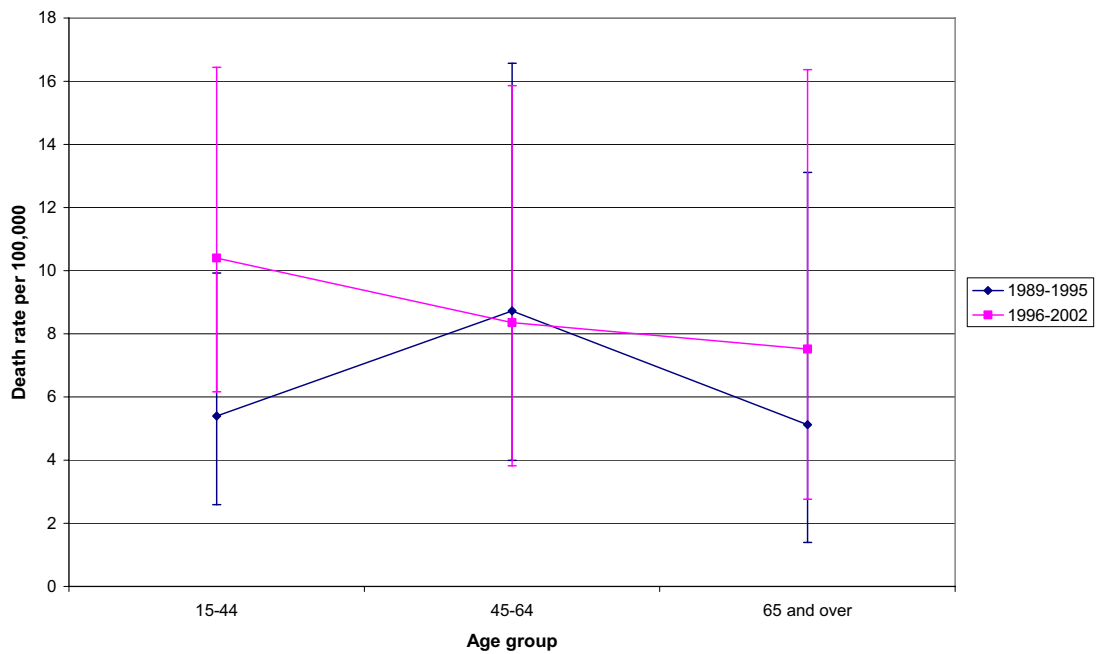
Death rates by age group, Dundee City, 1989-2002, males



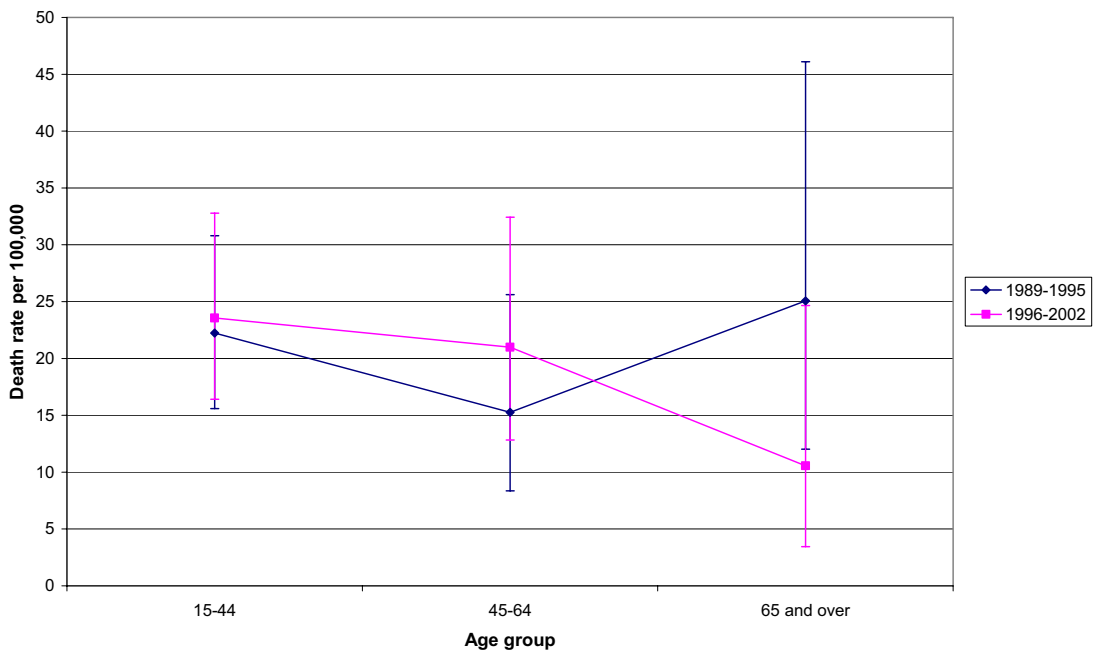
Death rates by age group, Dundee City, 1989-2002, females



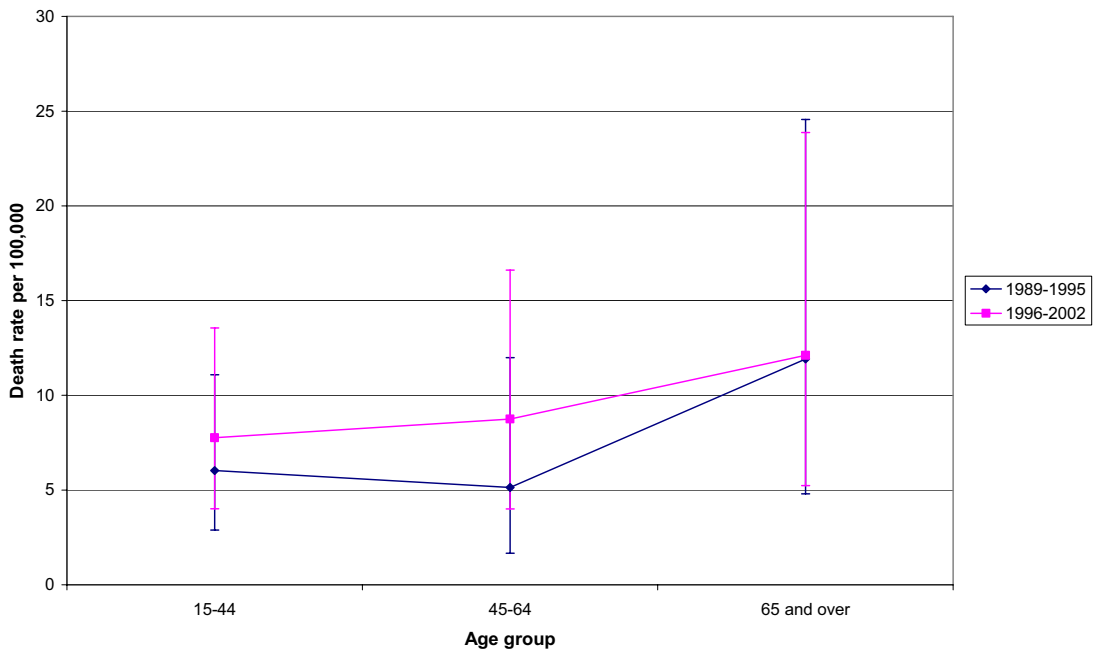
Death rates by age group, East Ayrshire, 1989-2002, males



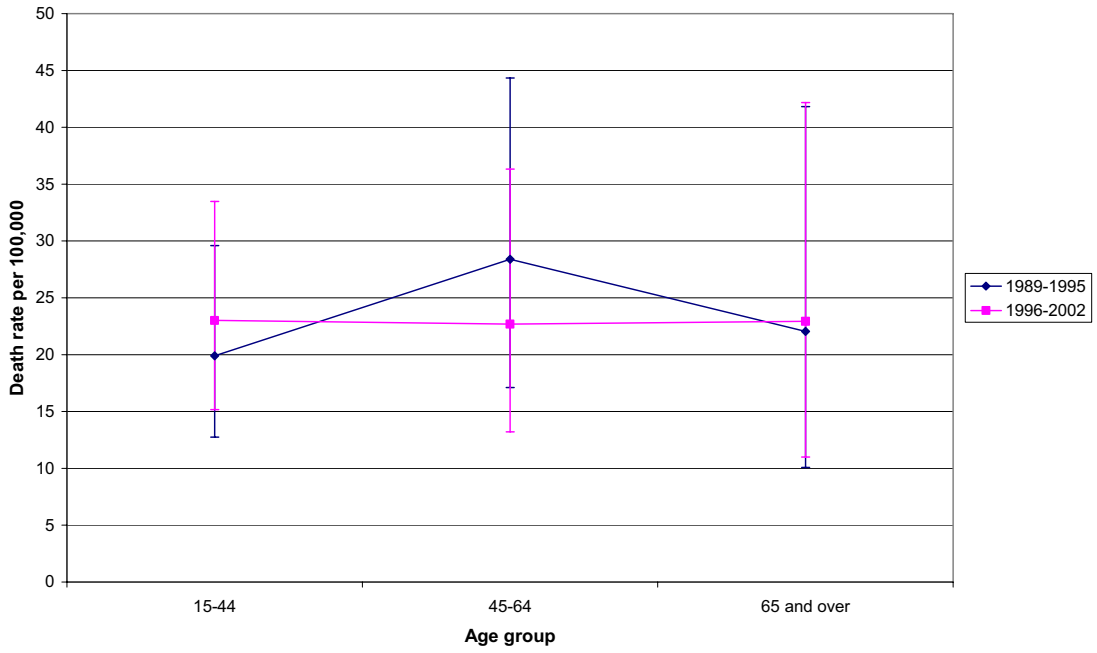
Death rates by age group, East Ayrshire, 1989-2002, females



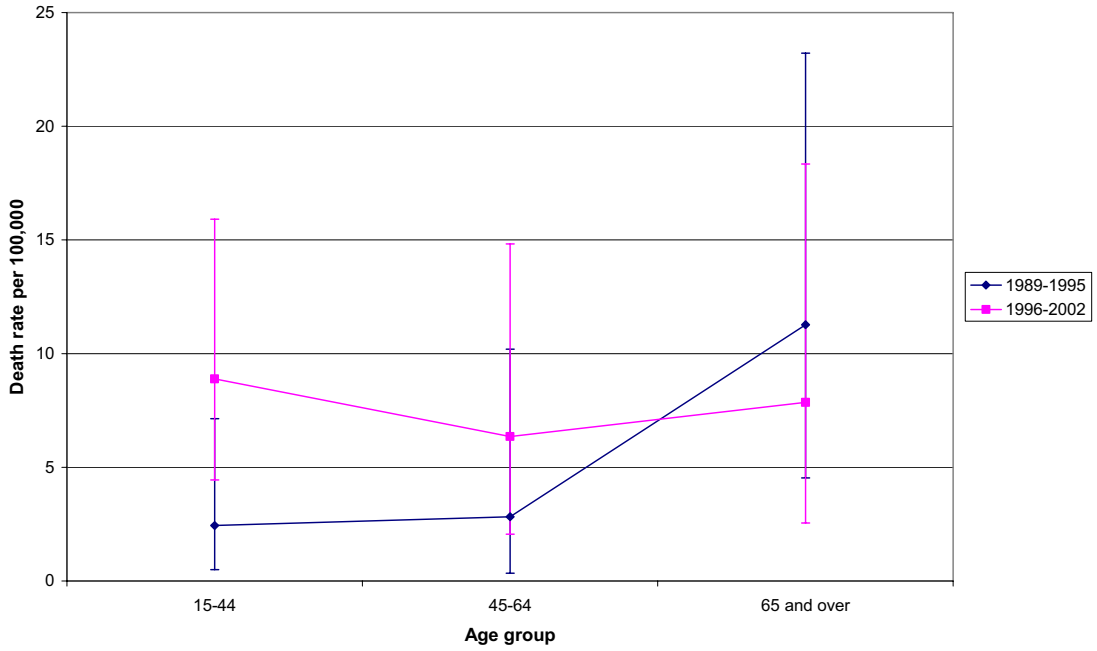
Death rates by age group, East Dunbartonshire, 1989-2002, males



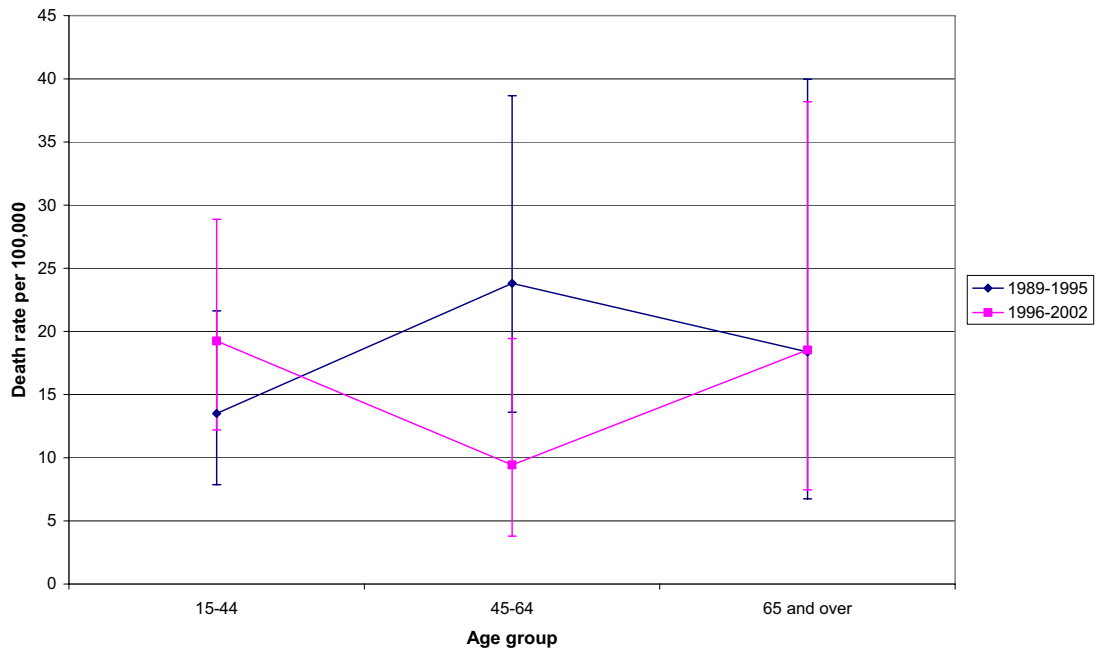
Death rates by age group, East Dunbartonshire, 1989-2002, females



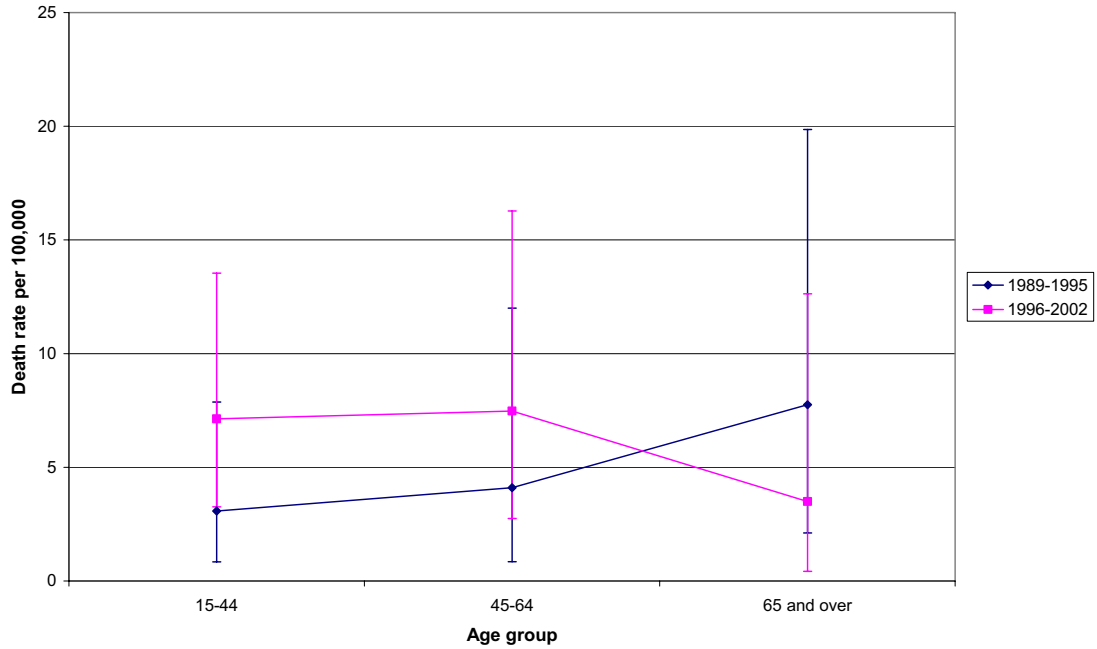
Death rates by age group, East Lothian, 1989-2002, males



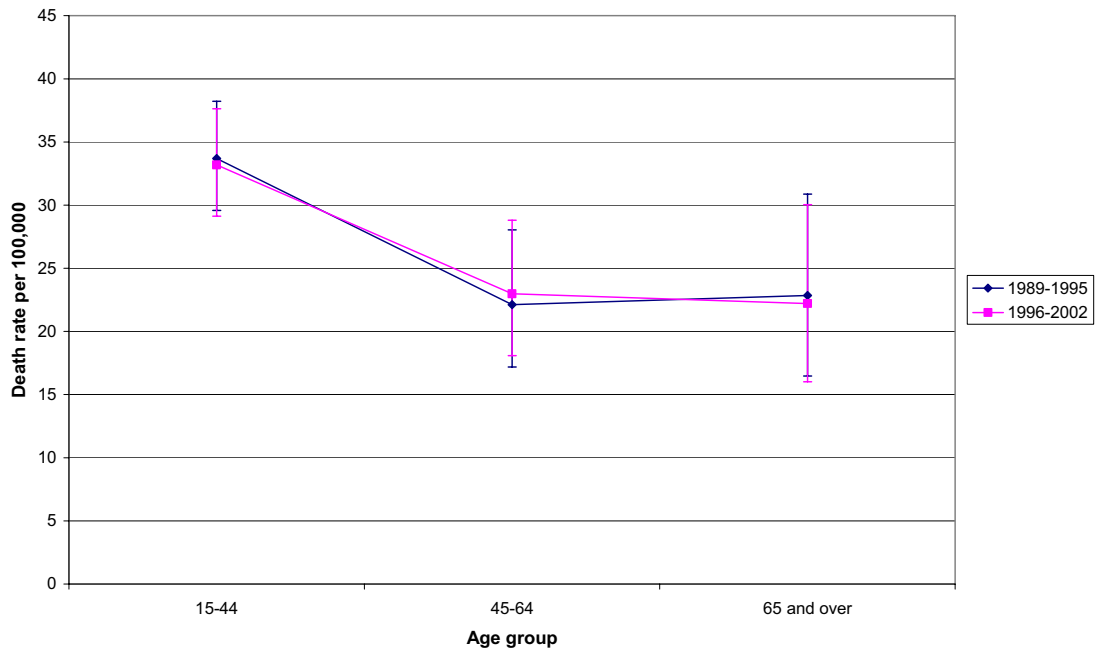
Death rates by age group, East Lothian, 1989-2002, females



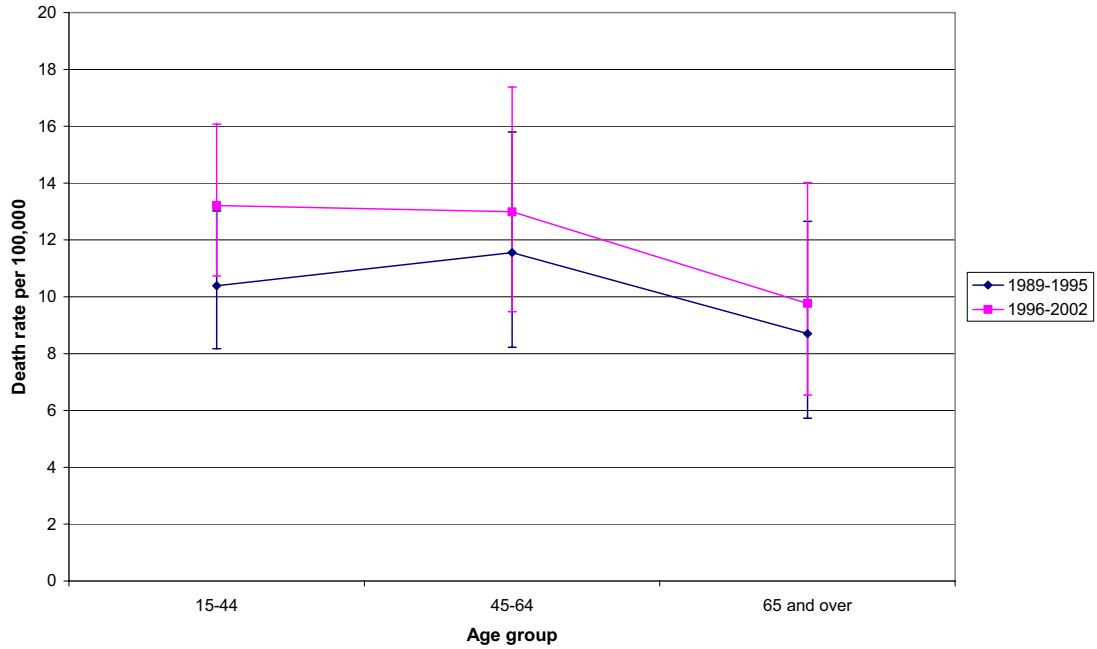
Death rates by age group, East Renfrewshire, 1989-2002, males



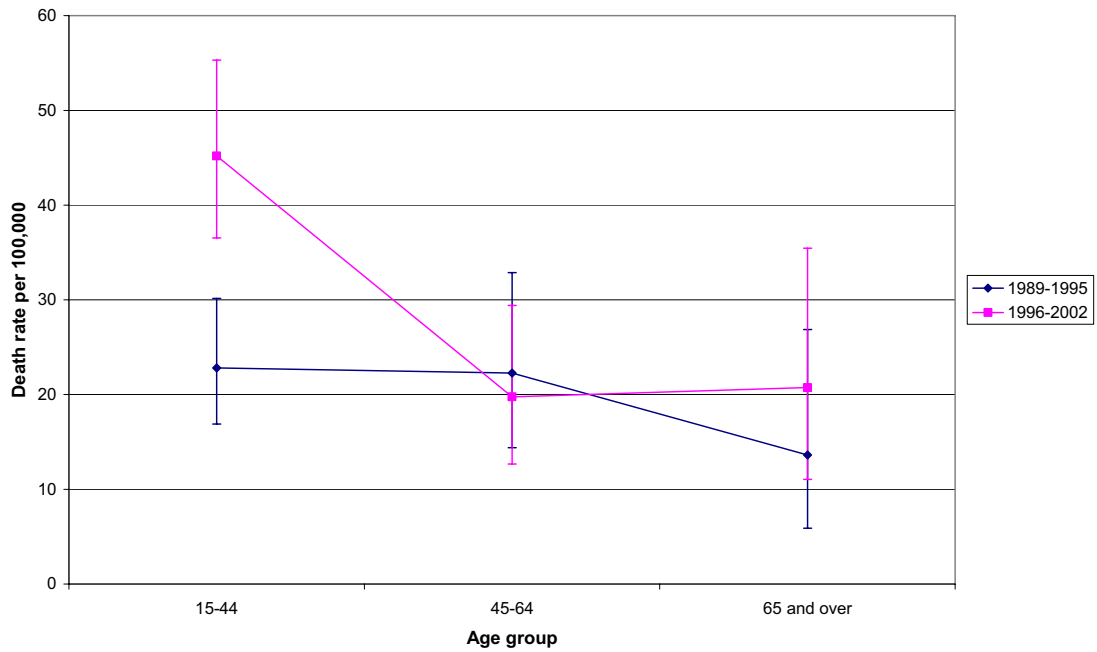
Death rates by age group, East Renfrewshire, 1989-2002, females



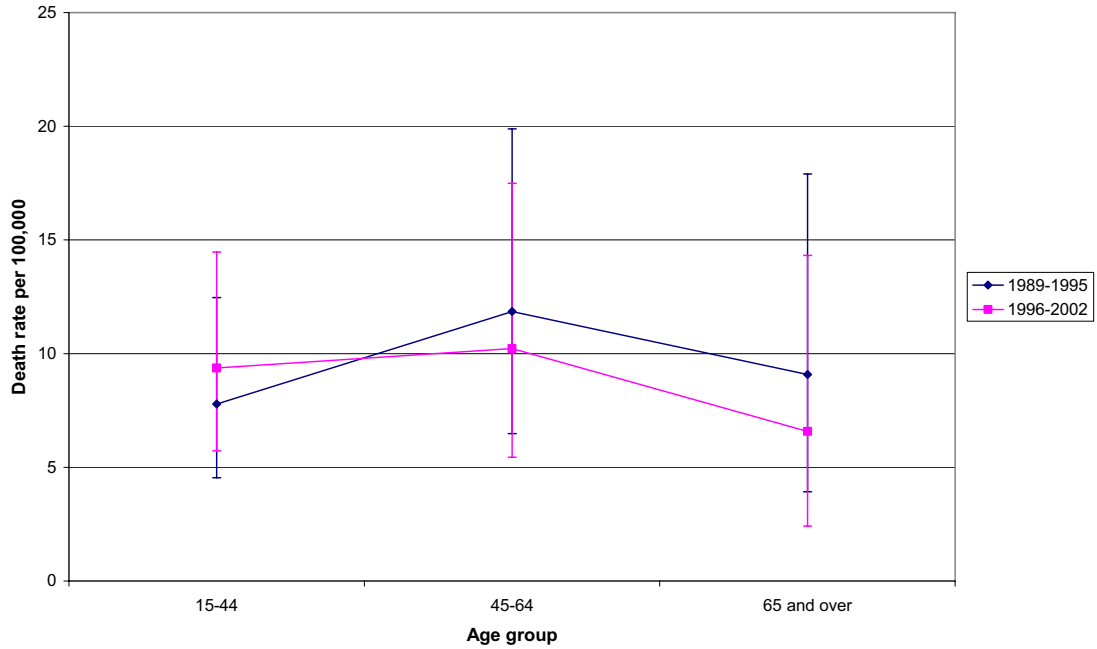
Death rates by age group, Edinburgh City, 1989-2002, males



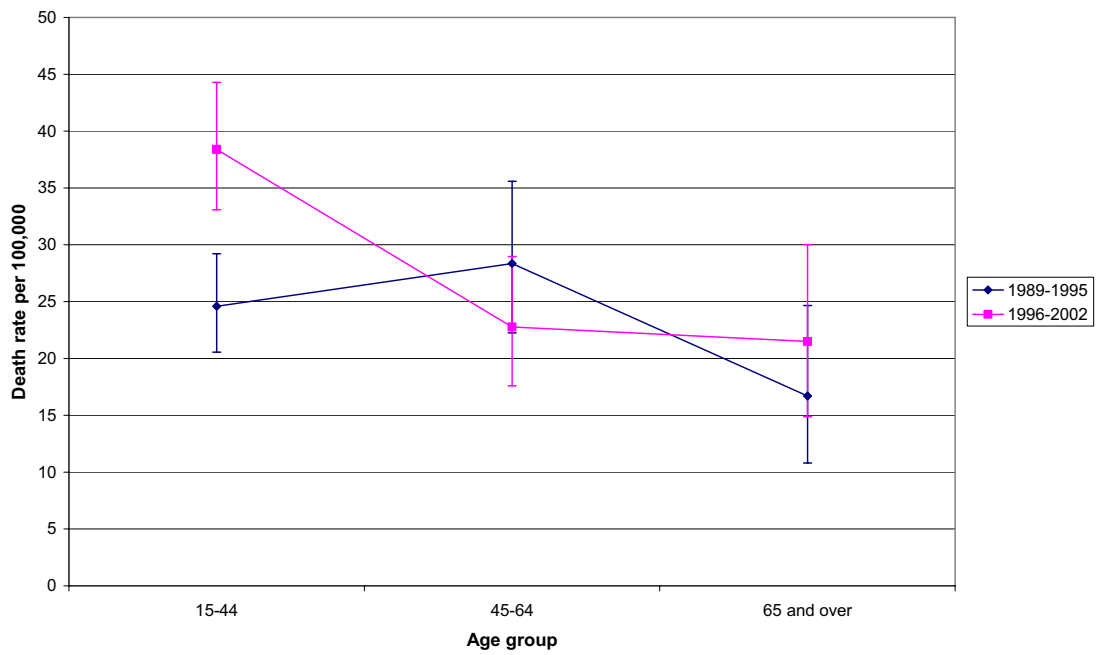
Death rates by age group, Edinburgh City, 1989-2002, females



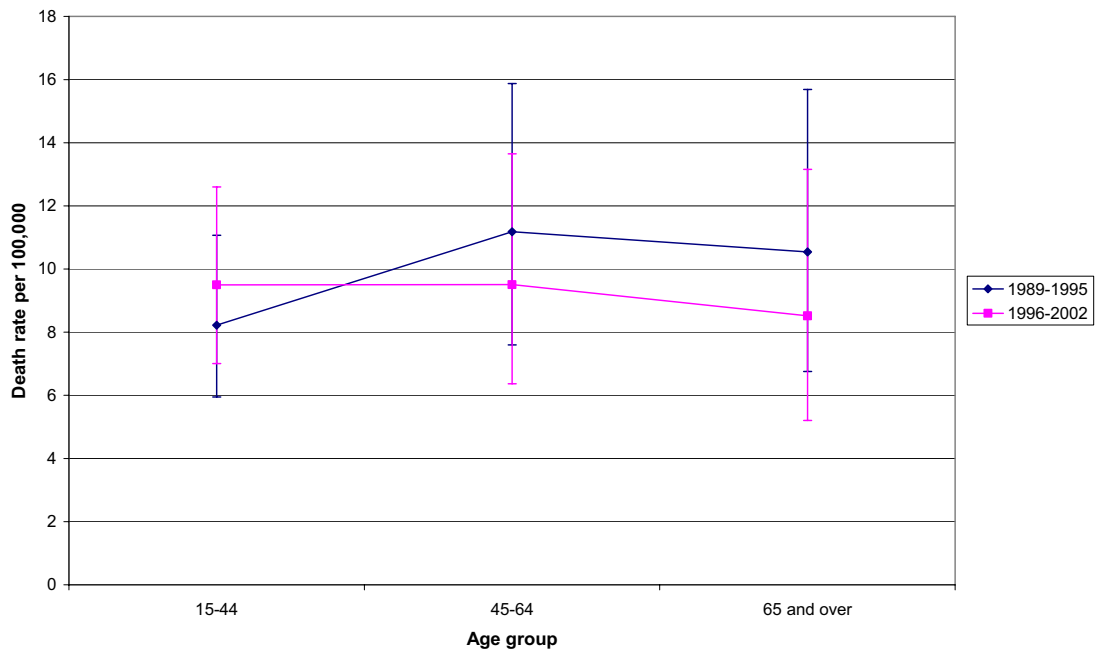
Death rates by age group, Falkirk, 1989-2002, males



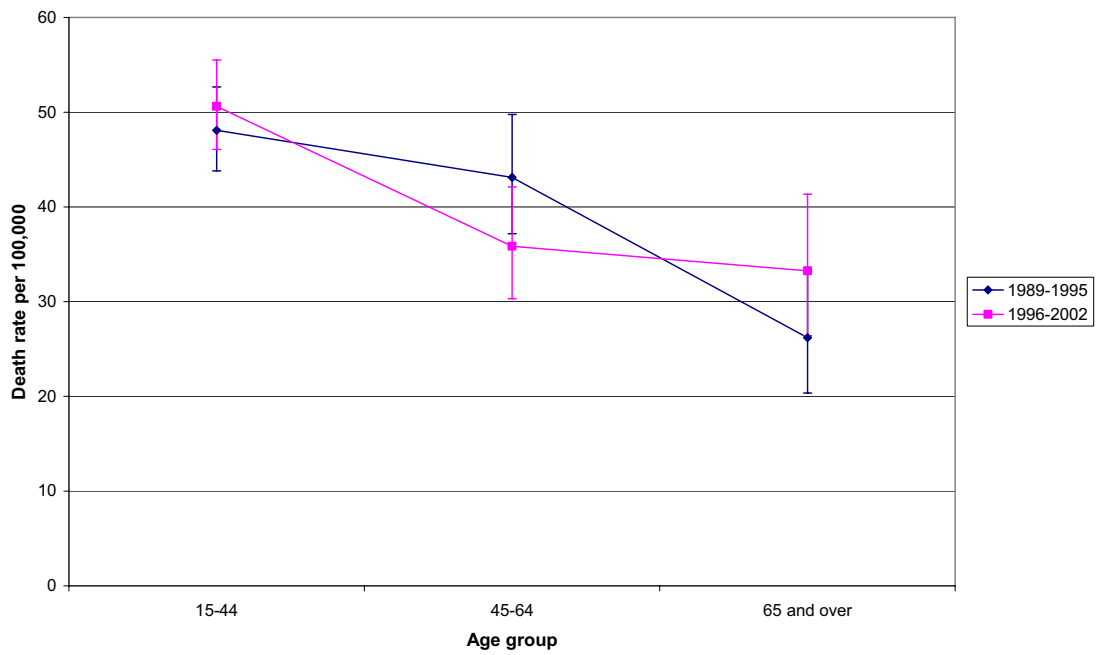
Death rates by age group, Falkirk, 1989-2002, females



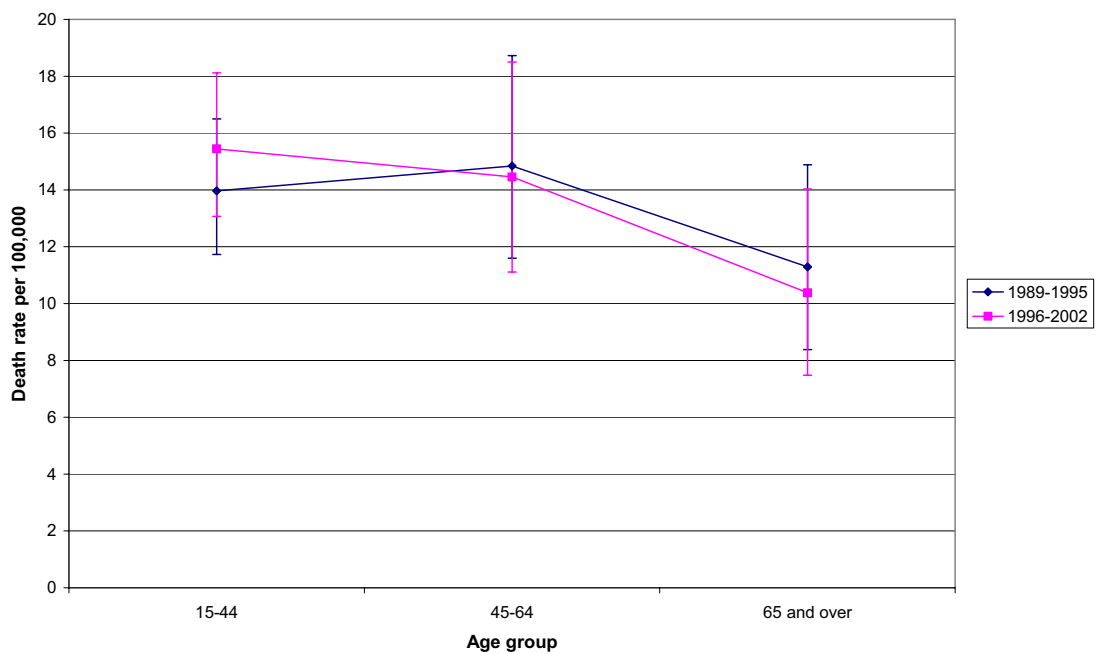
Death rates by age group, Fife, 1989-2002, males



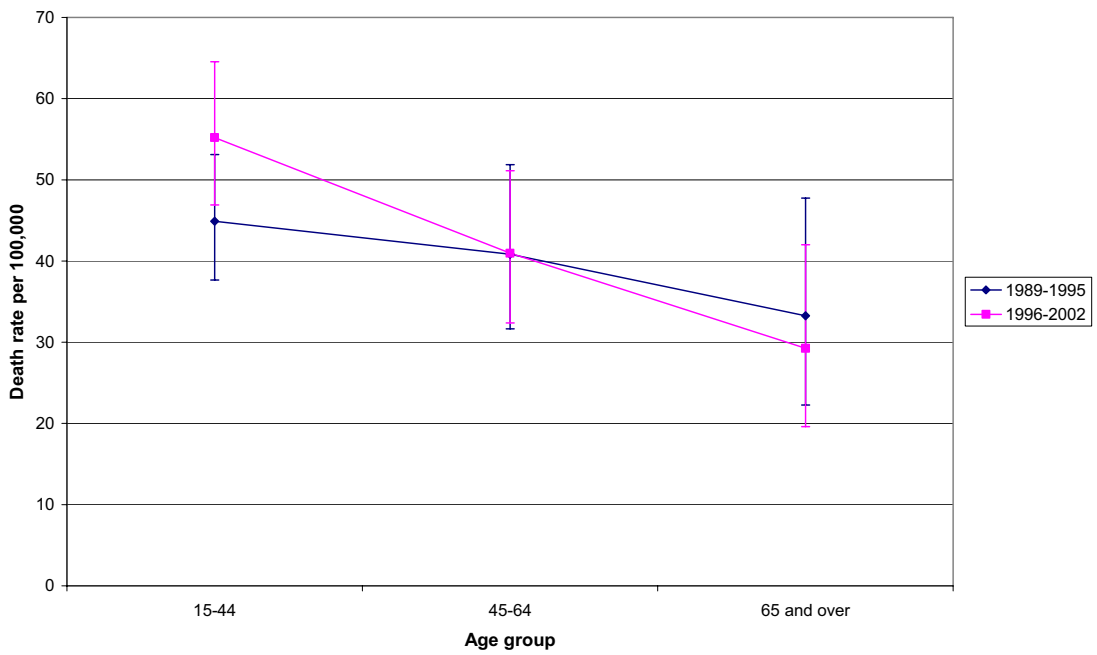
Death rates by age group, Fife, 1989-2002, females



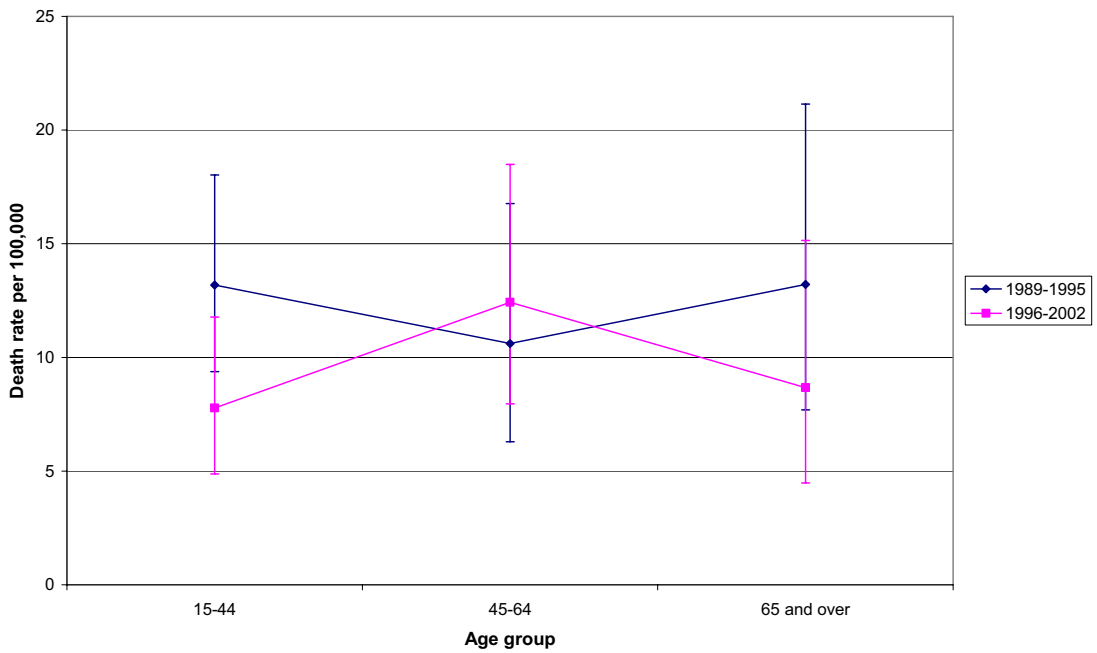
Death rates by age group, Glasgow City, 1989-2002, males



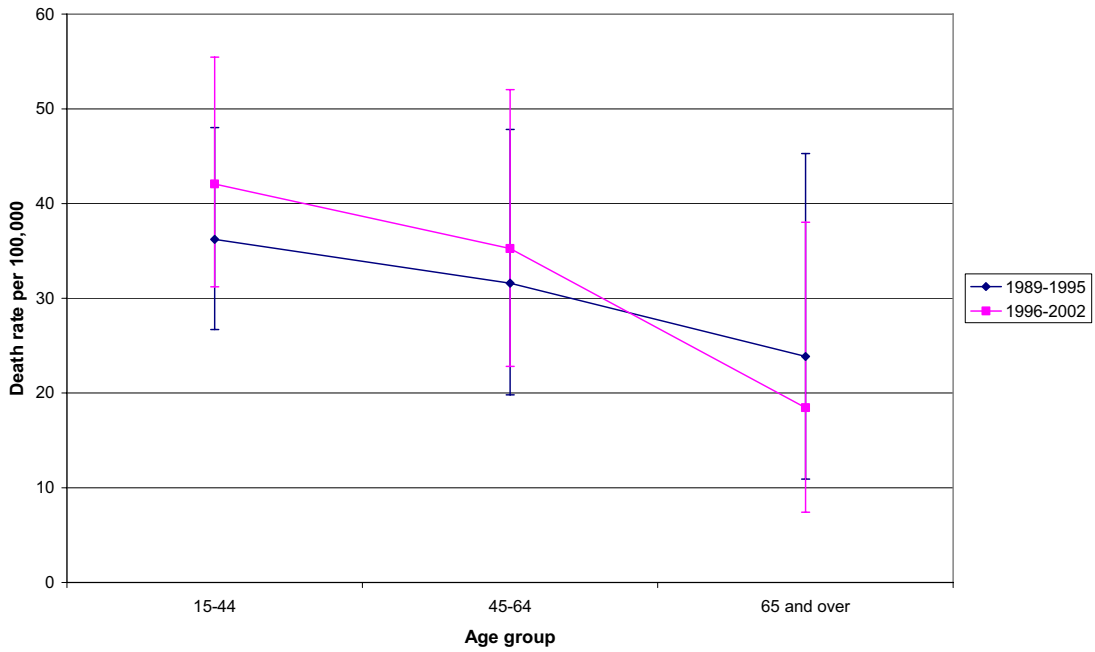
Death rates by age group, Glasgow City, 1989-2002, females



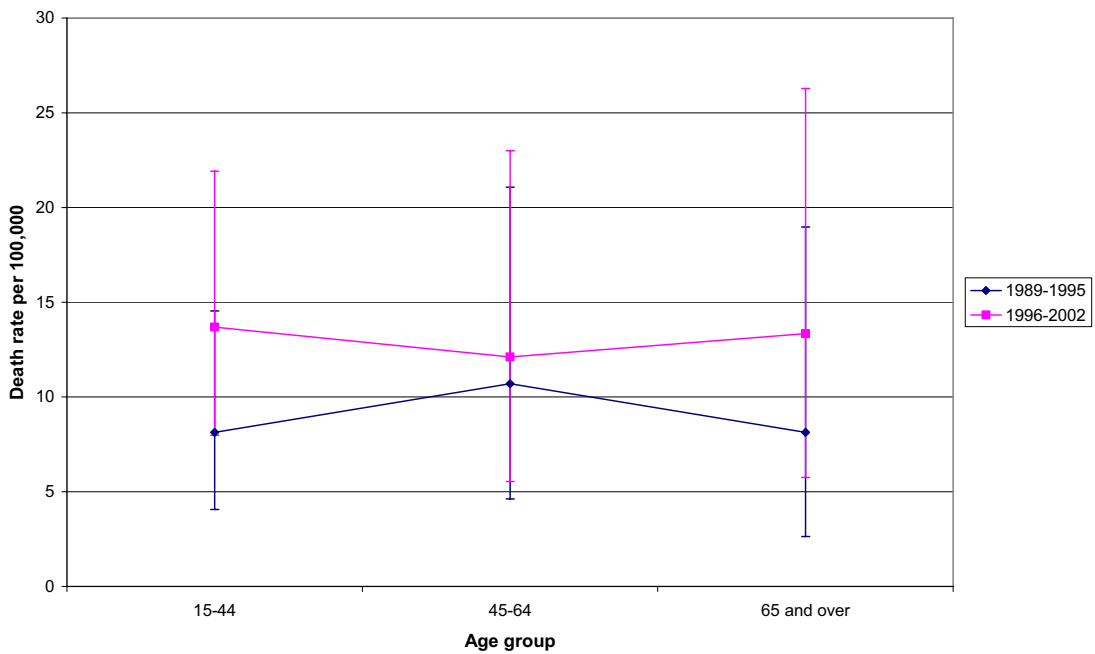
Death rates by age group, Highland, 1989-2002, males



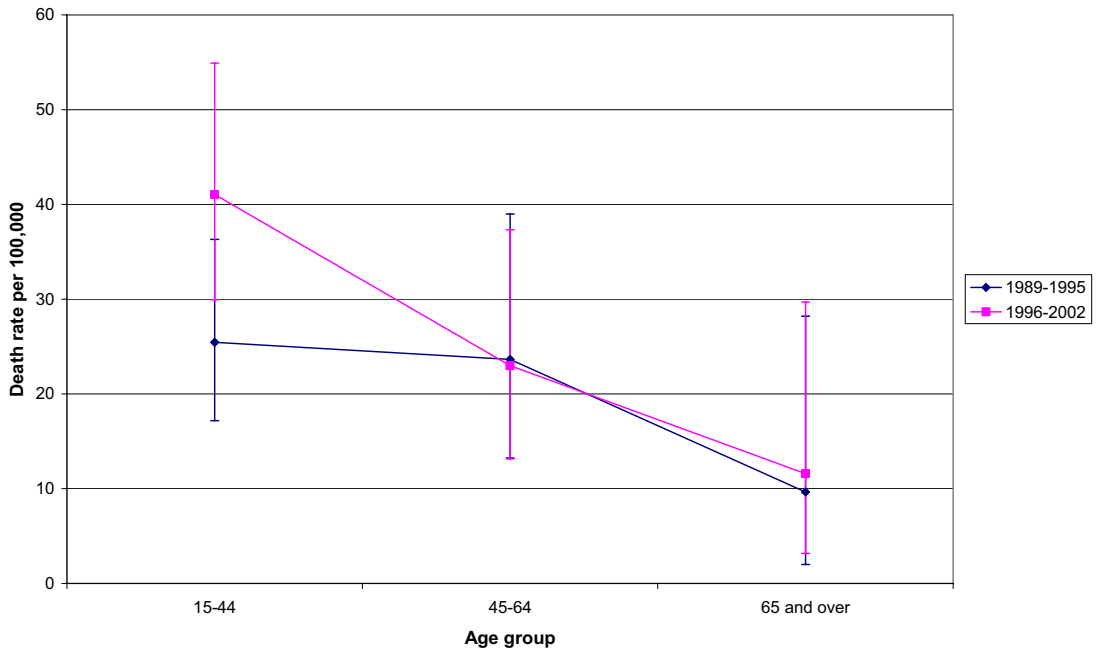
Death rates by age group, Highland, 1989-2002, females



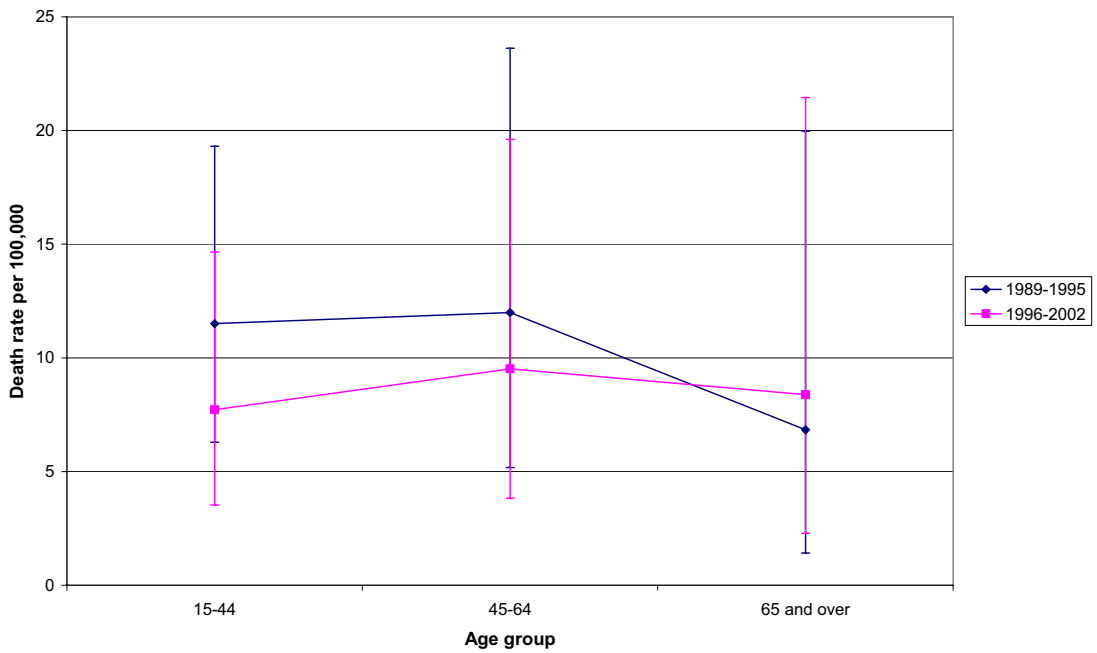
Death rates by age group, Inverclyde, 1989-2002, males



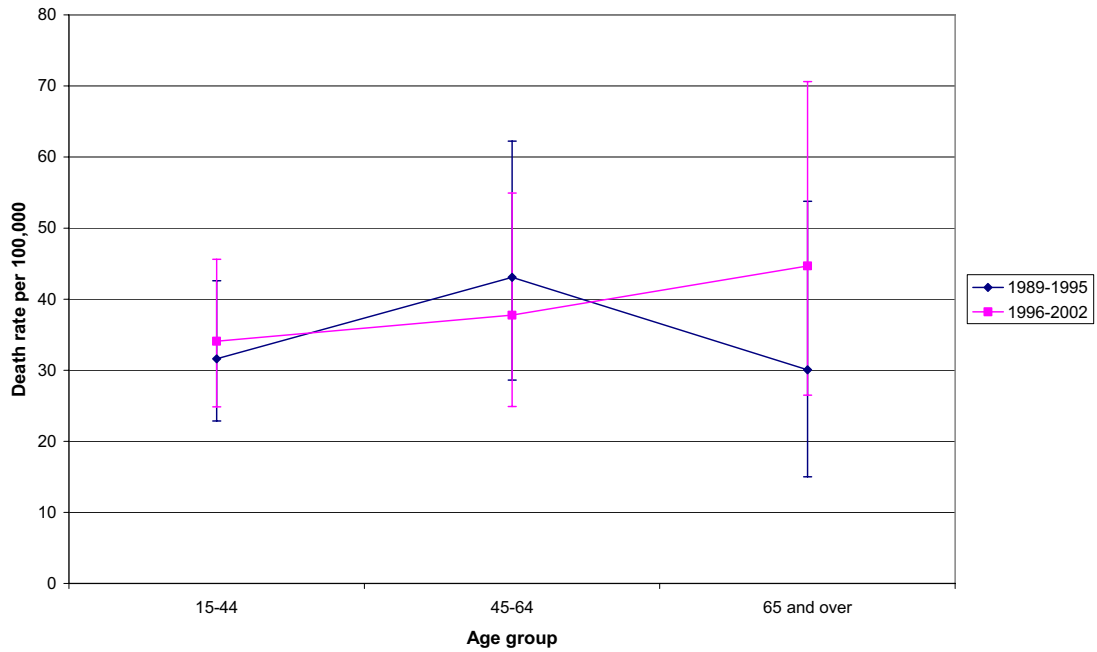
Death rates by age group, Inverclyde, 1989-2002, females



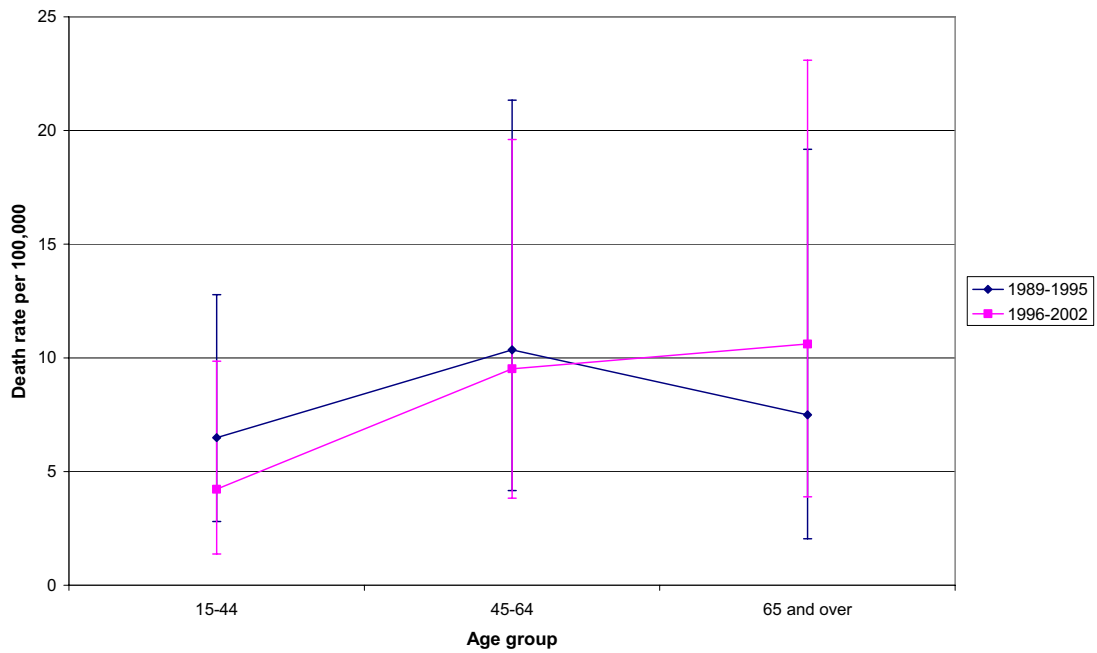
Death rates by age group, Midlothian, 1989-2002, males



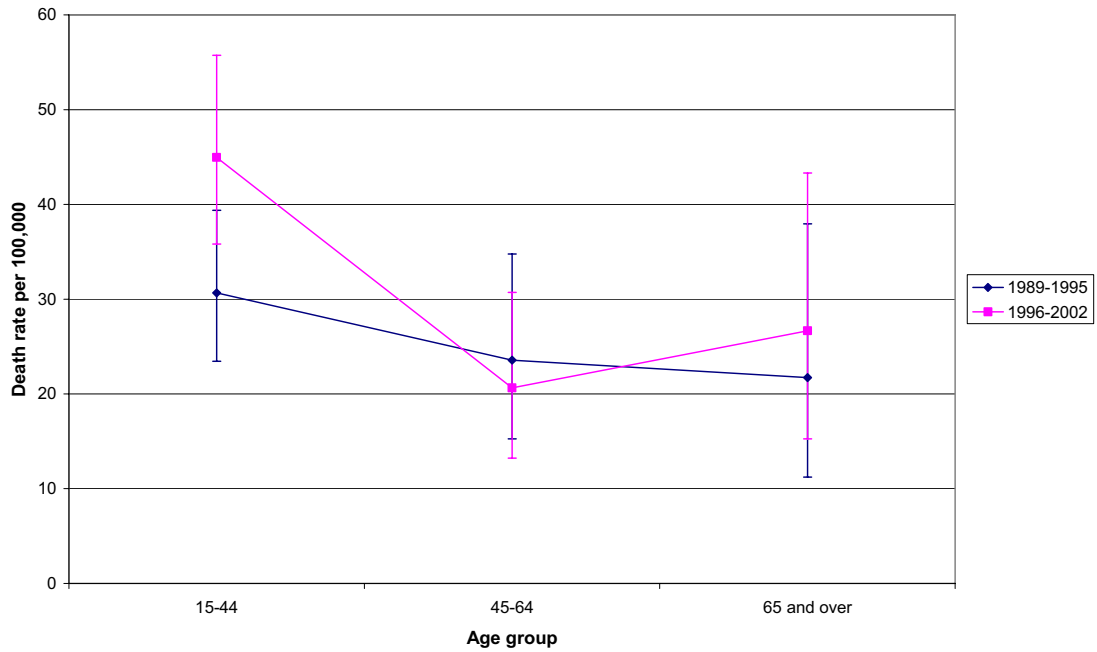
Death rates by age group, Midlothian, 1989-2002, females



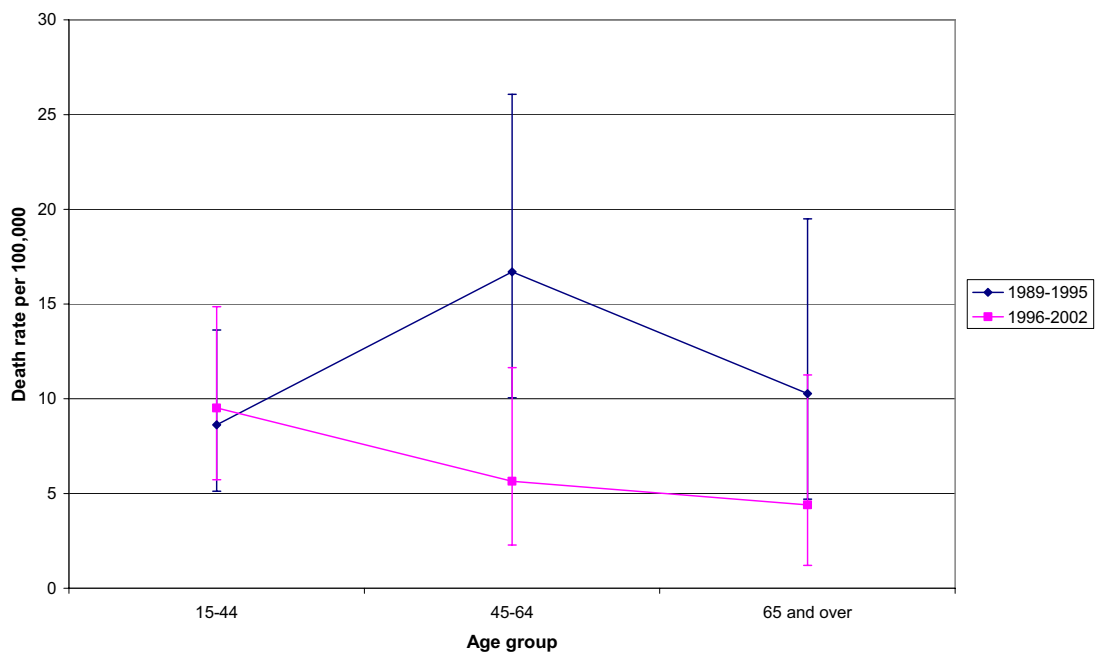
Death rates by age group, Moray, 1989-2002, males



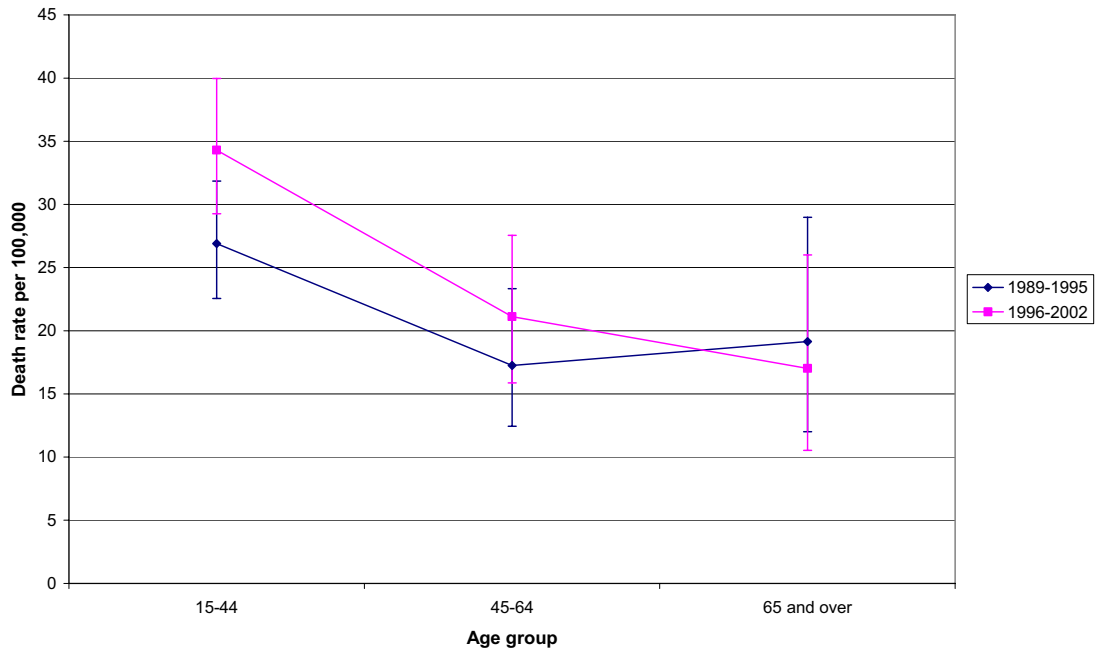
Death rates by age group, Moray, 1989-2002, females



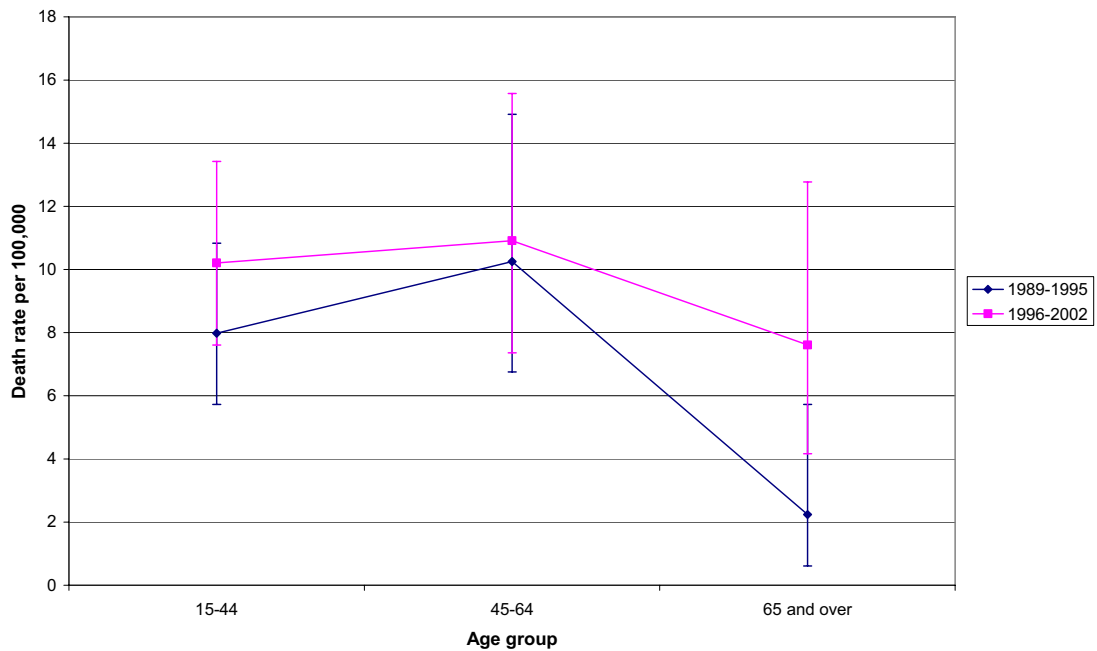
Death rates by age group, North Ayrshire, 1989-2002, males



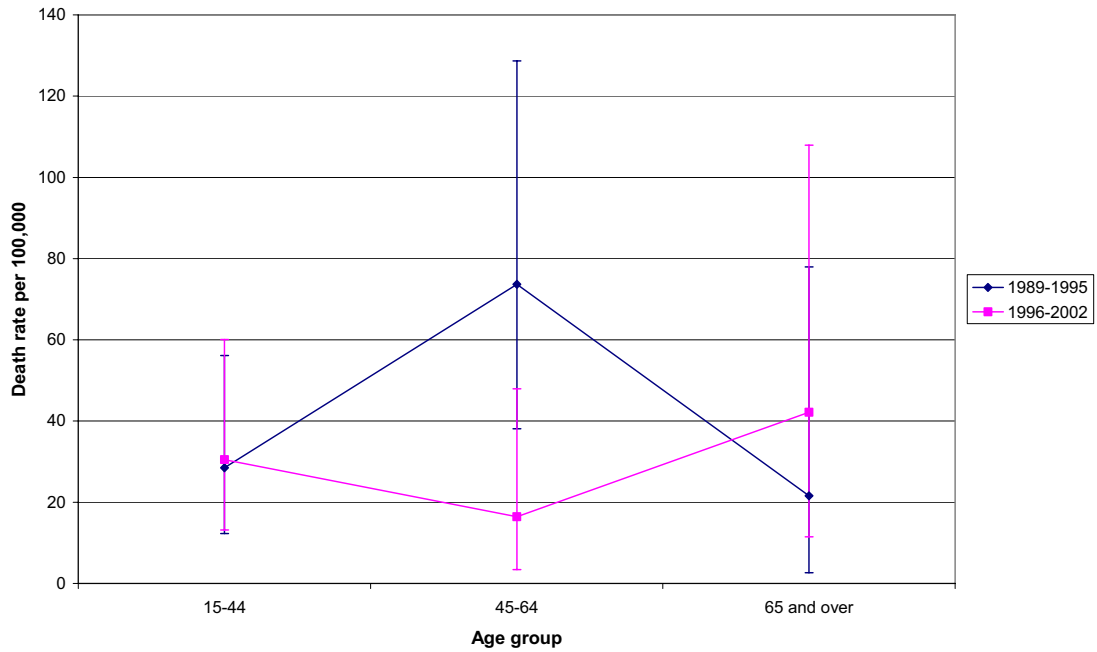
Death rates by age group, North Ayrshire, 1989-2002, females



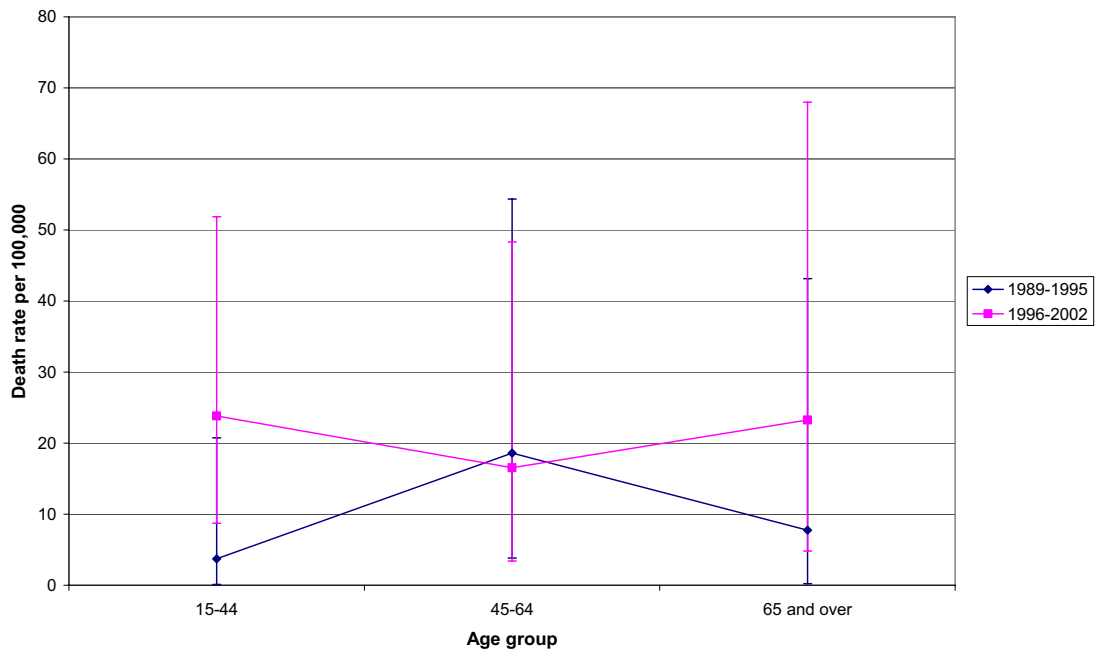
Death rates by age group, North Lanarkshire, 1989-2002, males



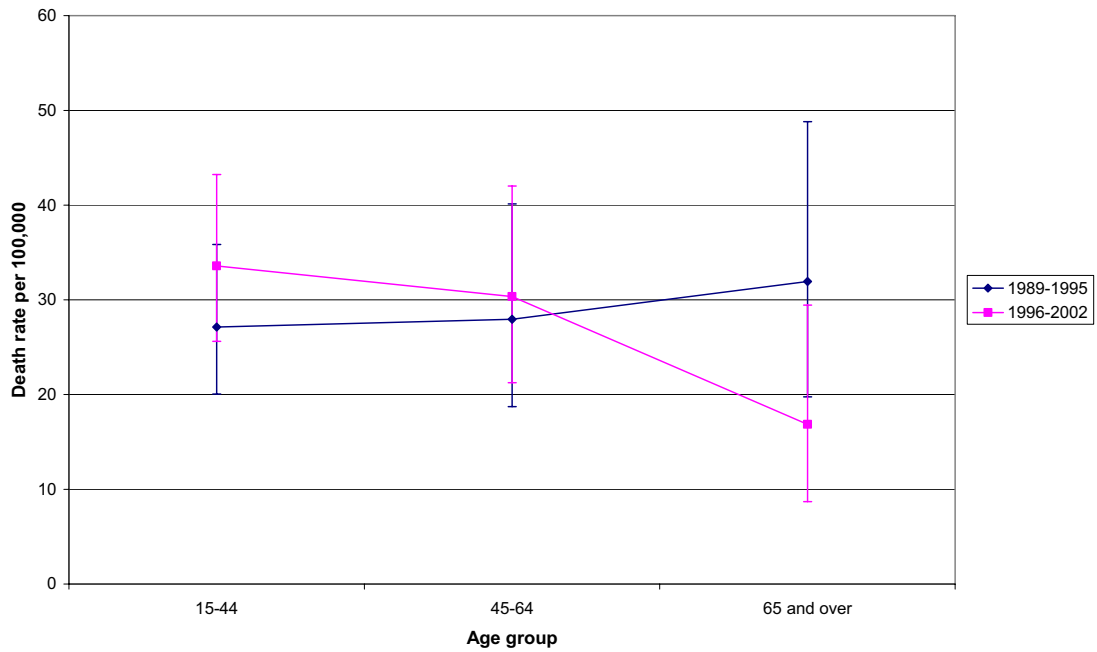
Death rates by age group, North Lanarkshire, 1989-2002, females



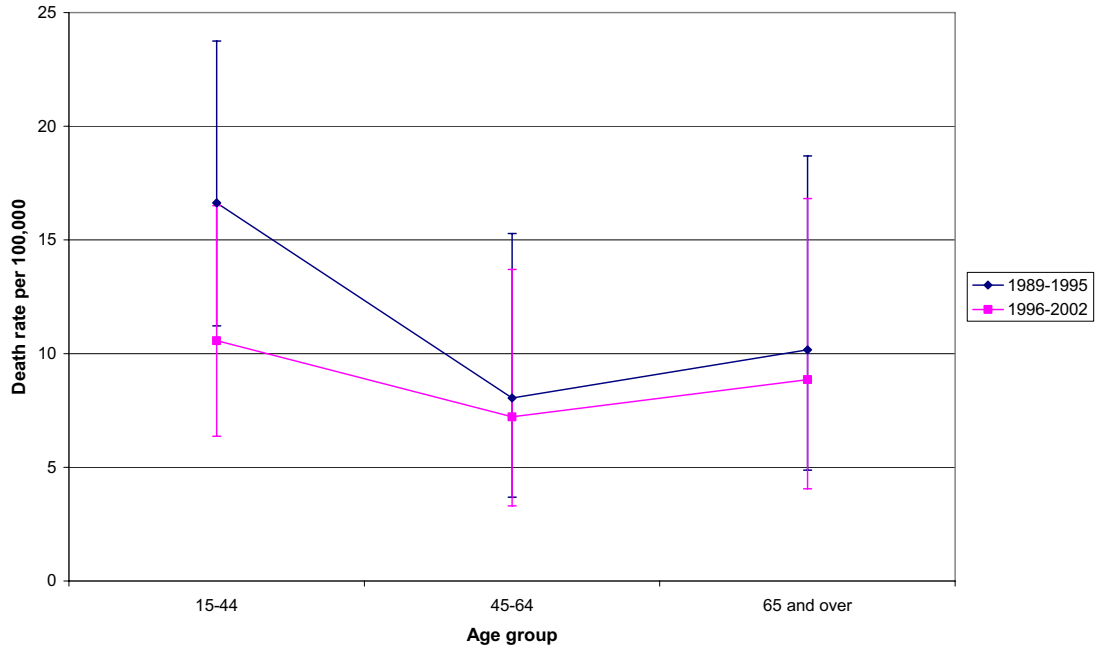
Death rates by age group, Orkney Islands, 1989-2002, males



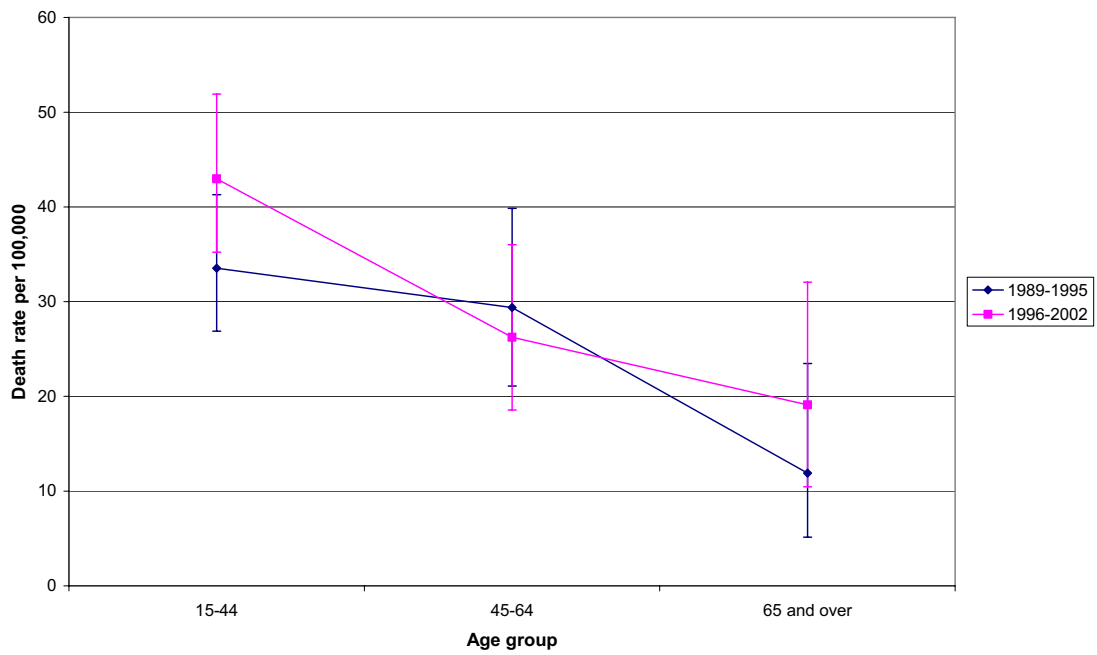
Death rates by age group, Orkney Islands, 1989-2002, females



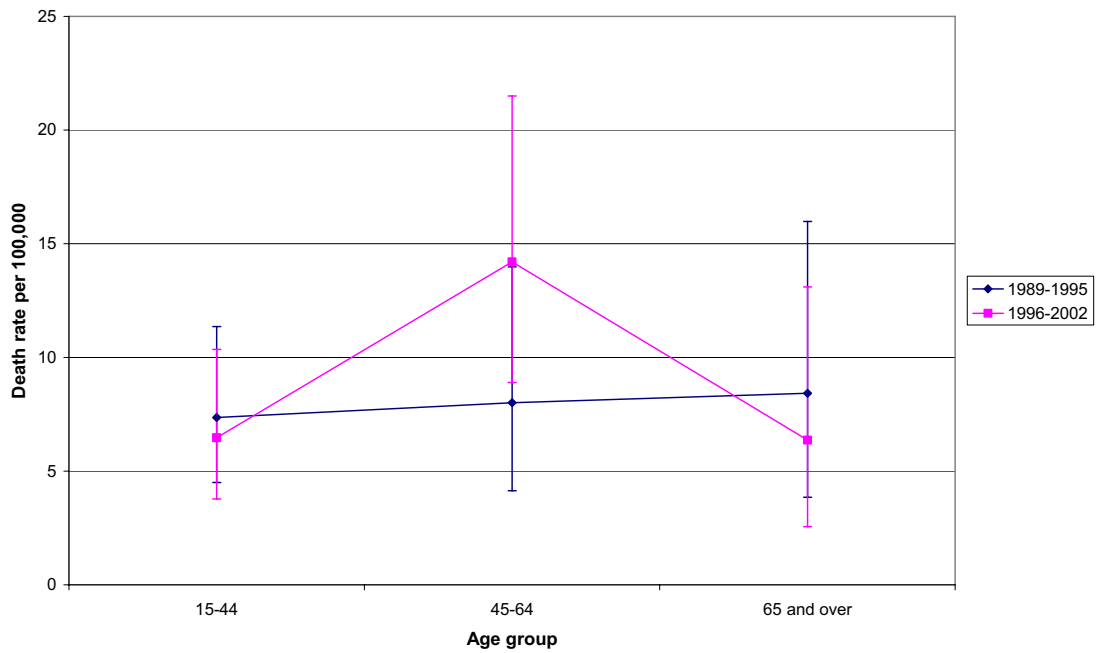
Death rates by age group, Perth & Kinross, 1989-2002, males



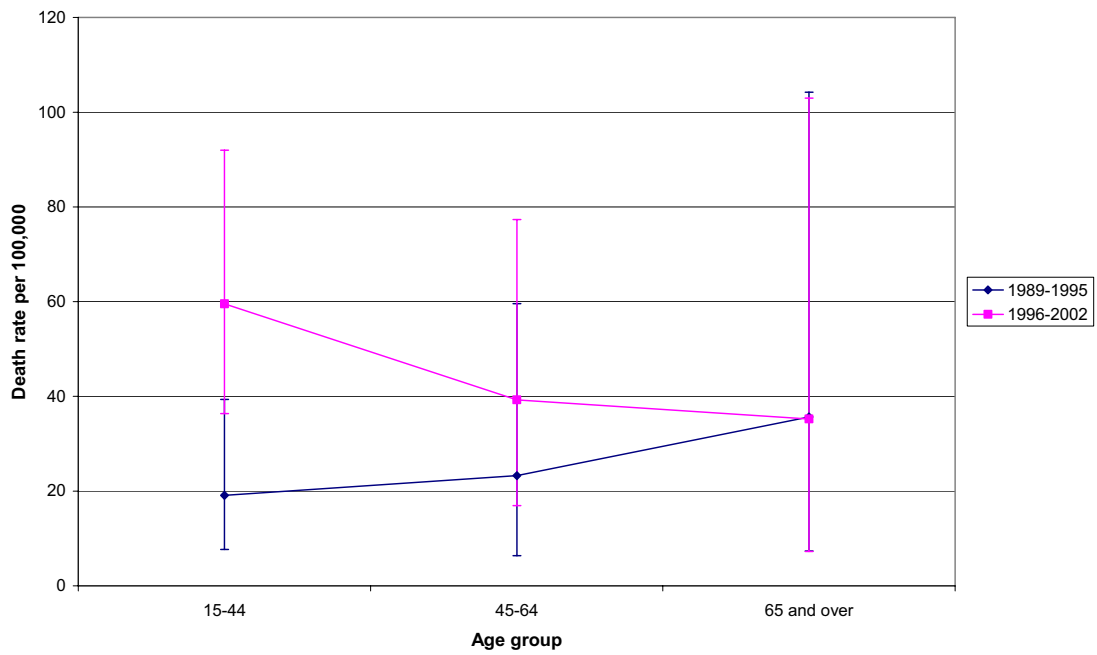
Death rates by age group, Perth & Kinross, 1989-2002, females



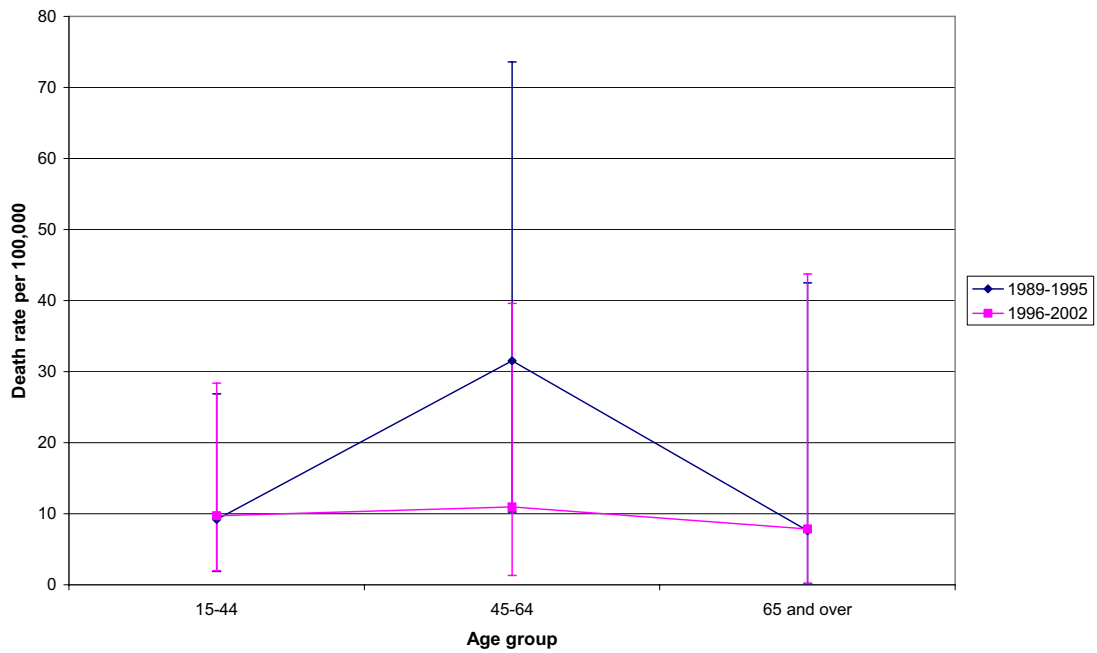
Death rates by age group, Renfrewshire, 1989-2002, males



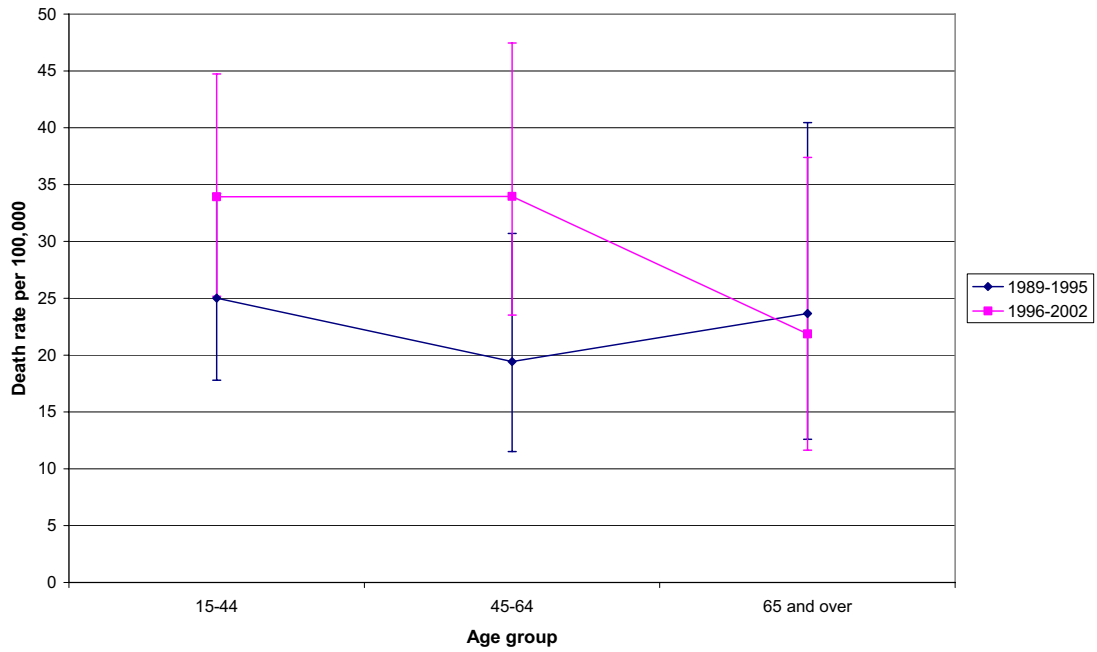
Death rates by age group, Renfrewshire, 1989-2002, females



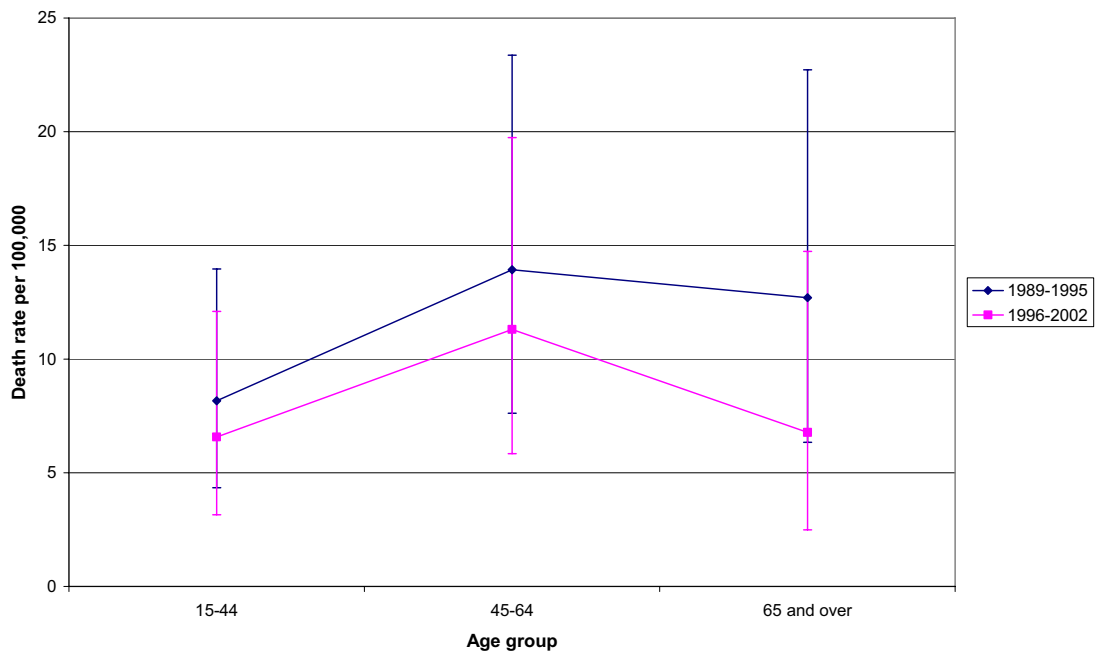
Death rates by age group, Shetland Islands, 1989-2002, males



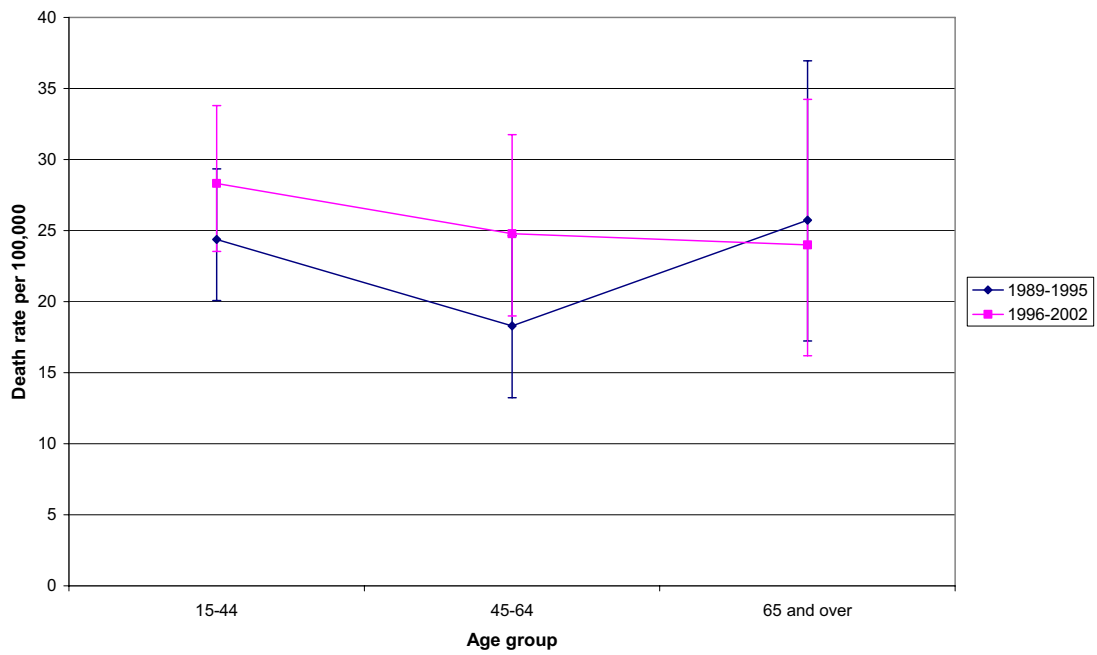
Death rates by age group, Shetland Islands, 1989-2002, females



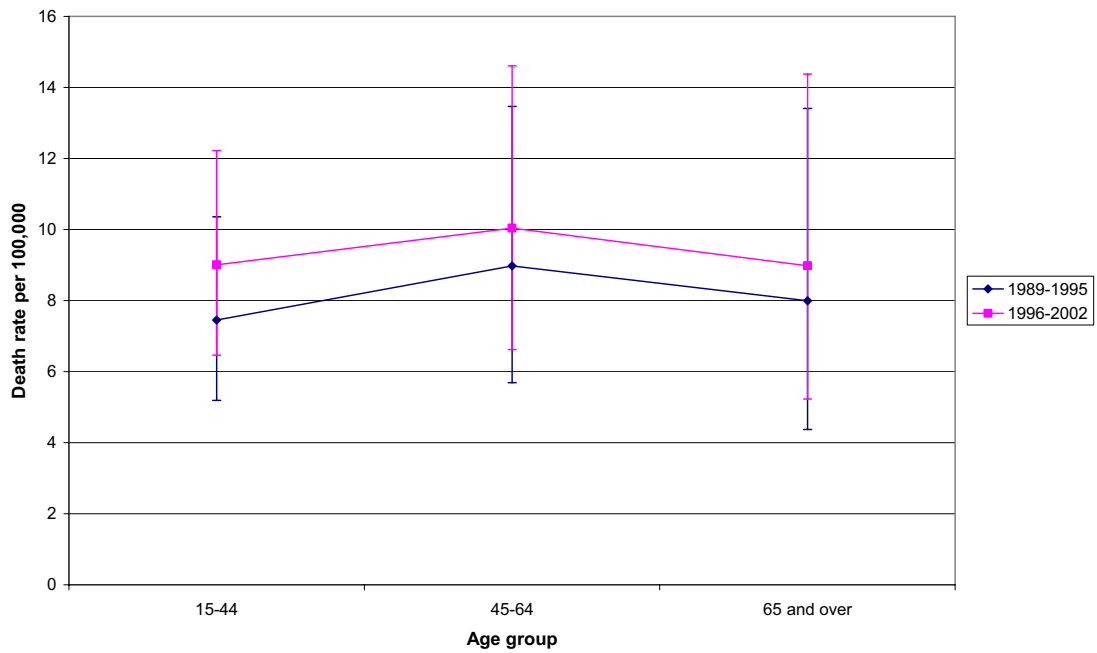
Death rates by age group, South Ayrshire, 1989-2002, males



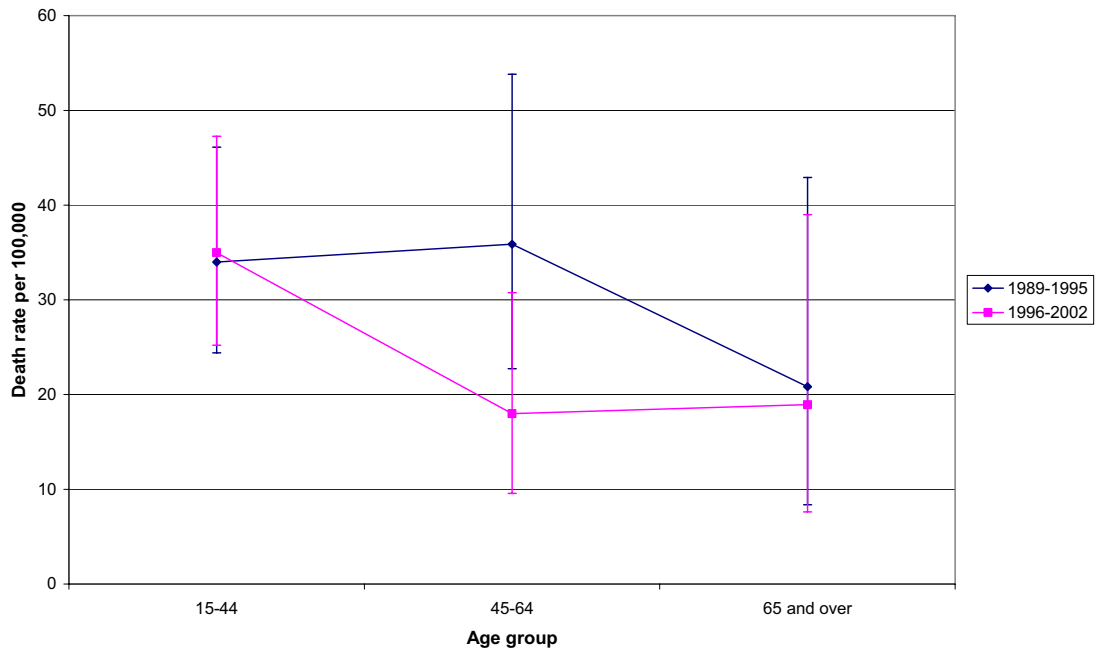
Death rates by age group, South Ayrshire, 1989-2002, females



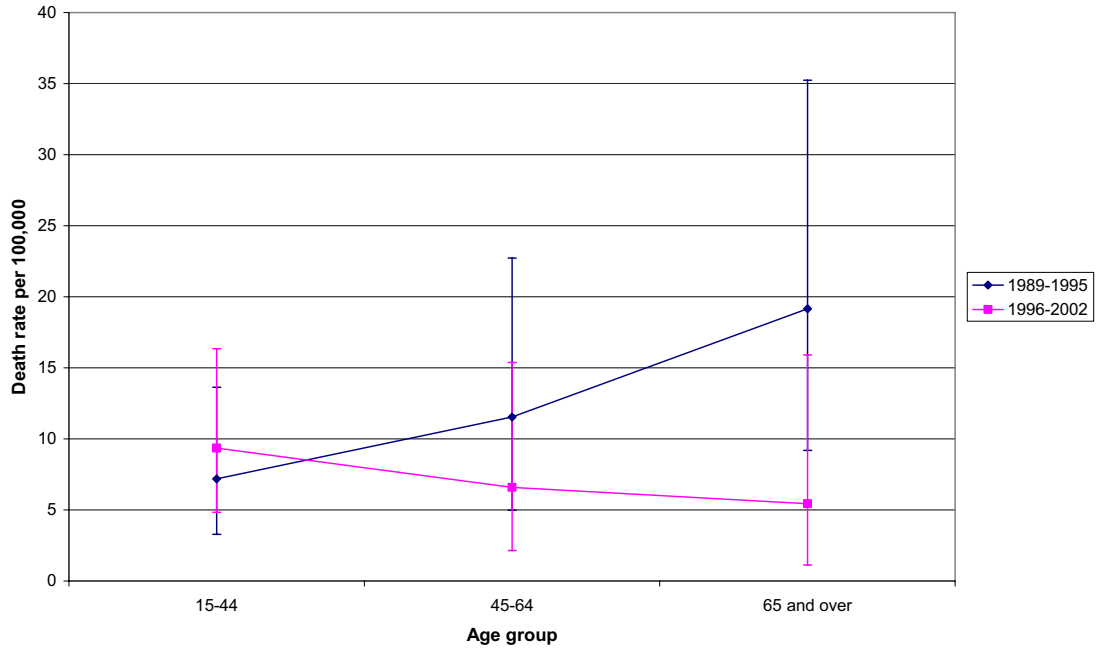
Death rates by age group, South Lanarkshire, 1989-2002, males



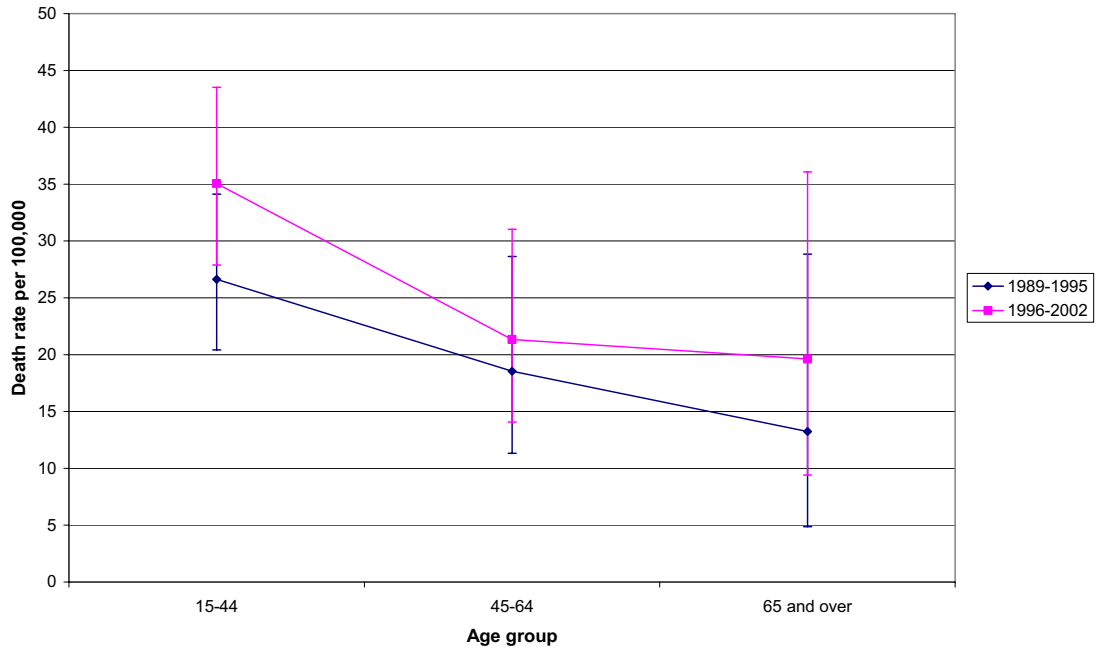
Death rates by age group, South Lanarkshire, 1989-2002, females



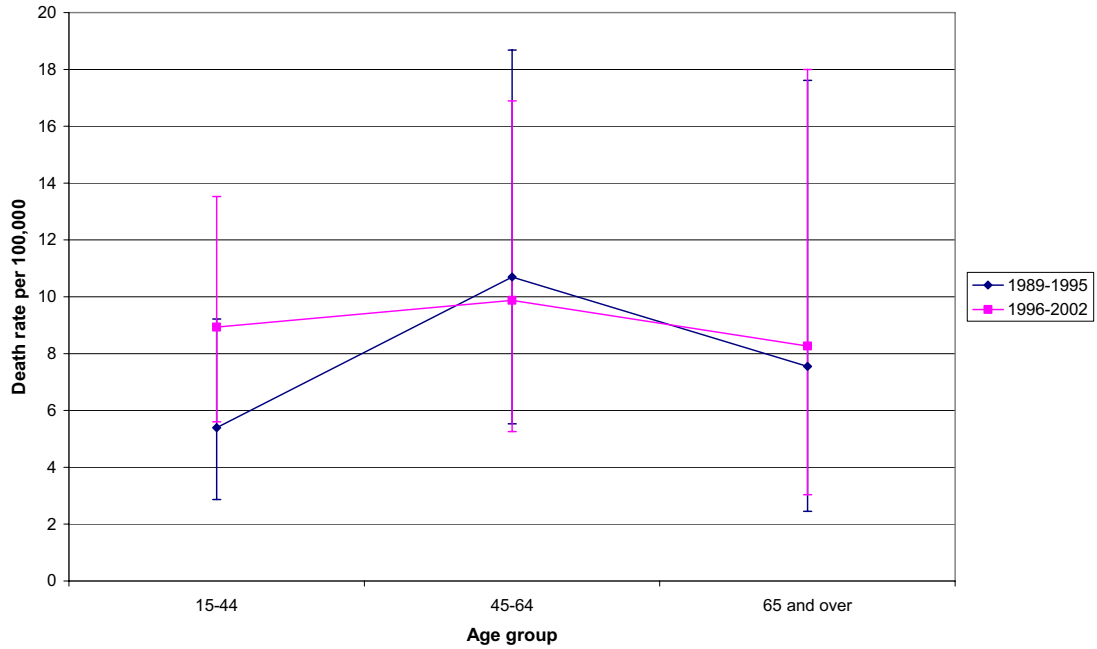
Death rates by age group, Stirling, 1989-2002, males



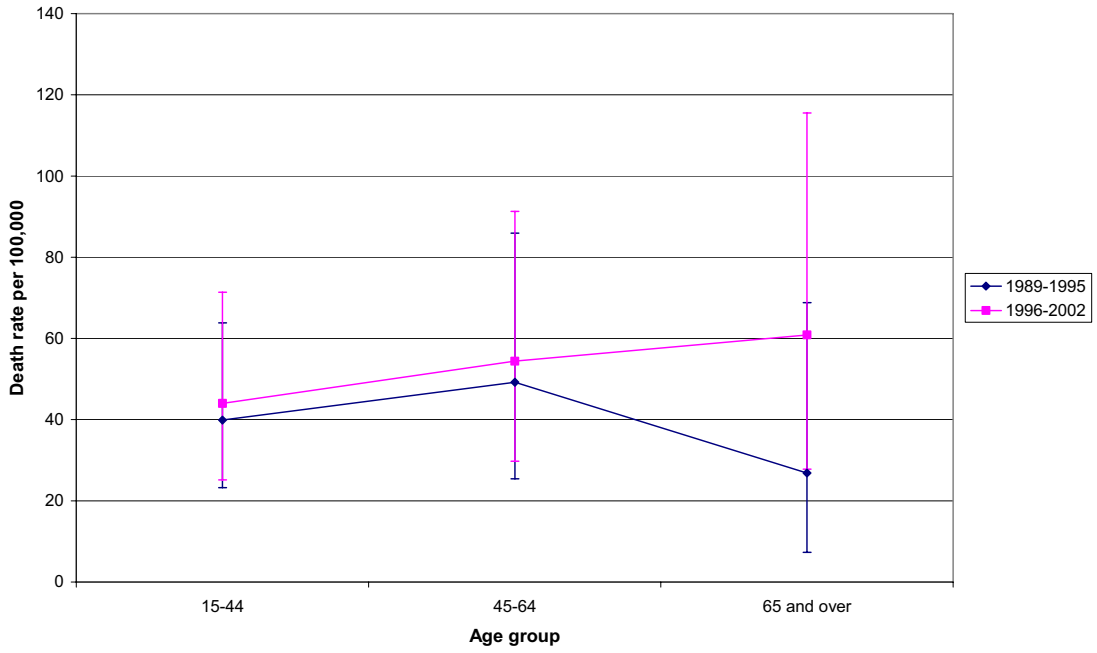
Death rates by age group, Stirling, 1989-2002, females



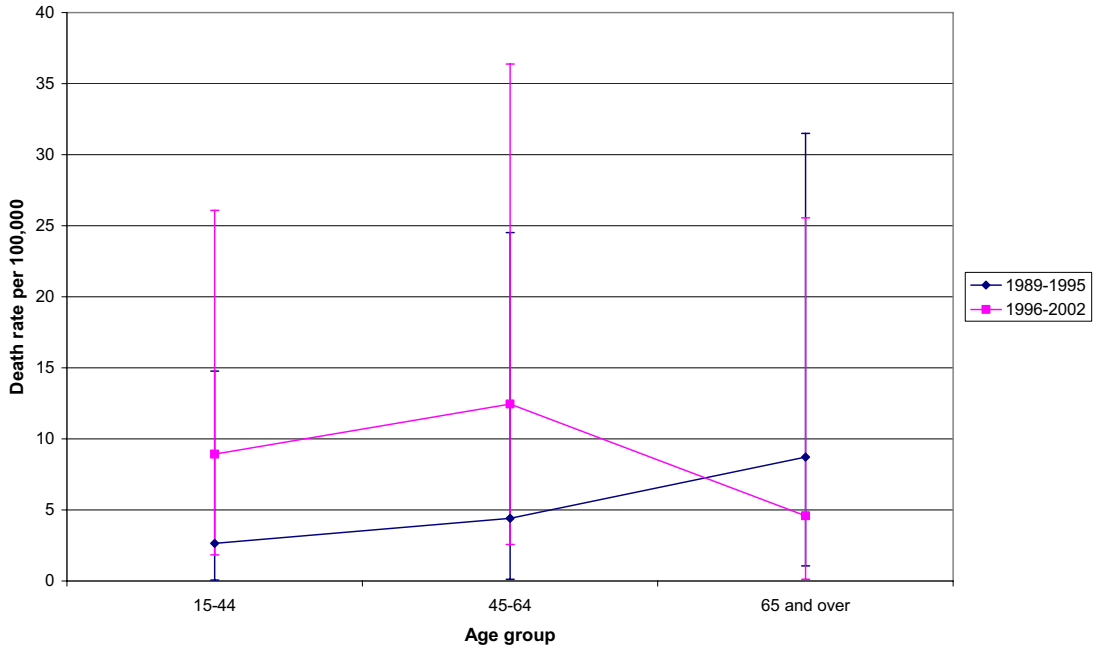
Death rates by age group, West Lothian, 1989-2002, males



Death rates by age group, West Lothian, 1989-2002, females

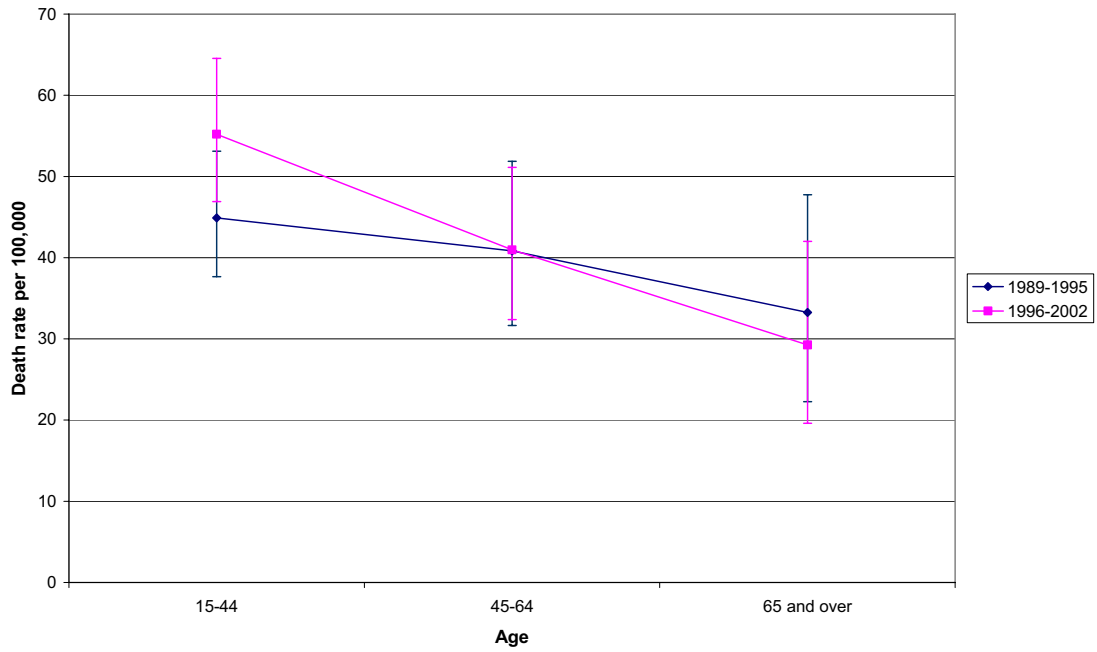


Death rates by age group, Eilean Siar, 1989-2002, males

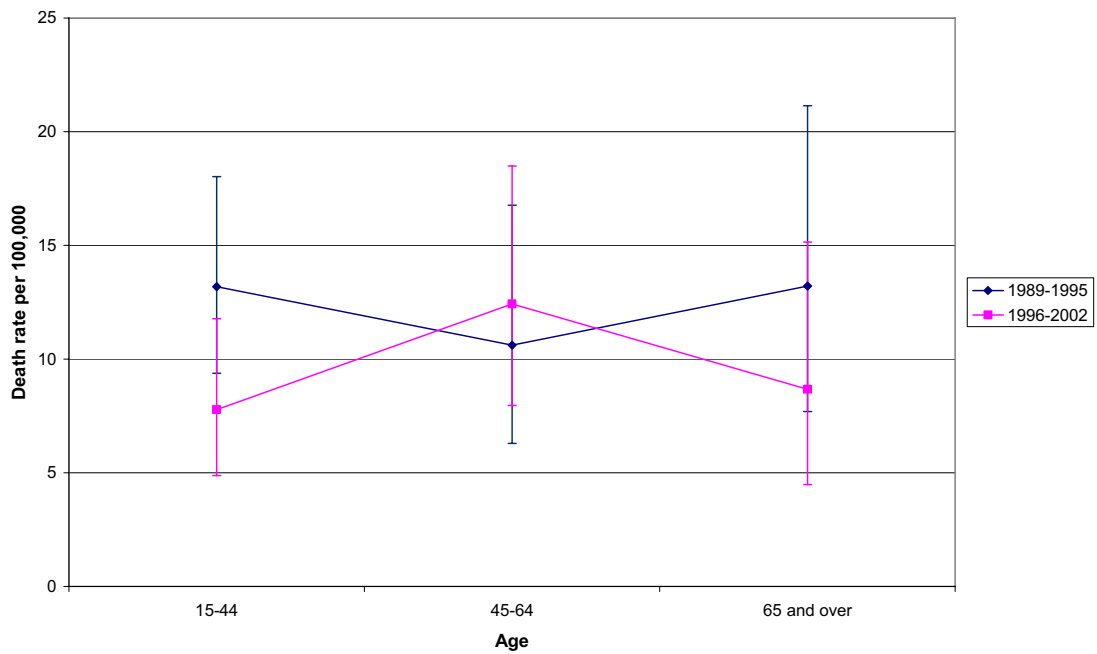


Death rates by age group, Eilean Siar, 1989-2002, females

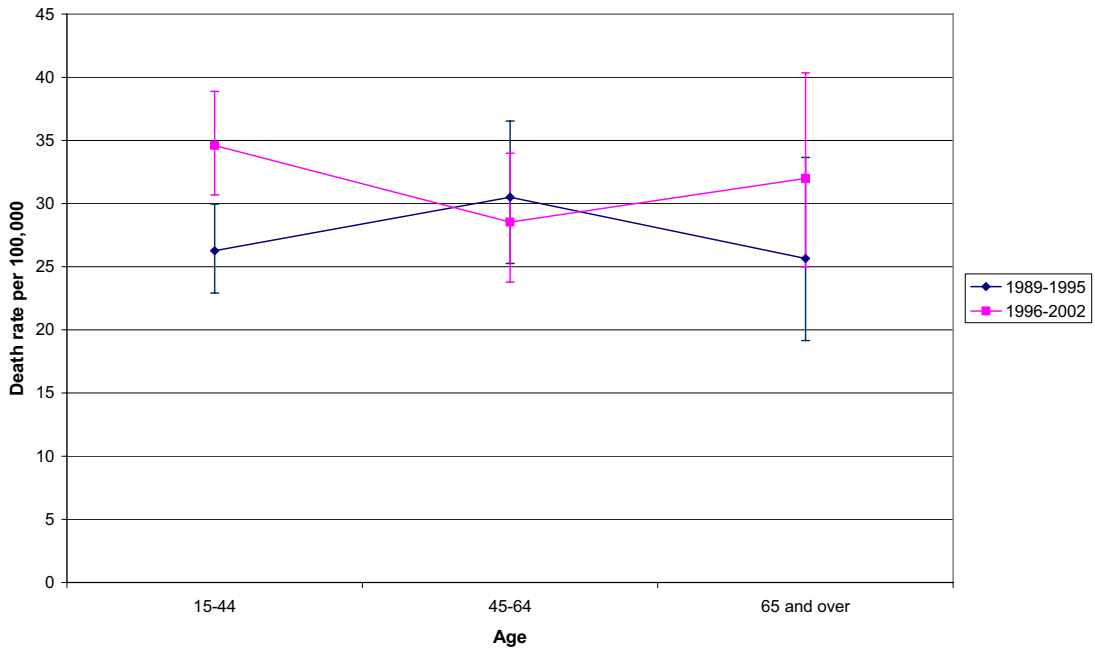
Annex 8 Suicide rates by age group and sex, separately for each health board, 1989-95 and 1996-2002



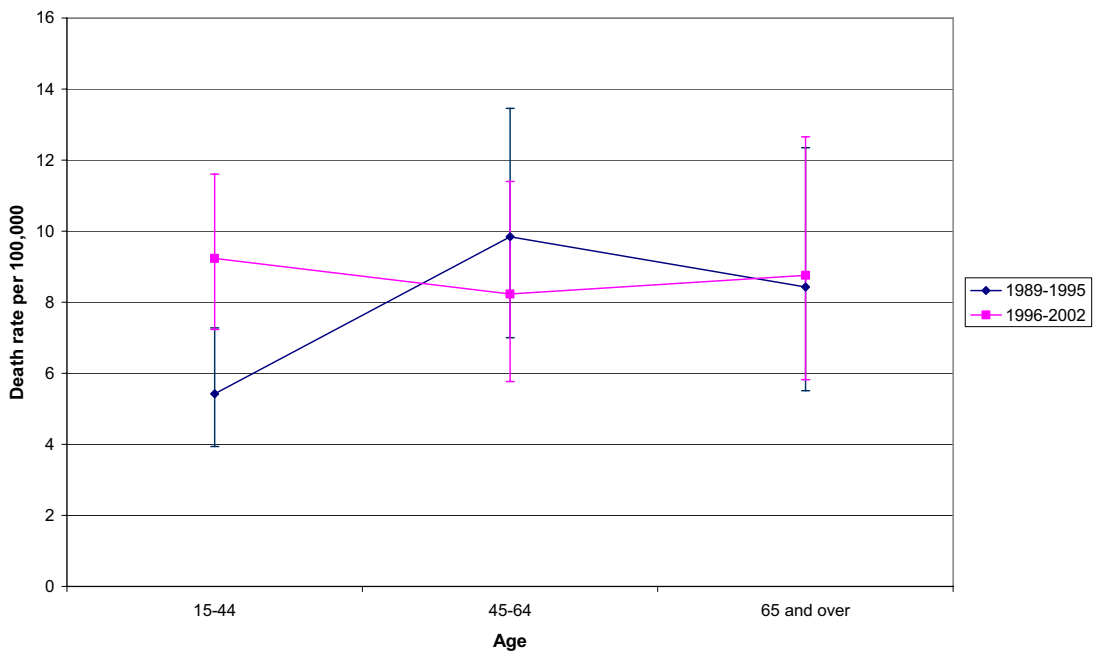
Death rates by age group, Highland, 1989-2002, males



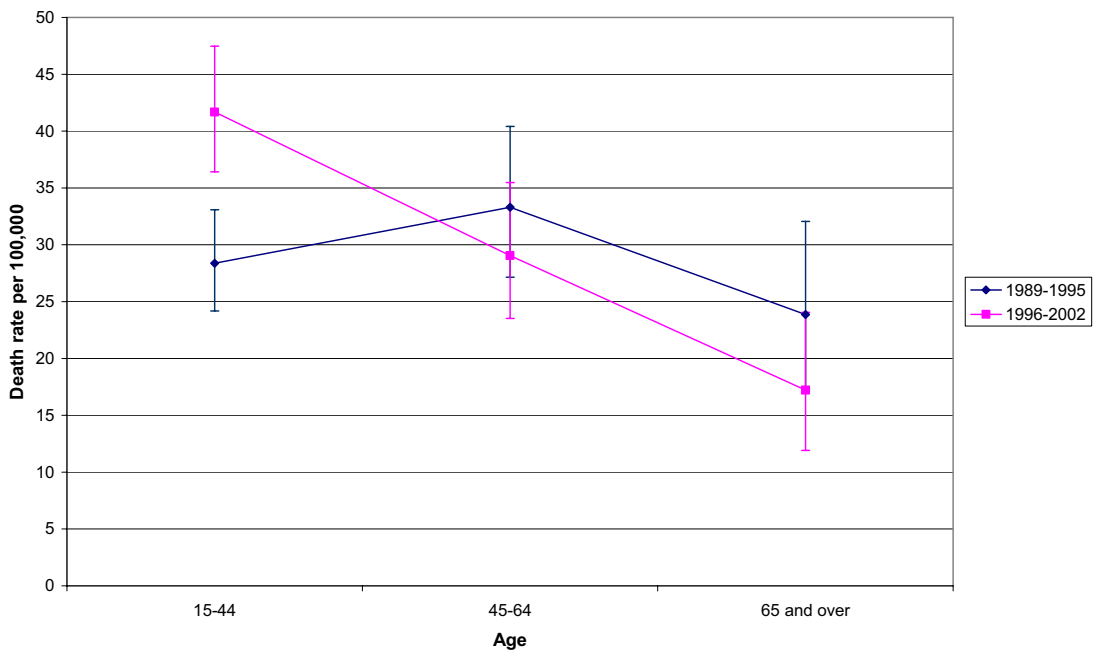
Death rates by age group, Highland, 1989-2002, females



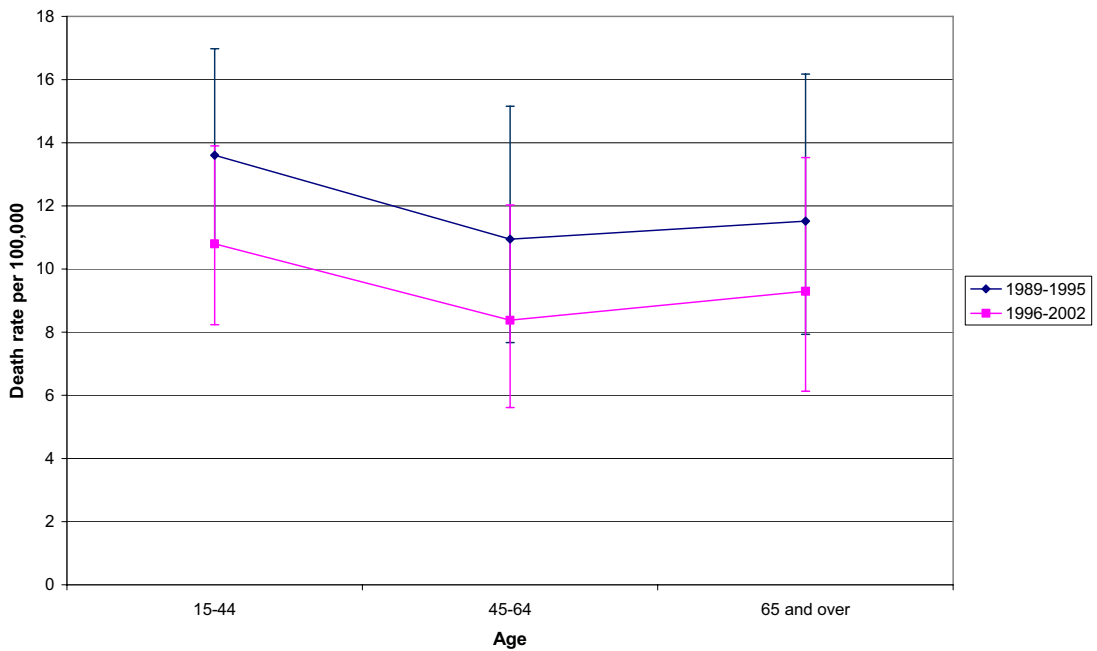
Death rates by age group, Grampian, 1989-2002, males



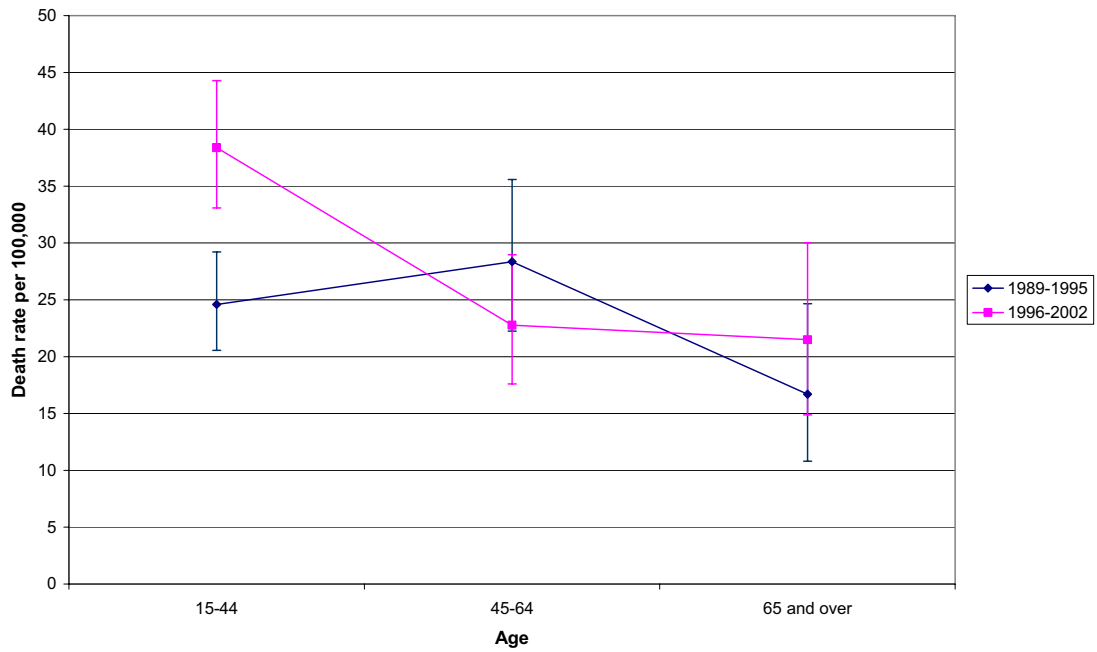
Death rates by age group, Grampian, 1989-2002, females



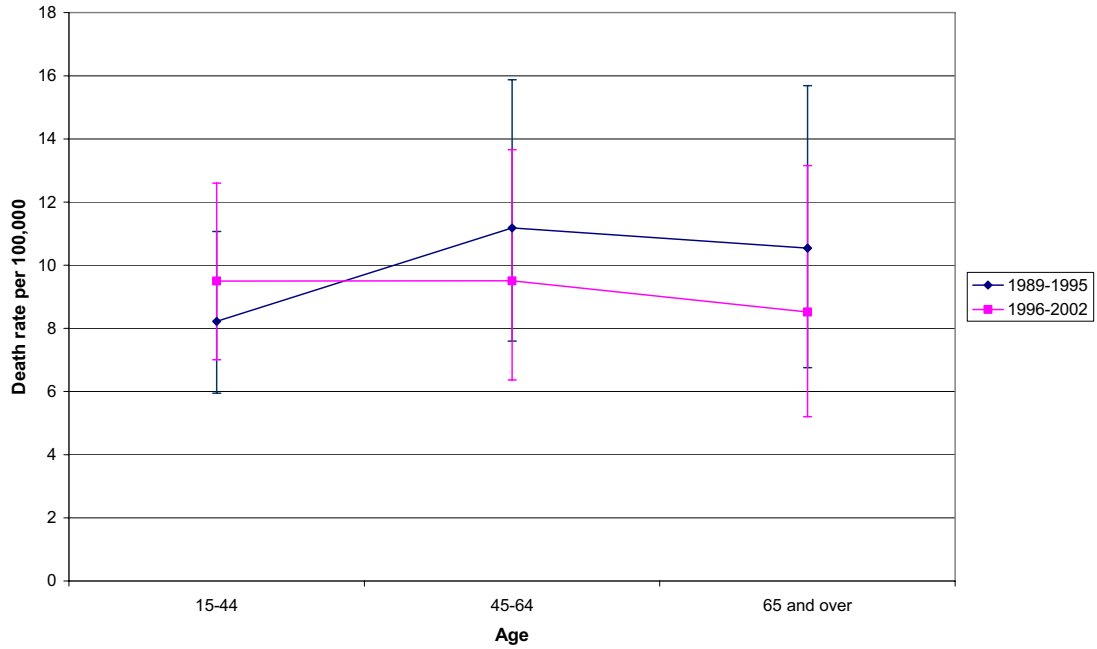
Death rates by age group, Tayside, 1989-2002, males



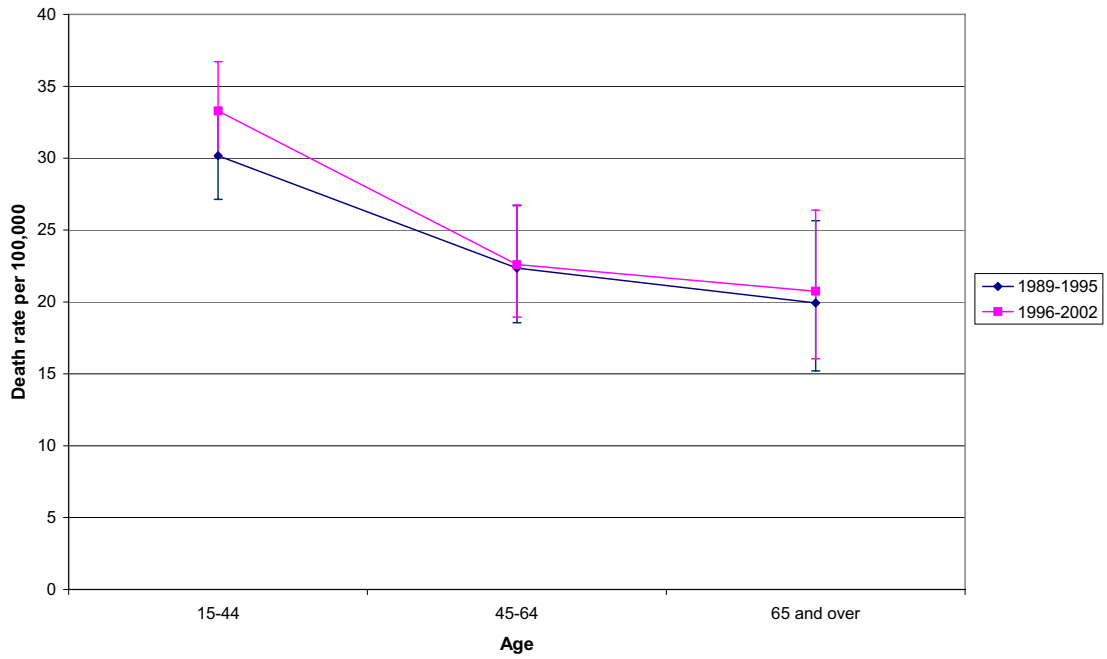
Death rates by age group, Tayside, 1989-2002, females



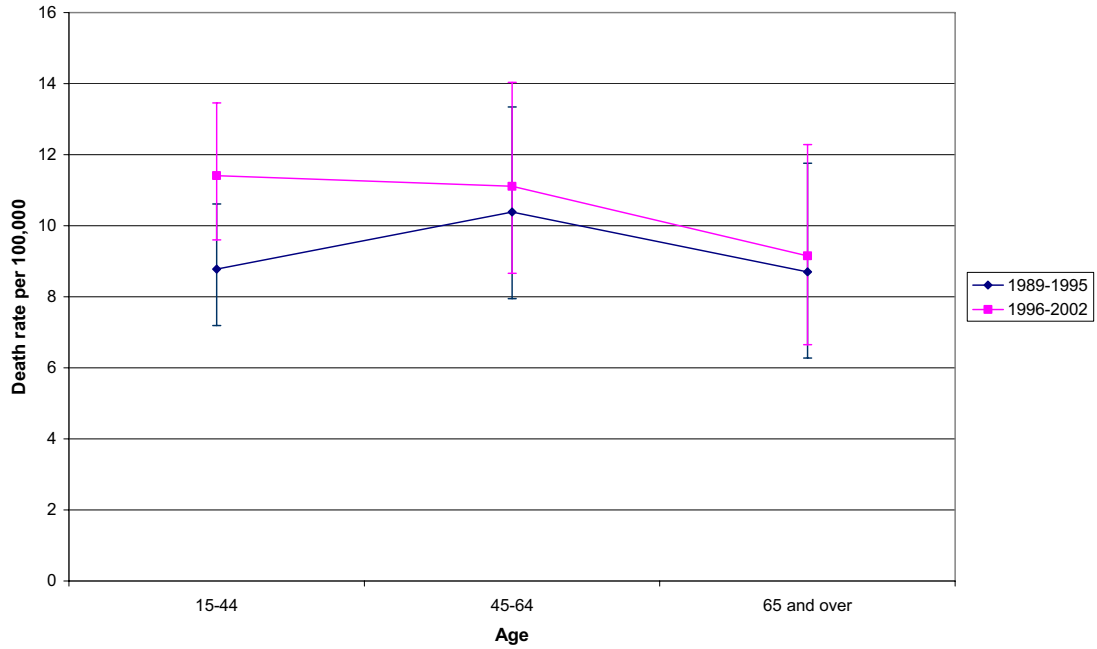
Death rates by age group, Fife, 1989-2002, males



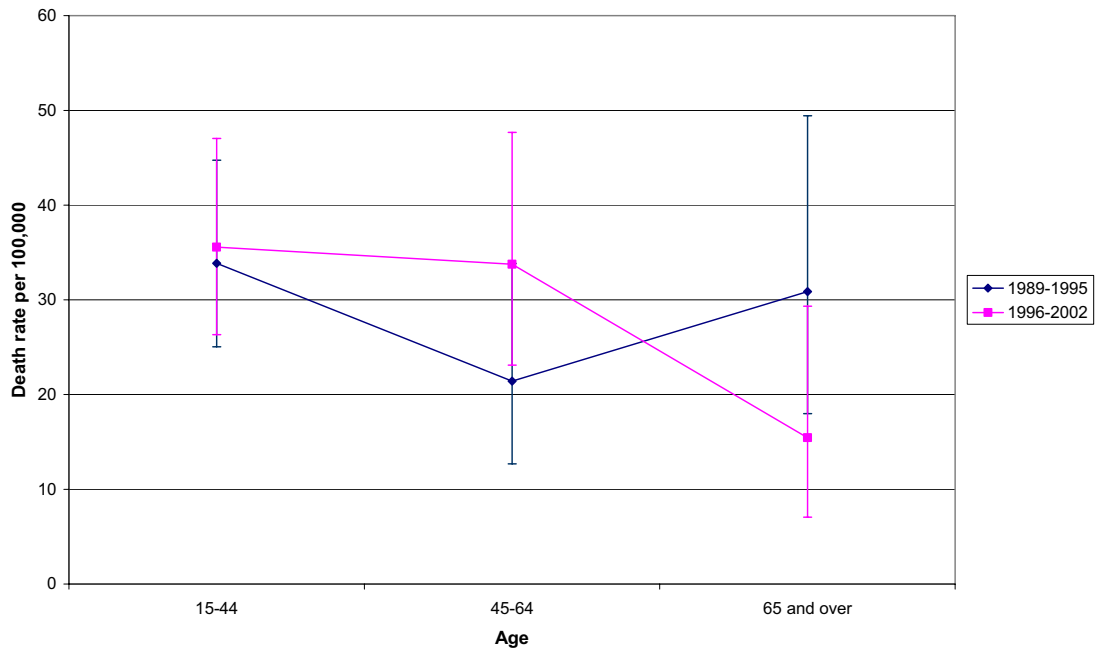
Death rates by age group, Fife, 1989-2002, females



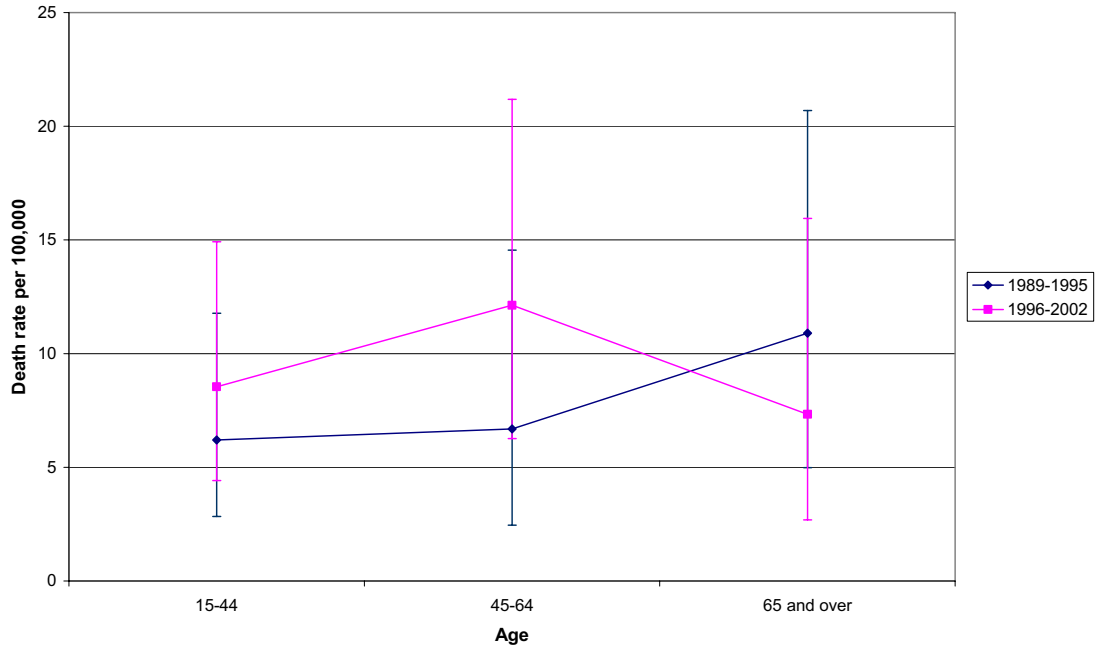
Death rates by age group, Lothian, 1989-2002, males



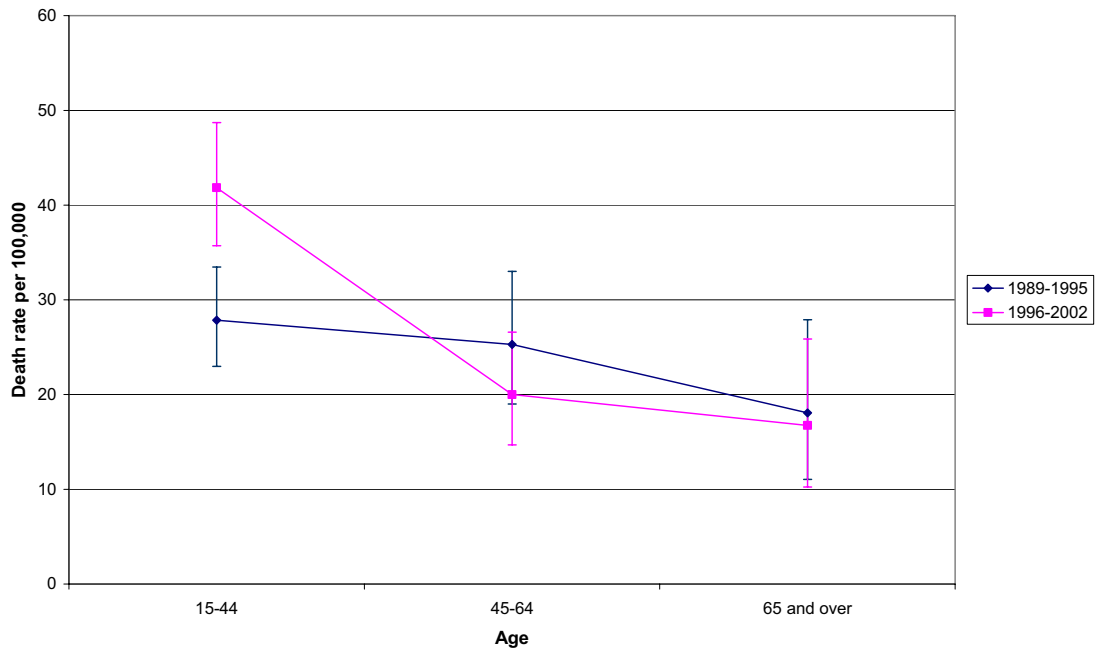
Death rates by age group, Lothian, 1989-2002, females



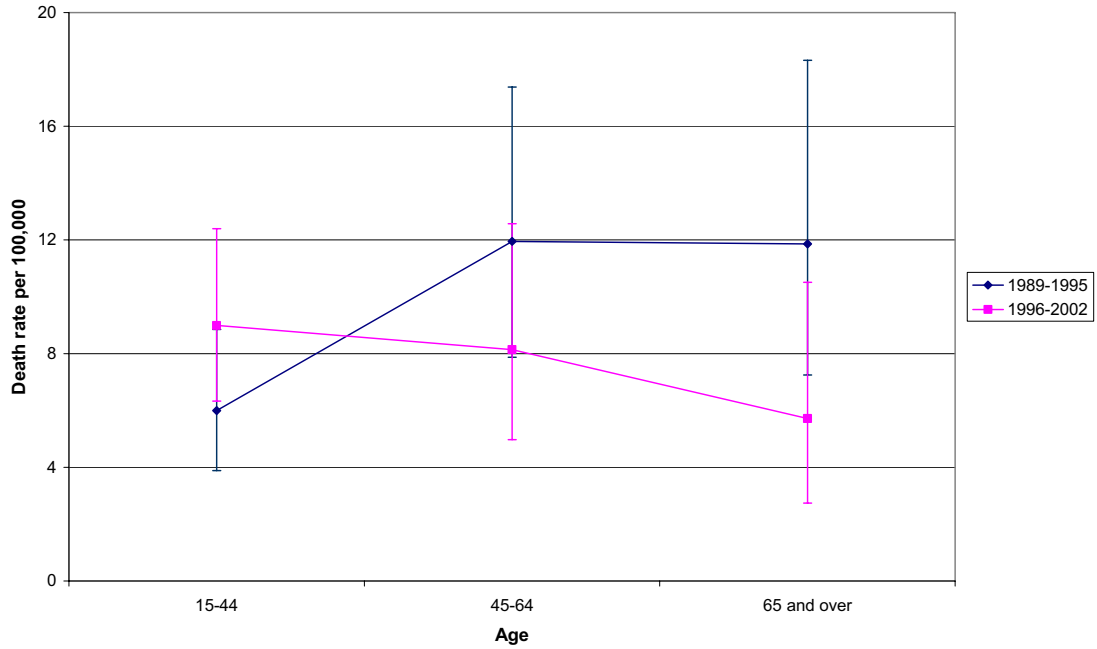
Death rates by age group, Borders, 1989-2002, males



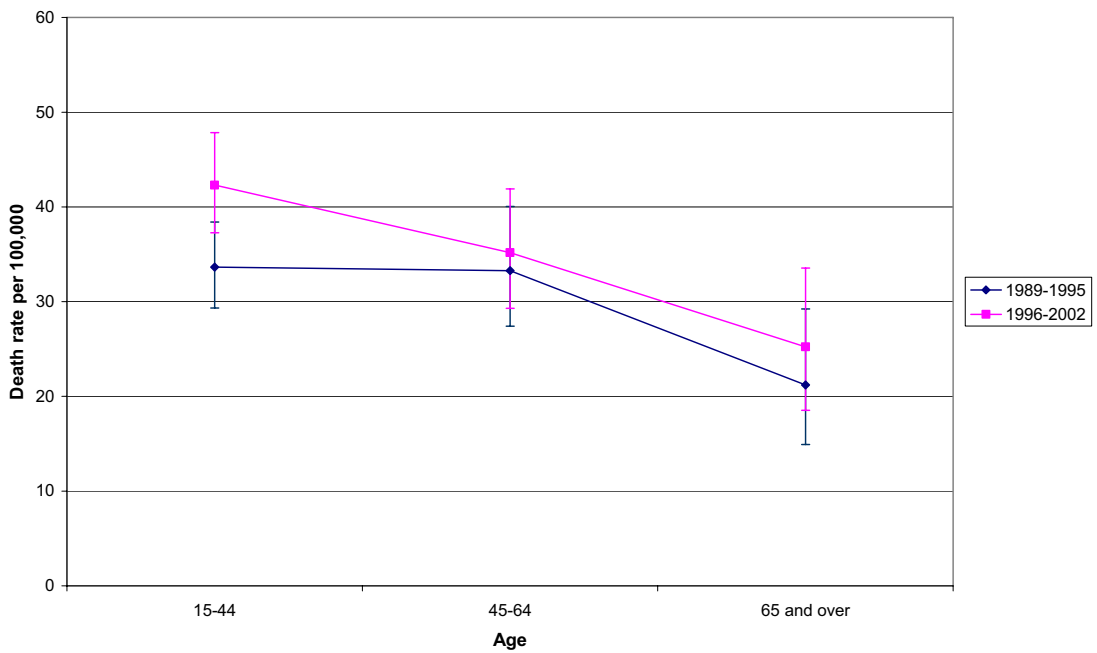
Death rates by age group, Borders, 1989-2002, females



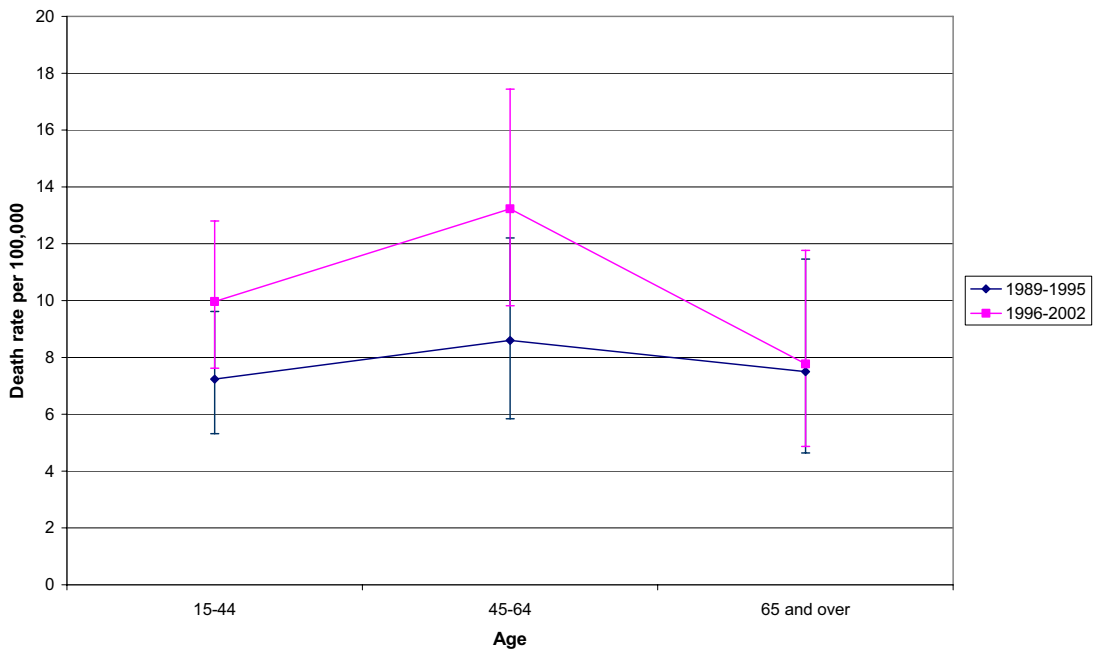
Death rates by age group, Forth Valley, 1989-2002, males



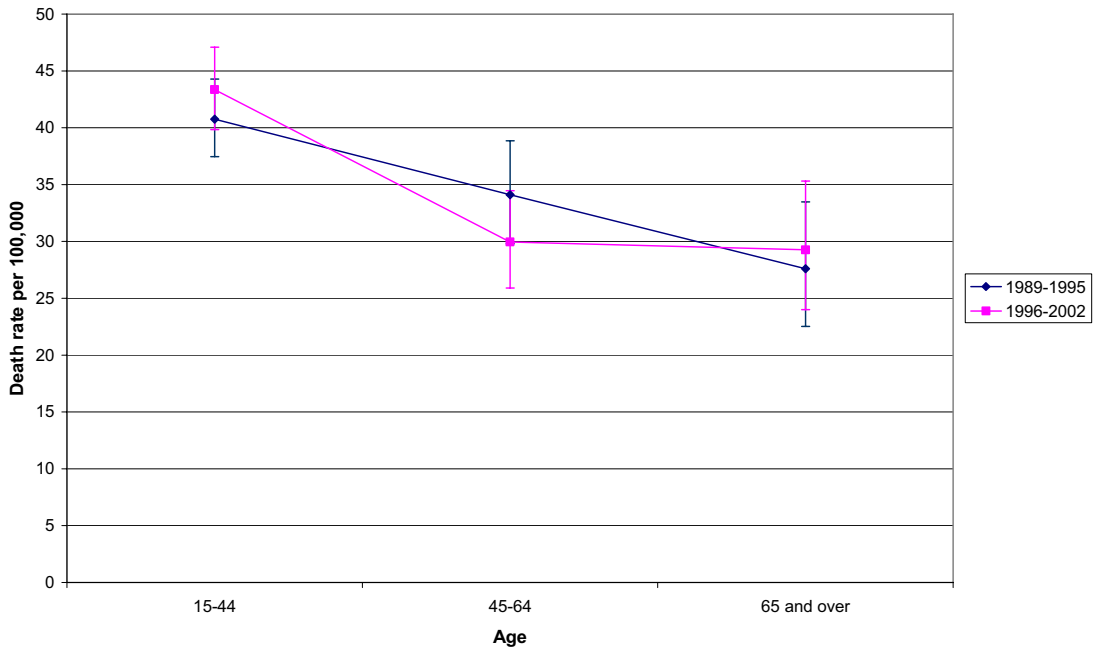
Death rates by age group, Forth Valley, 1989-2002, females



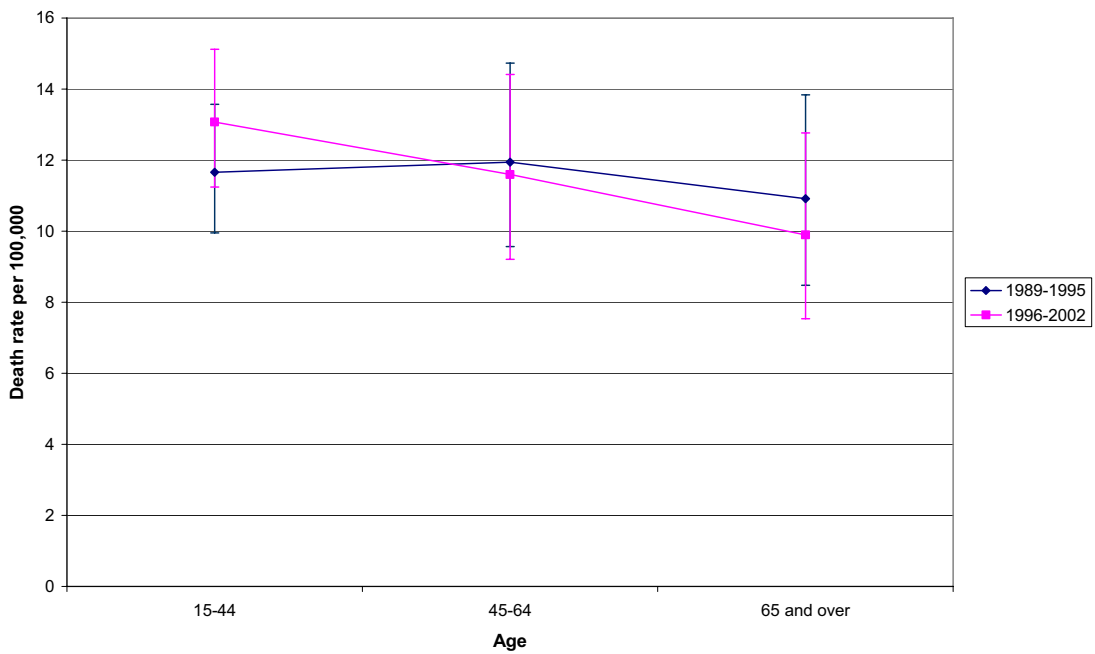
Death rates by age group, Argyll & Clyde, 1989-2002, males



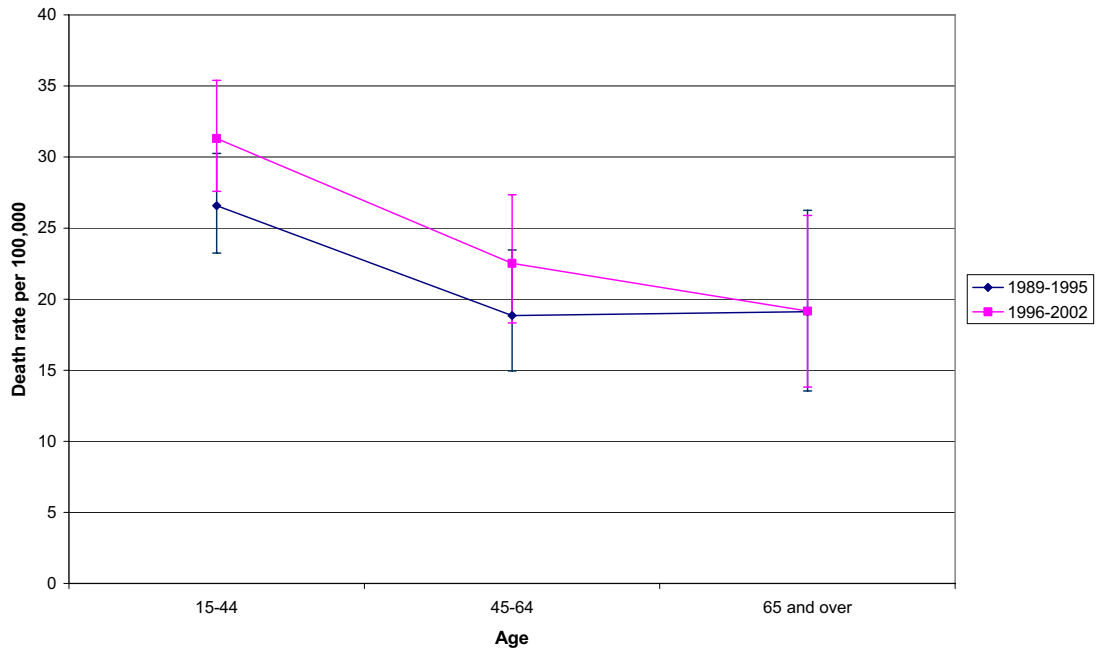
Death rates by age group, Argyll & Clyde, 1989-2002, females



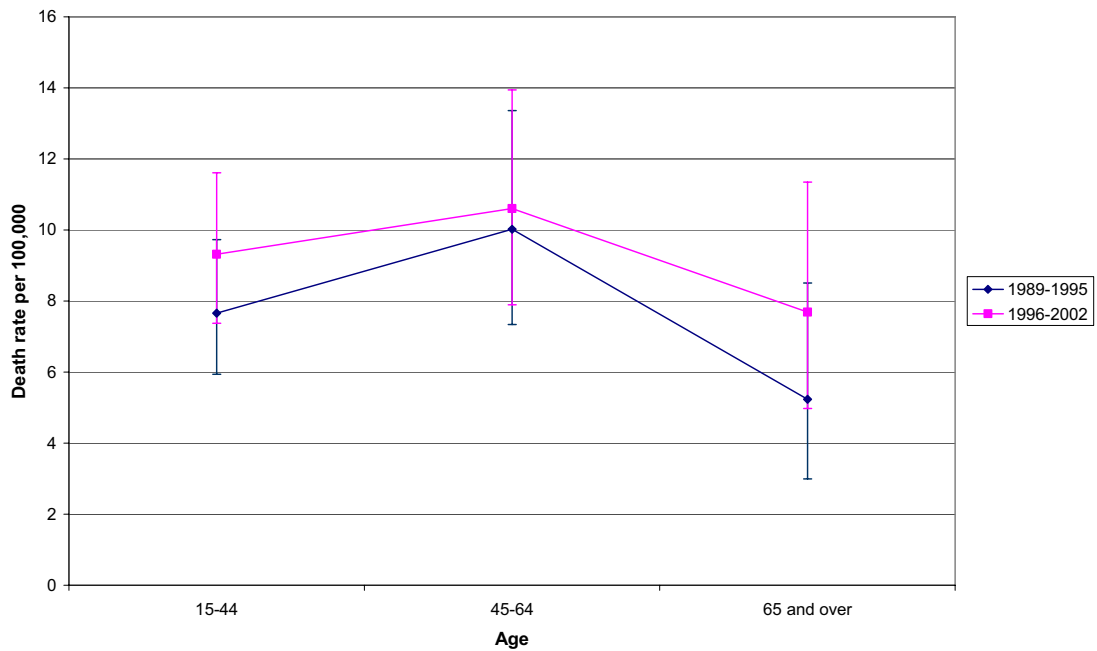
Death rates by age group, Greater Glasgow, 1989-2002, males



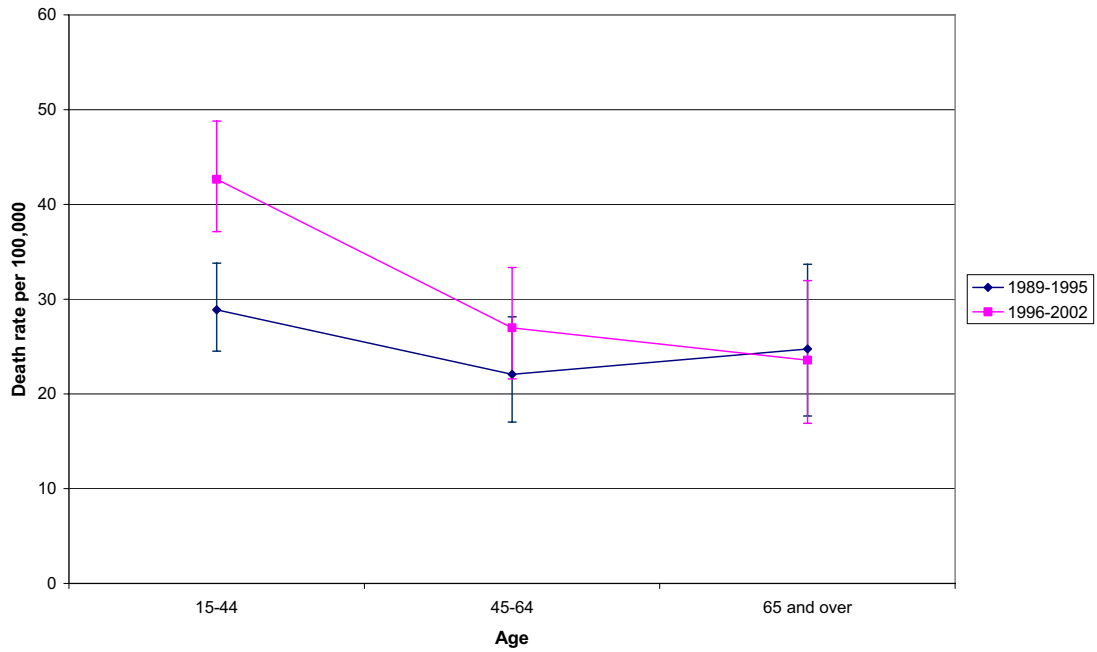
Death rates by age group, Greater Glasgow, 1989-2002, females



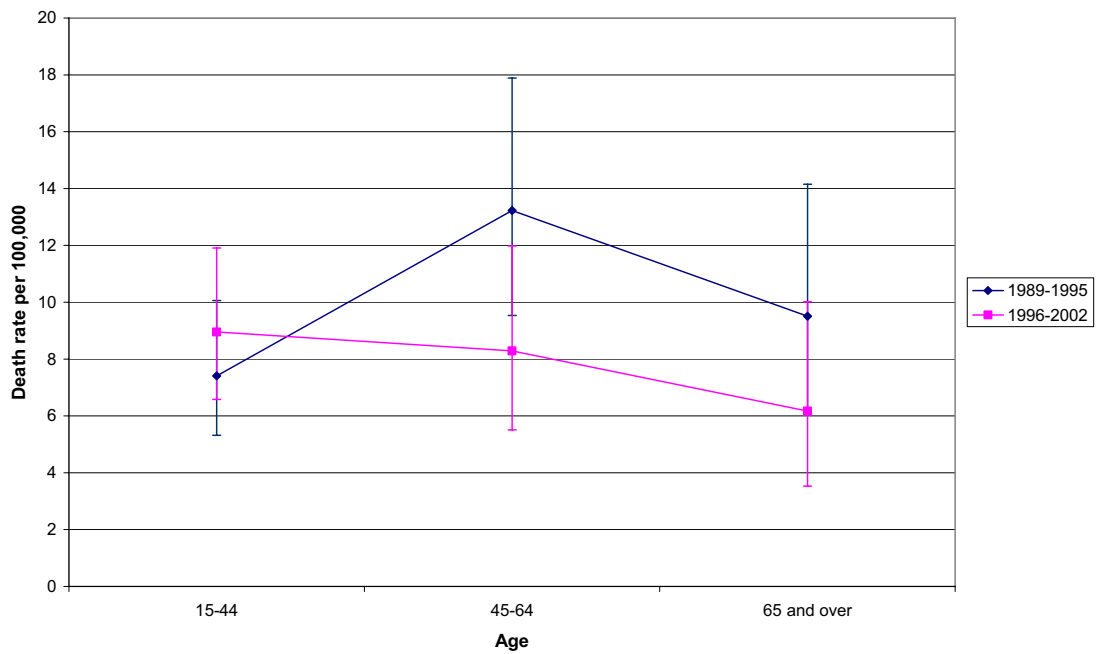
Death rates by age group, Lanarkshire, 1989-2002, males



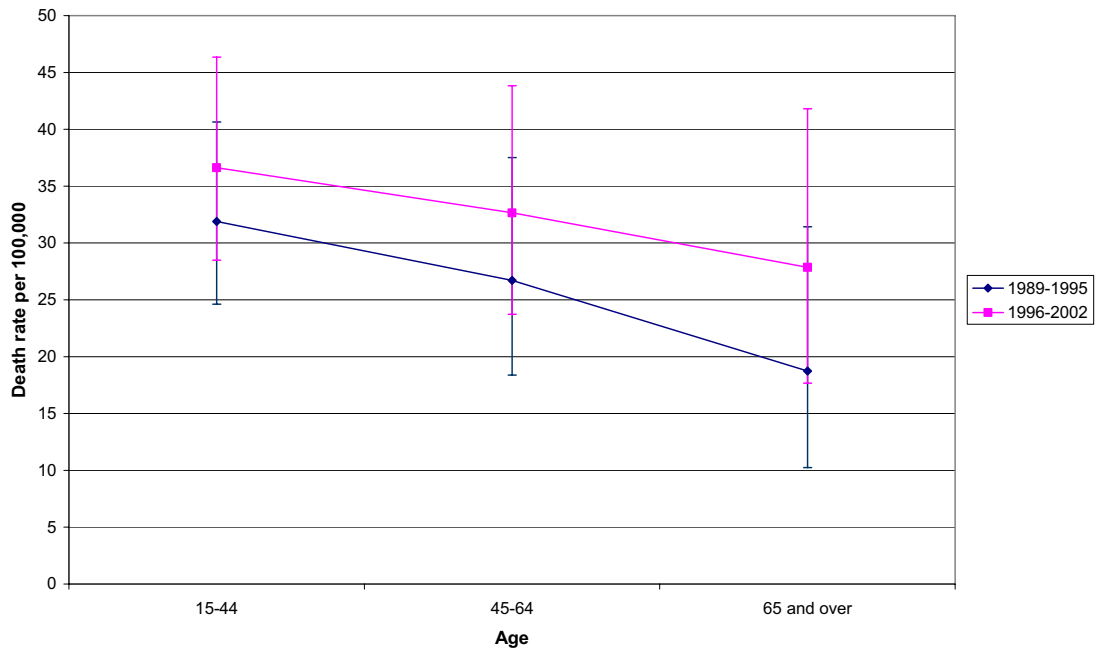
Death rates by age group, Lanarkshire, 1989-2002, females



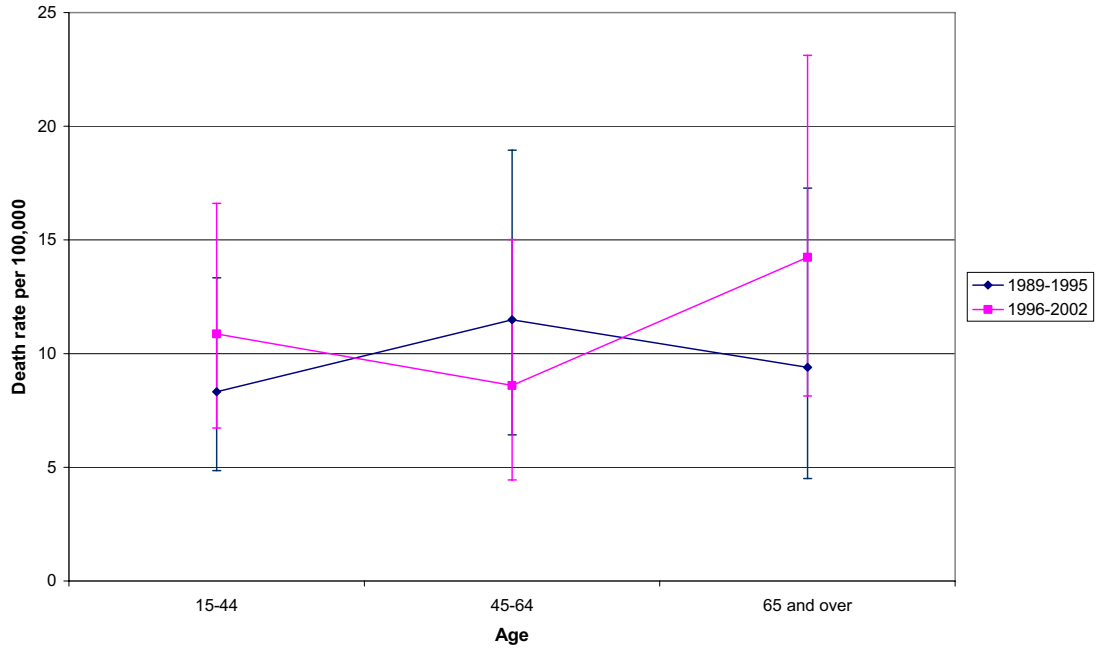
Death rates by age group, Ayrshire & Arran 1989-2002, males



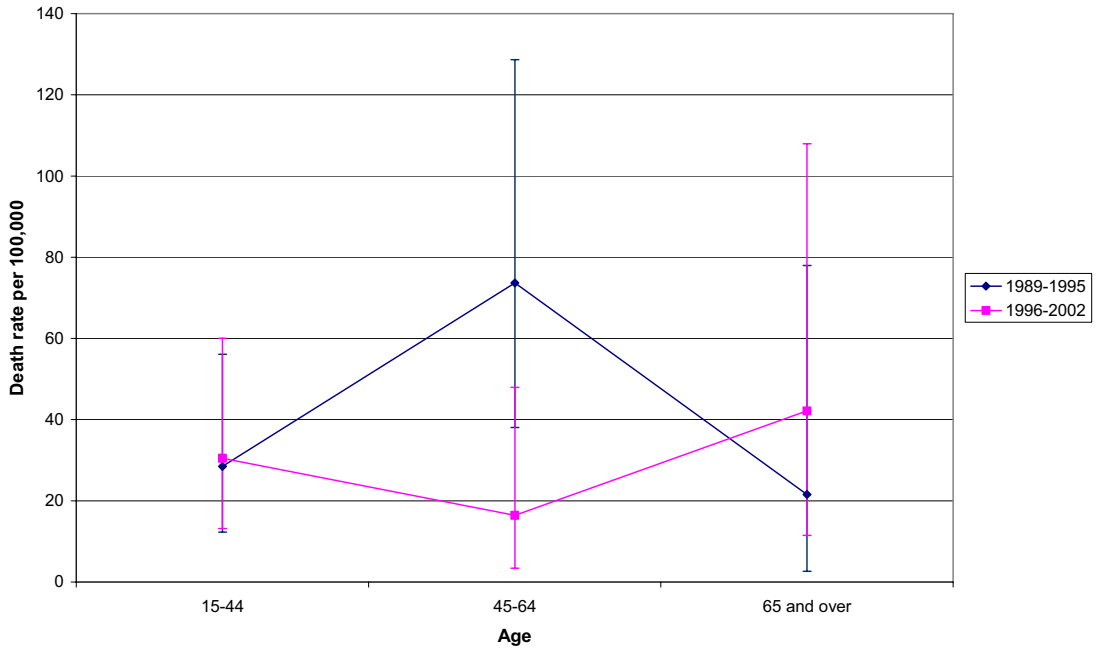
Death rates by age group, Ayrshire & Arran 1989-2002, females



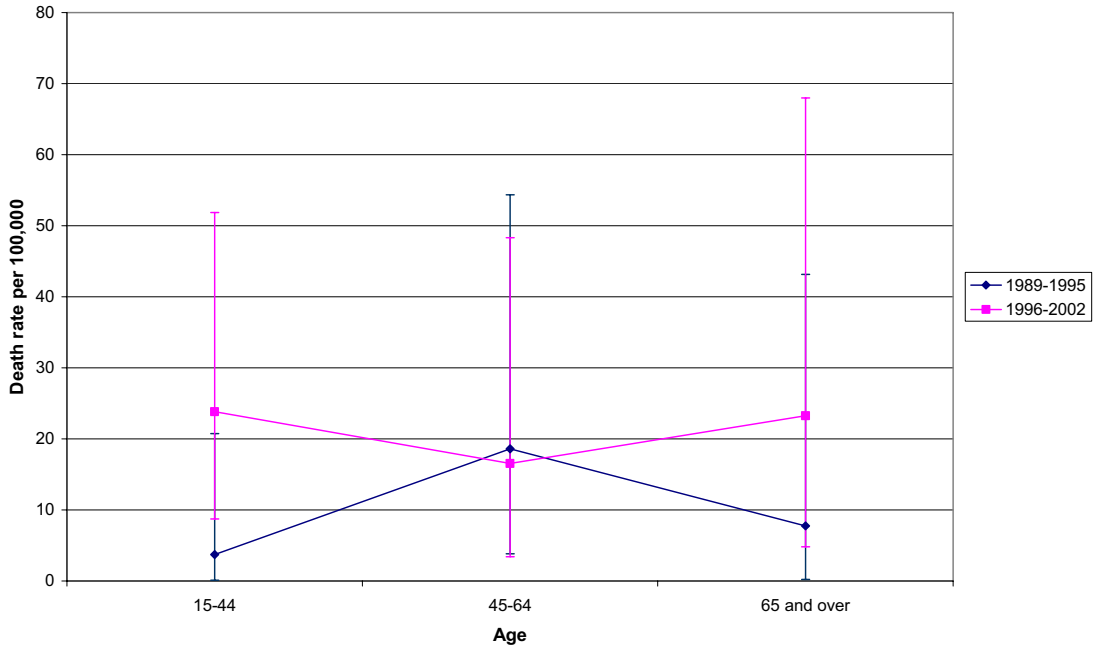
Death rates by age group, Dumfries & Galloway, 1989-2002, males



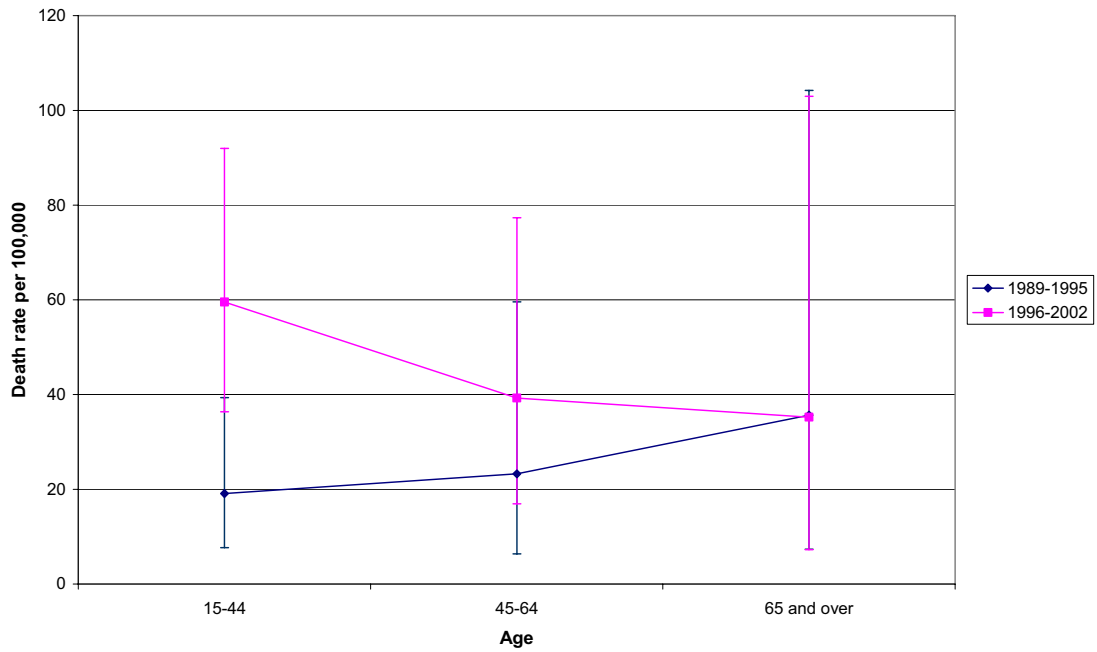
Death rates by age group, Dumfries & Galloway, 1989-2002, females



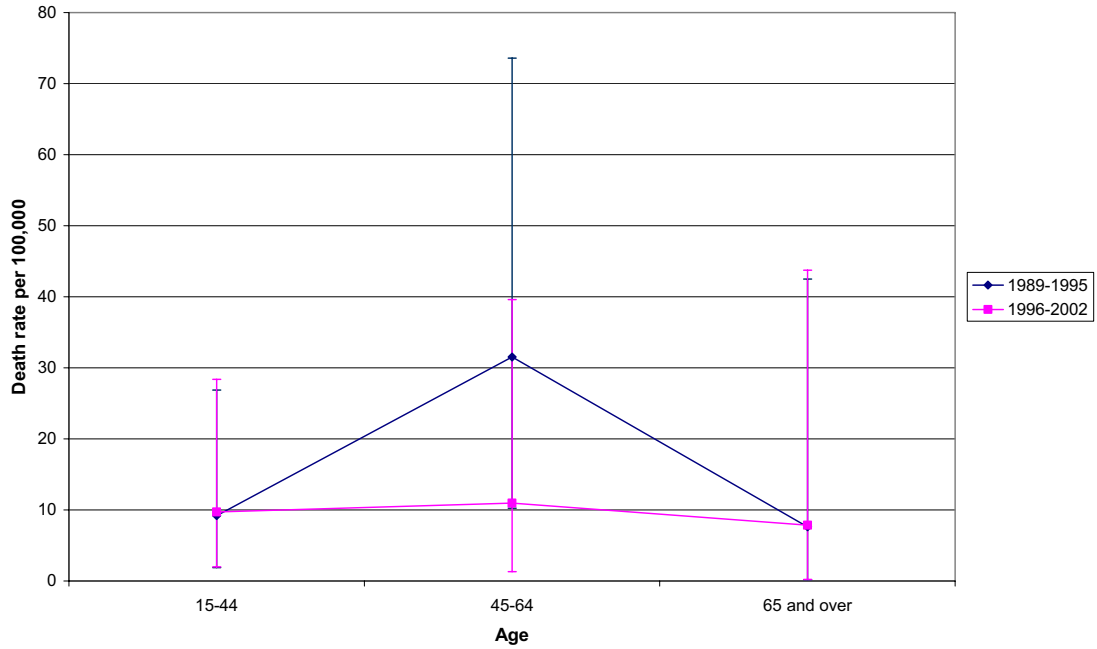
Death rates by age group, Orkney, 1989-2002, males



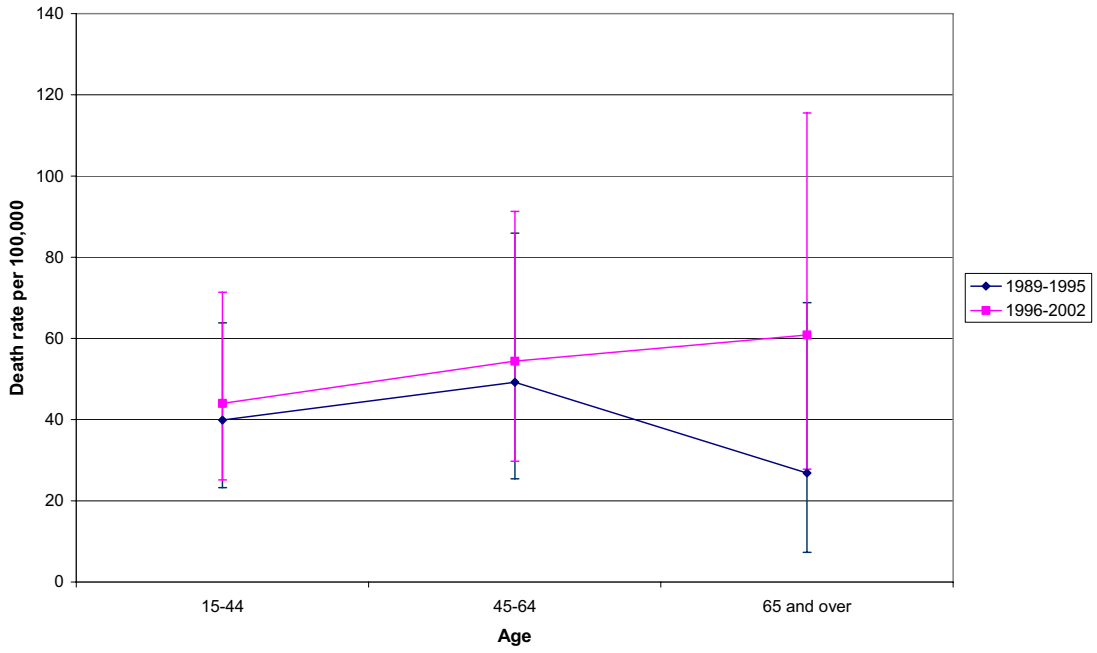
Death rates by age group, Orkney, 1989-2002, females



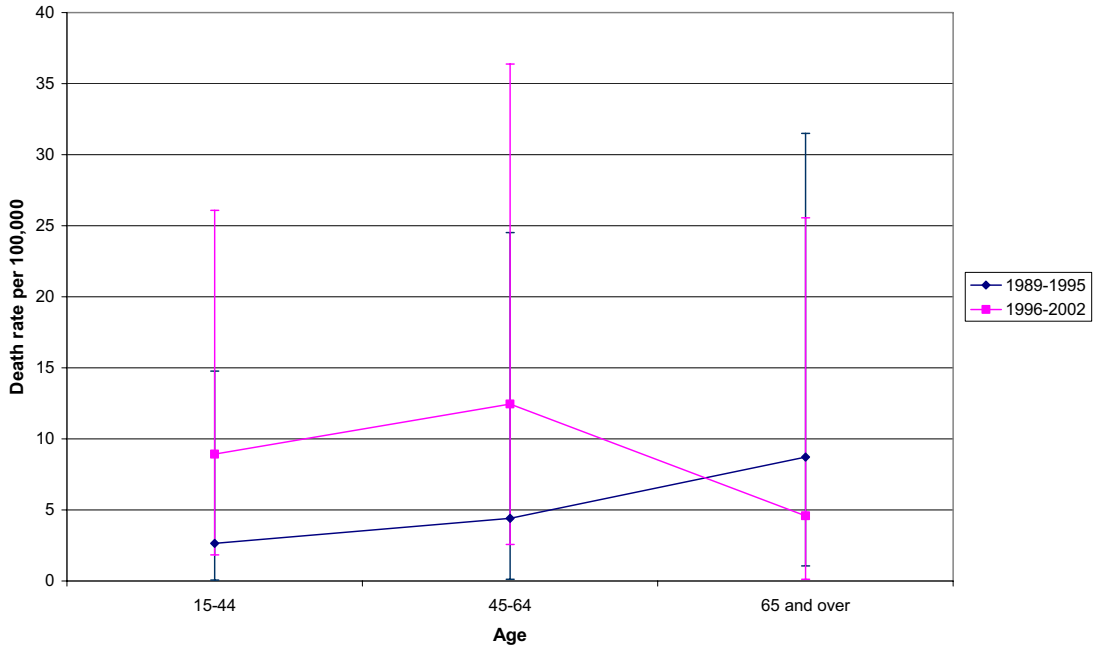
Death rates by age group, Shetland, 1989-2002, males



Death rates by age group, Shetland, 1989-2002, females



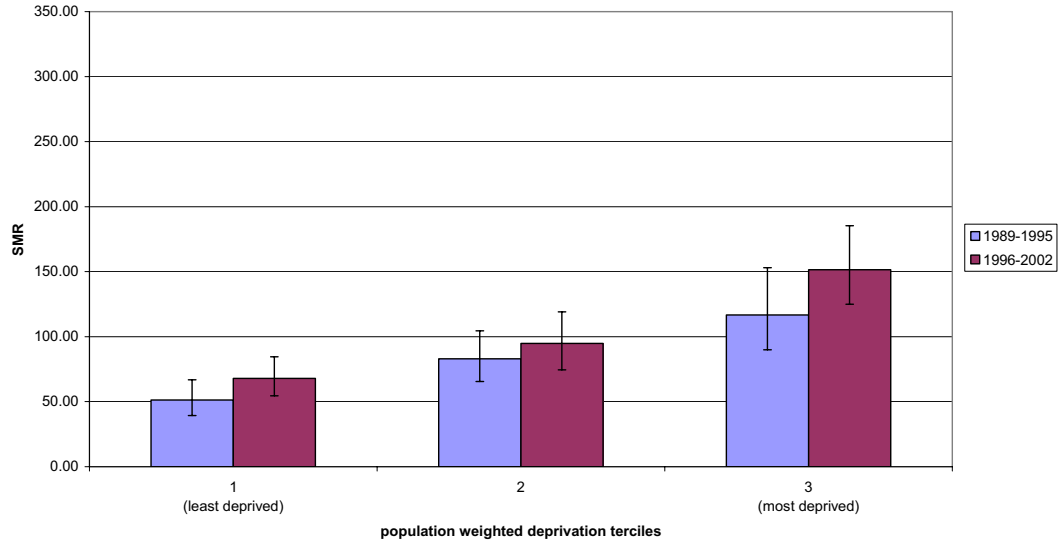
Death rates by age group, Western Isles, 1989-2002, males



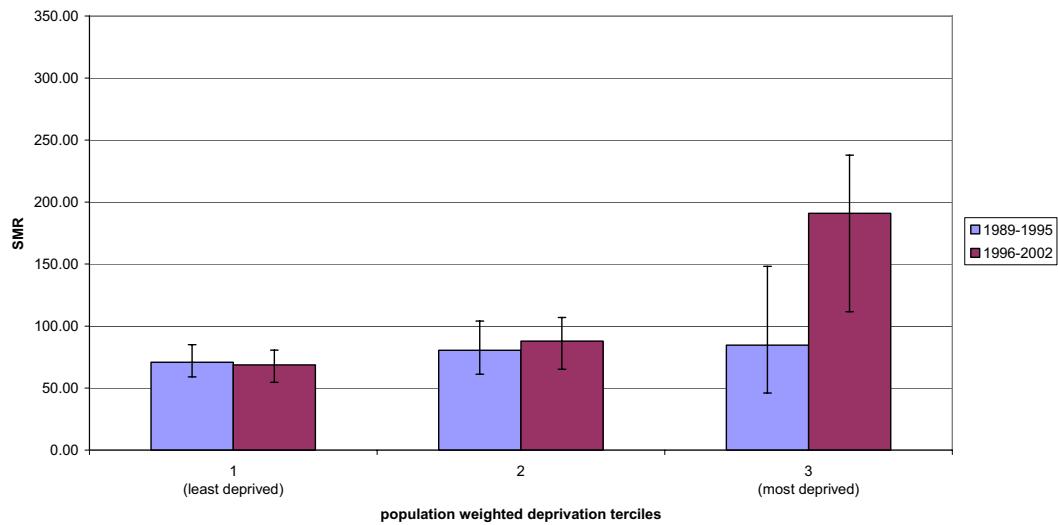
Death rates by age group, Western Isles, 1989-2002, females

Annex 9 **SMRs by population weighted deprivation tercile, all persons,
separately for each local authority, 1989-95 and 1996-2002**

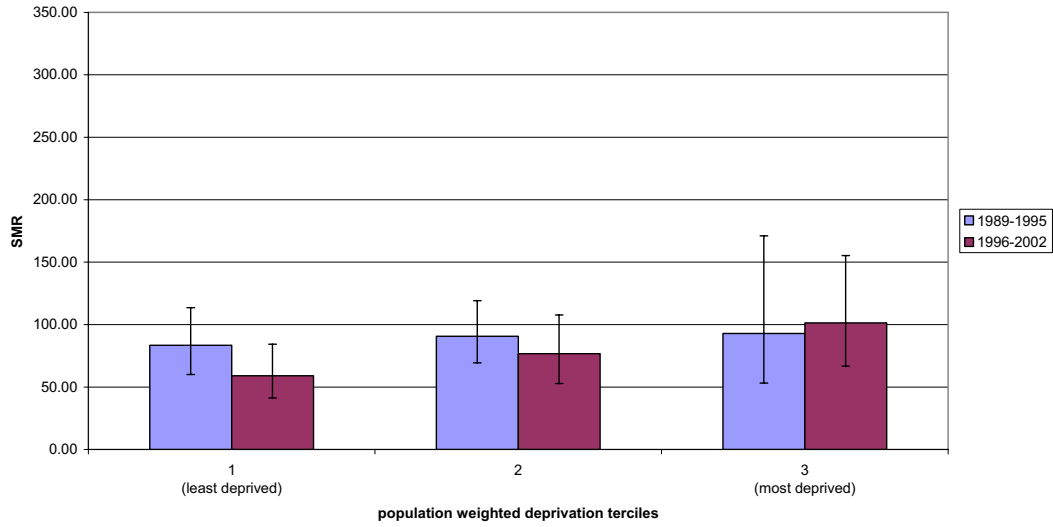
**The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Aberdeen City Council Area**



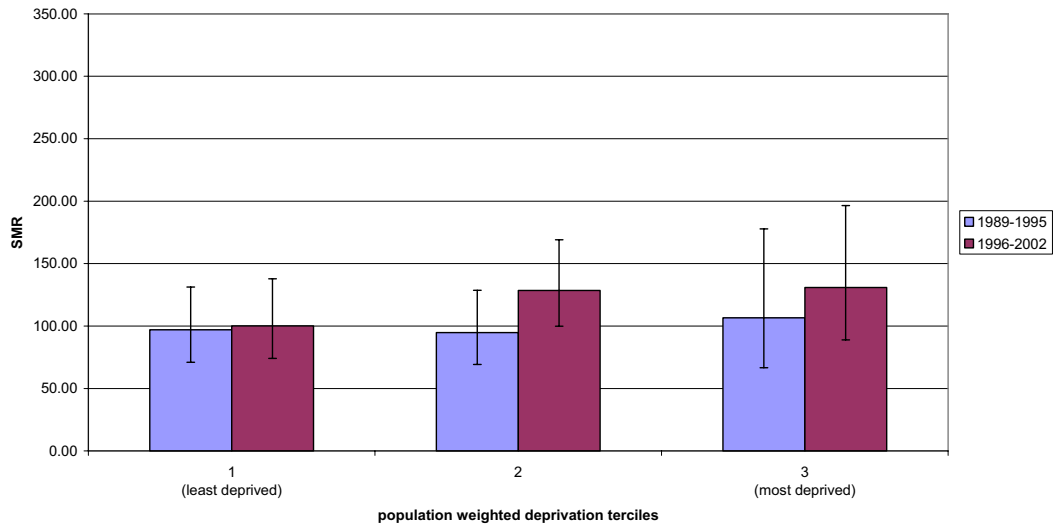
**The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Aberdeenshire Council Area**



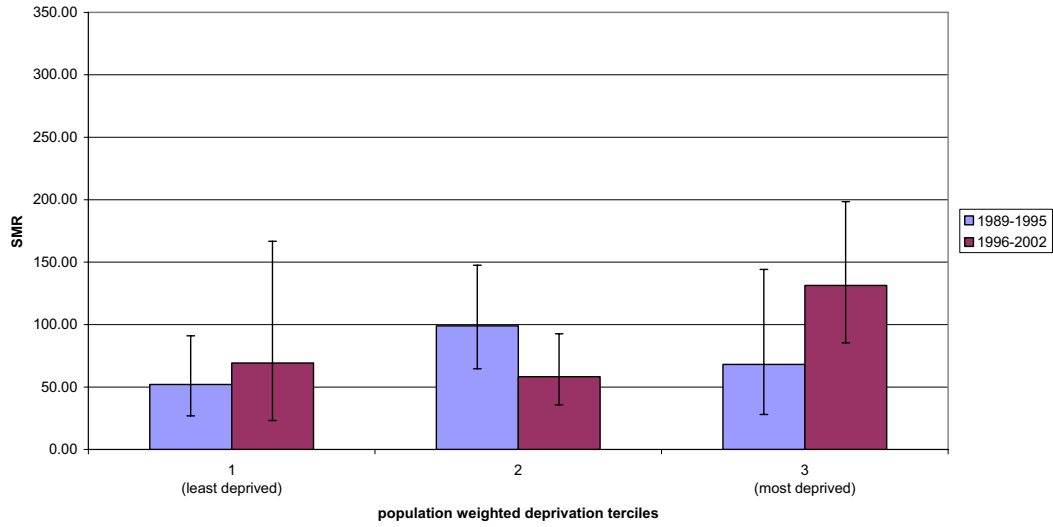
**The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Angus Council Area**



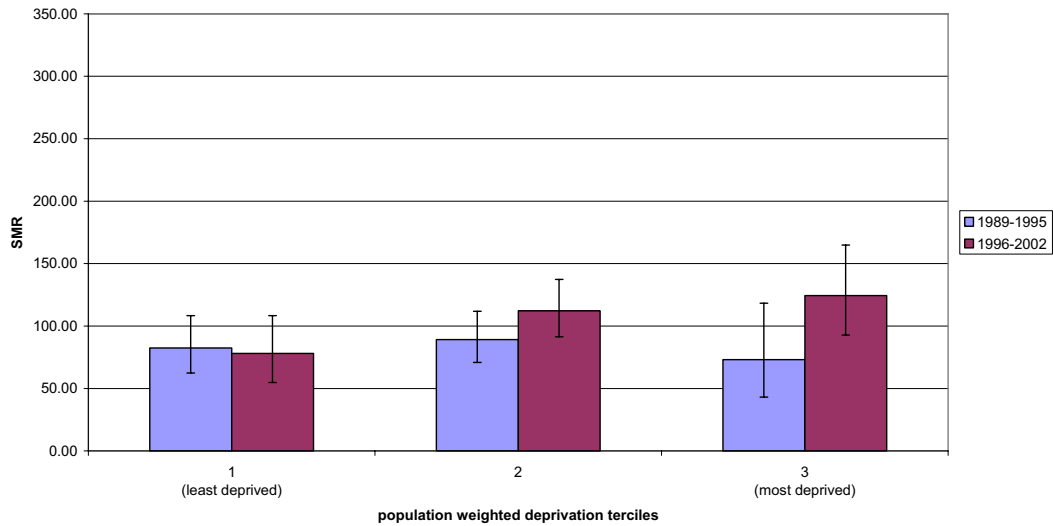
**The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Argyll & Bute Council Area**



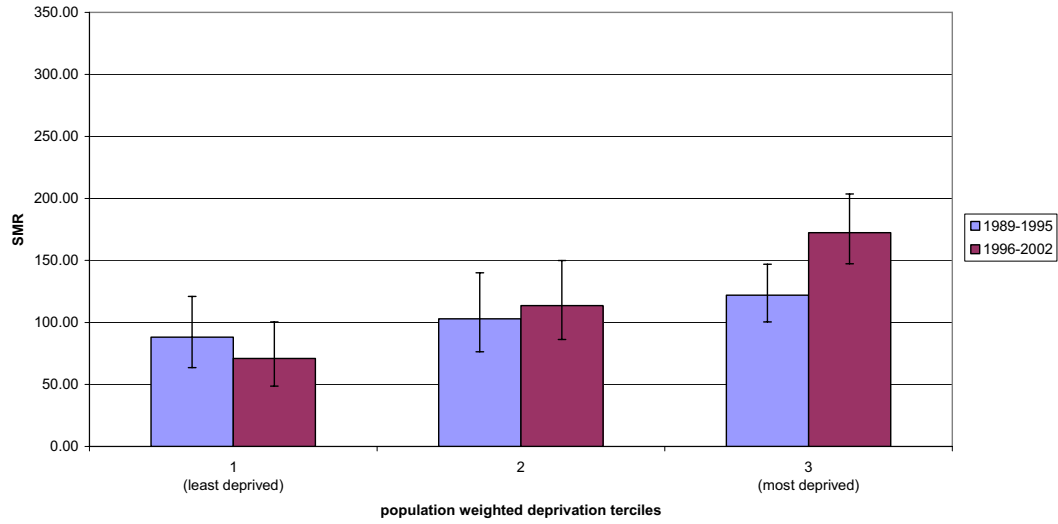
**The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Clackmannanshire Council Area**



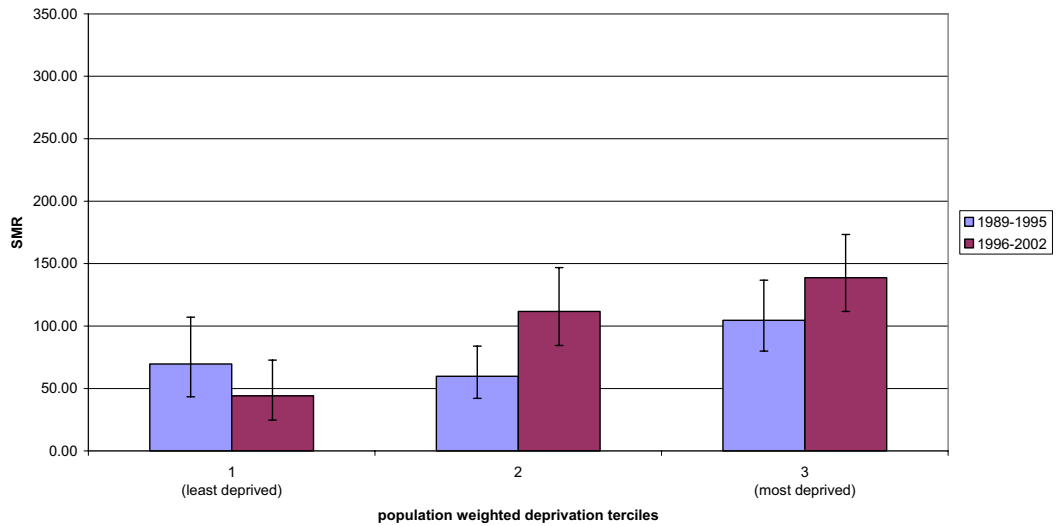
**The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Dumfries & Galloway Council Area**



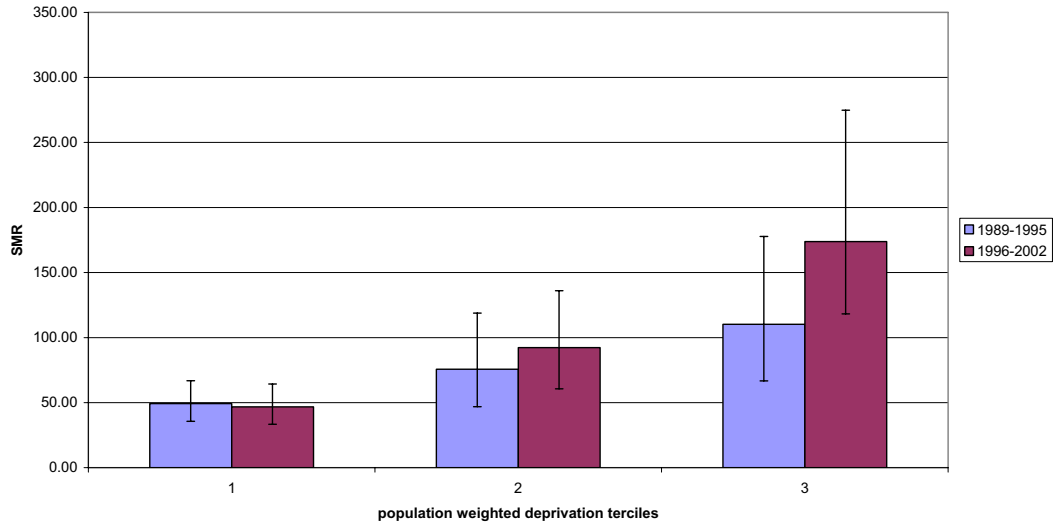
**The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Dundee City Council Area**



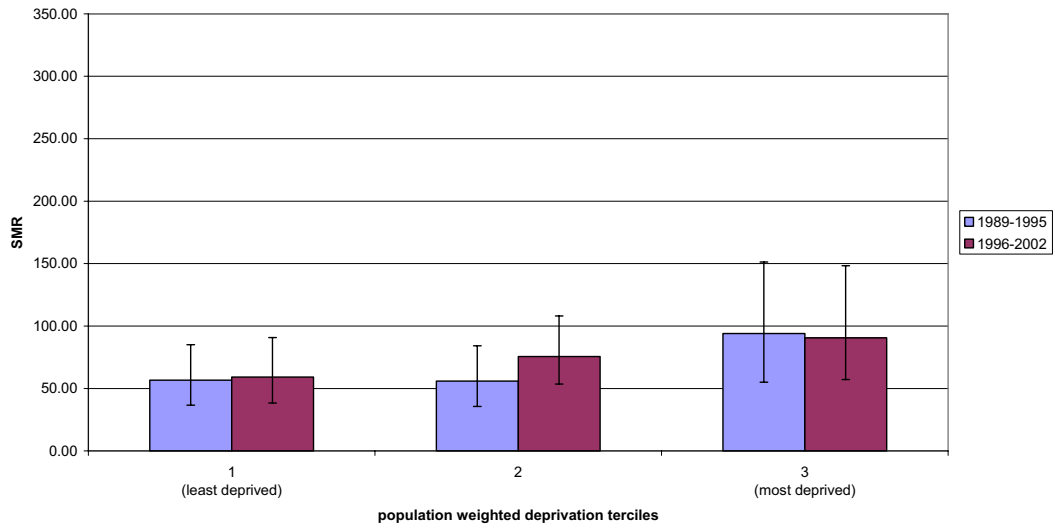
**The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
East Ayrshire Council Area**



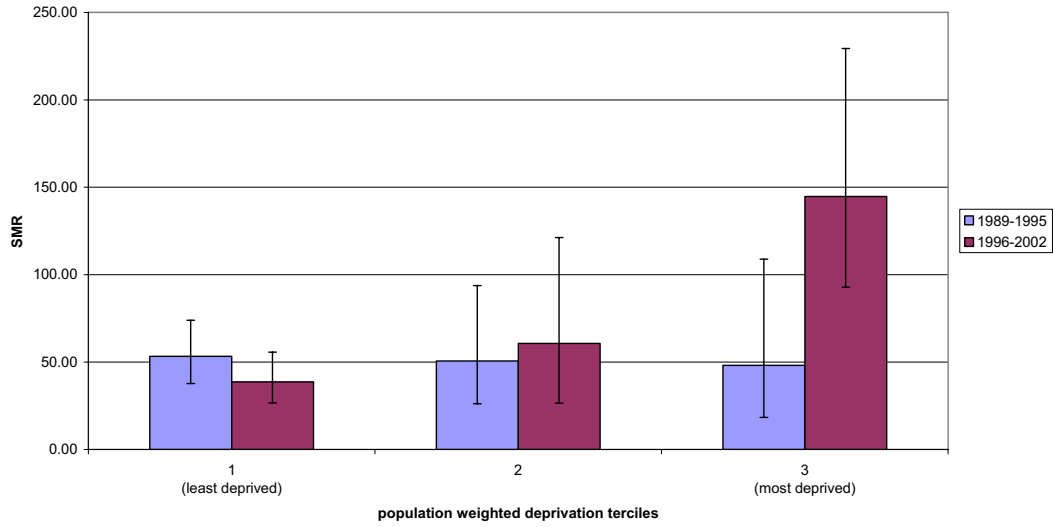
The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
East Dunbartonshire Council Area



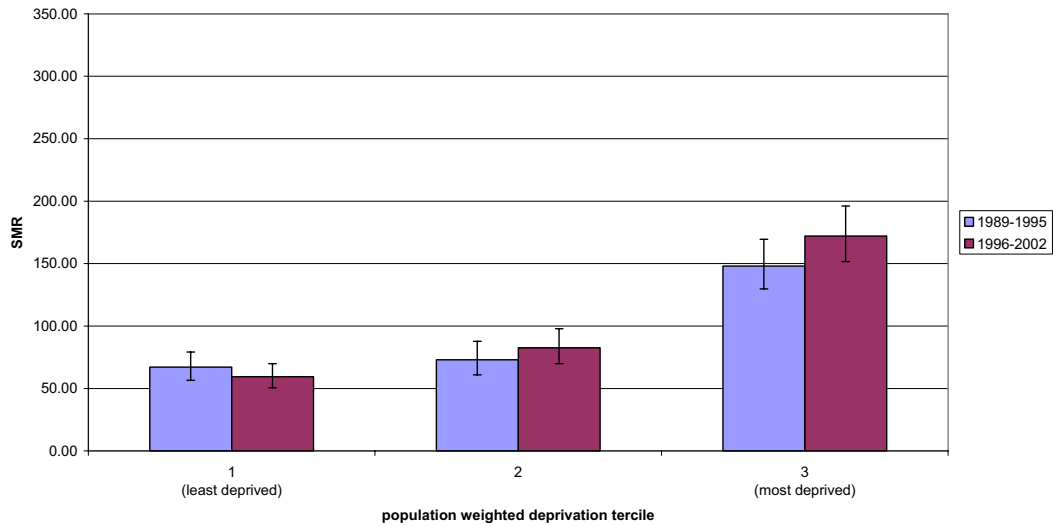
The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
East Lothian Council Area



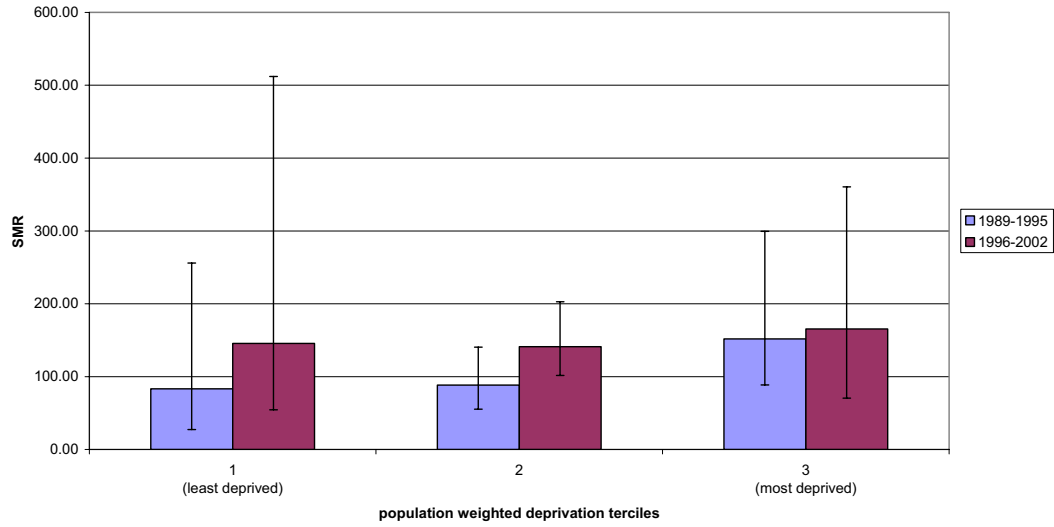
The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
East Renfrewshire Council Area



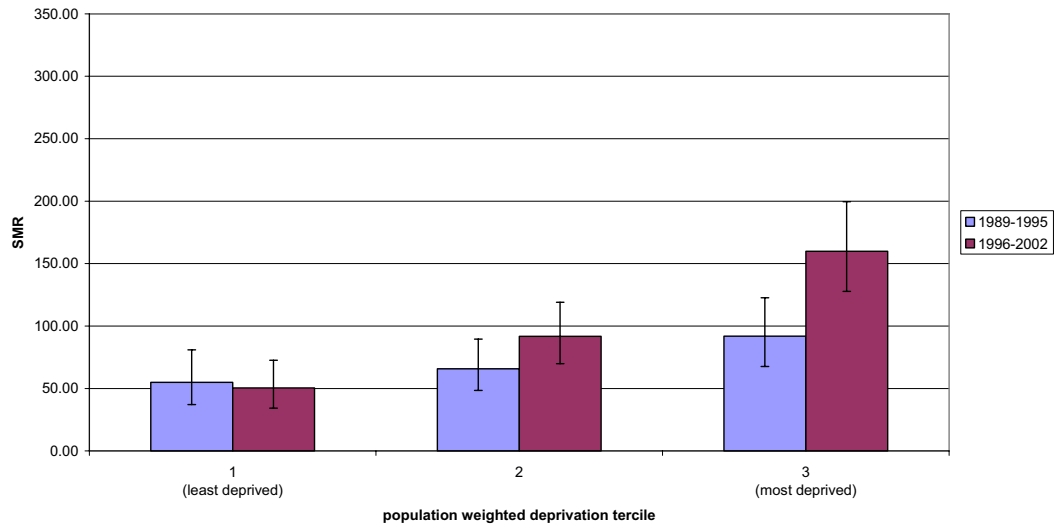
The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
City of Edinburgh Council Area



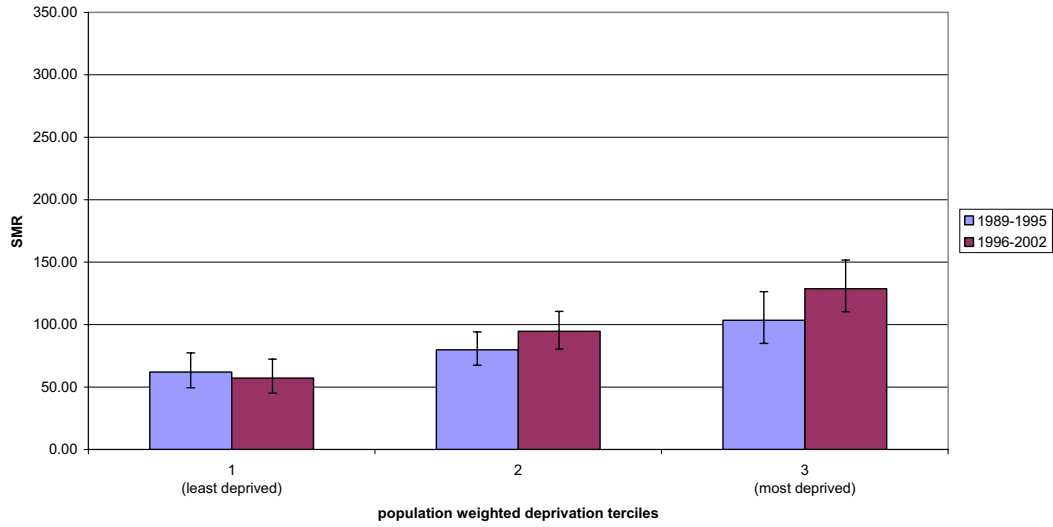
**The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Eilean Siar Council Area**



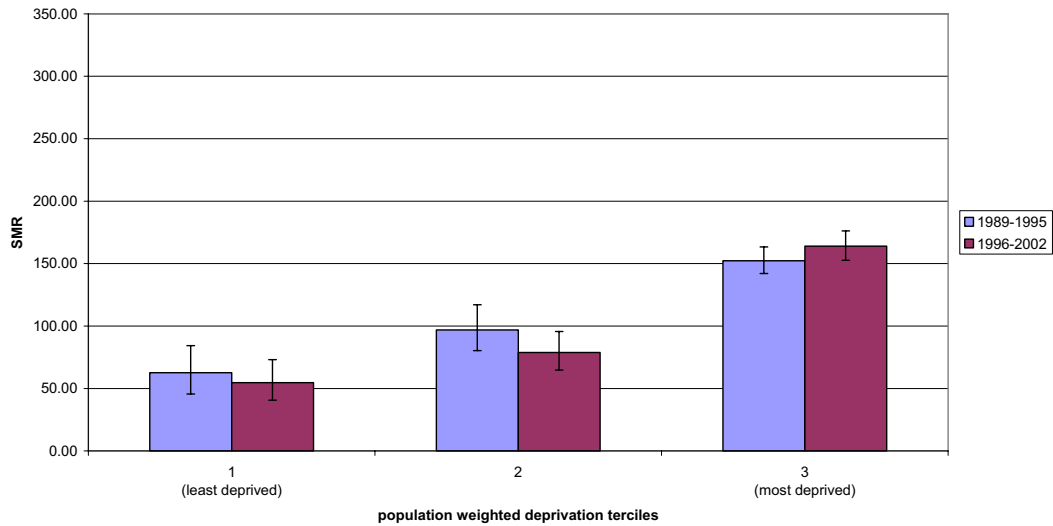
**The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Falkirk Council Area**



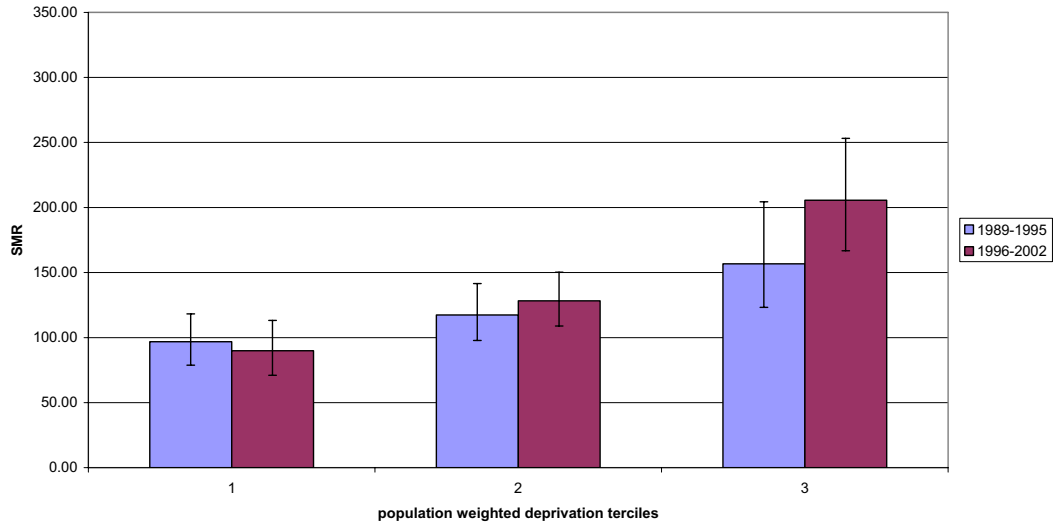
The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Fife Council Area



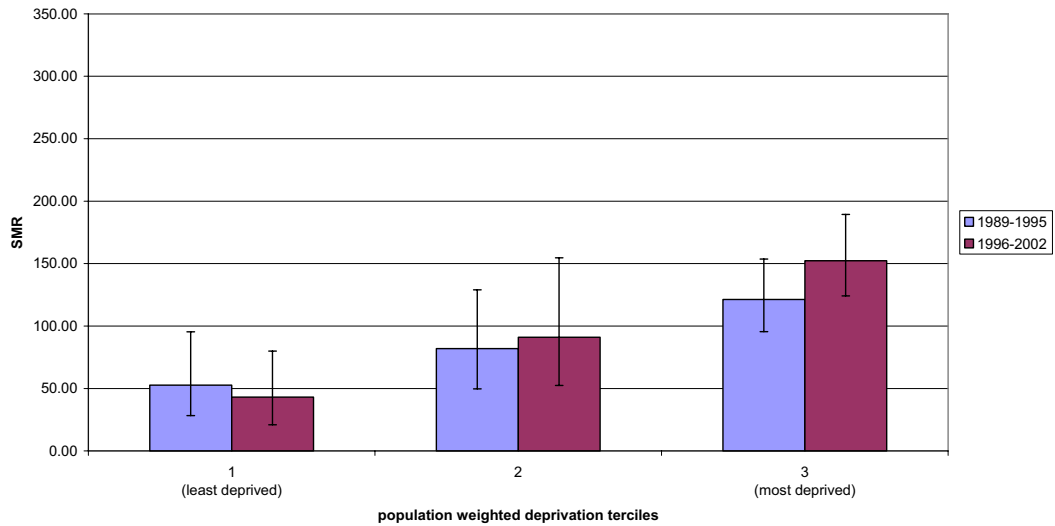
The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Glasgow City Council Area



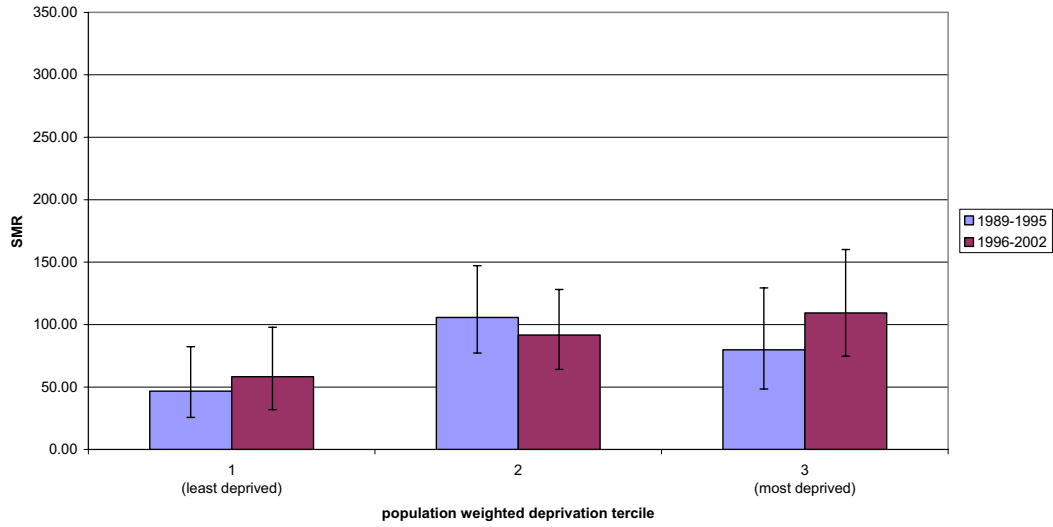
The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Highland Council Area



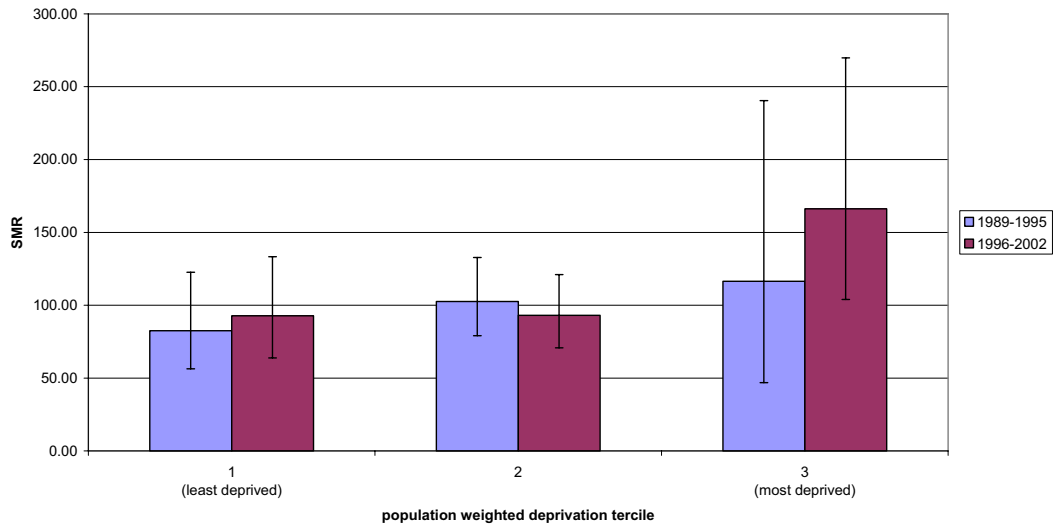
The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Inverclyde Council Area



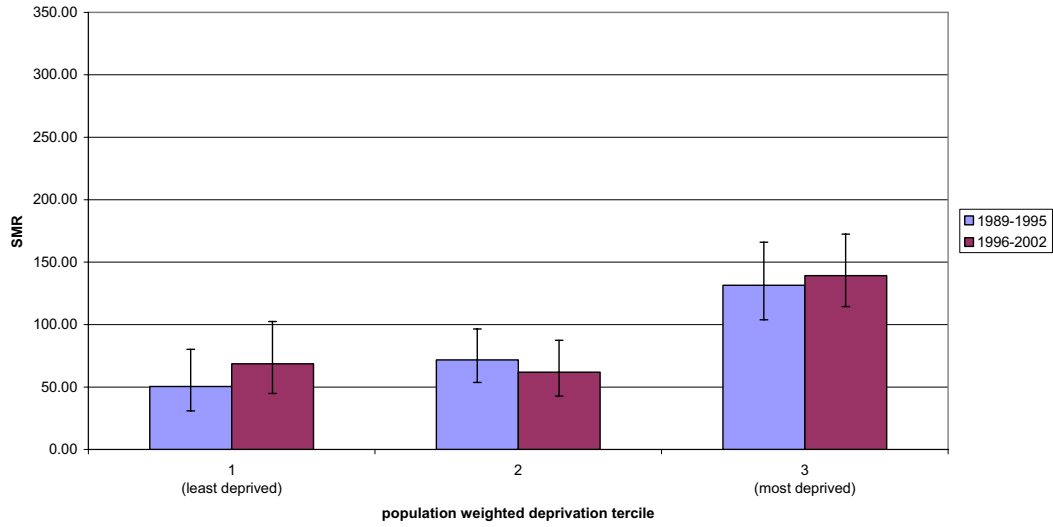
**The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Midlothian Council Area**



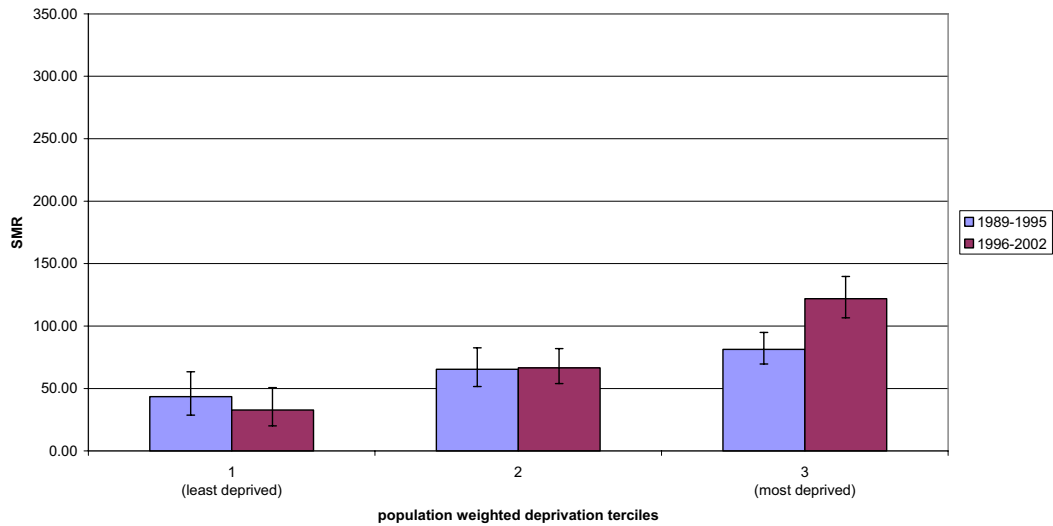
**The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Moray Council Area**



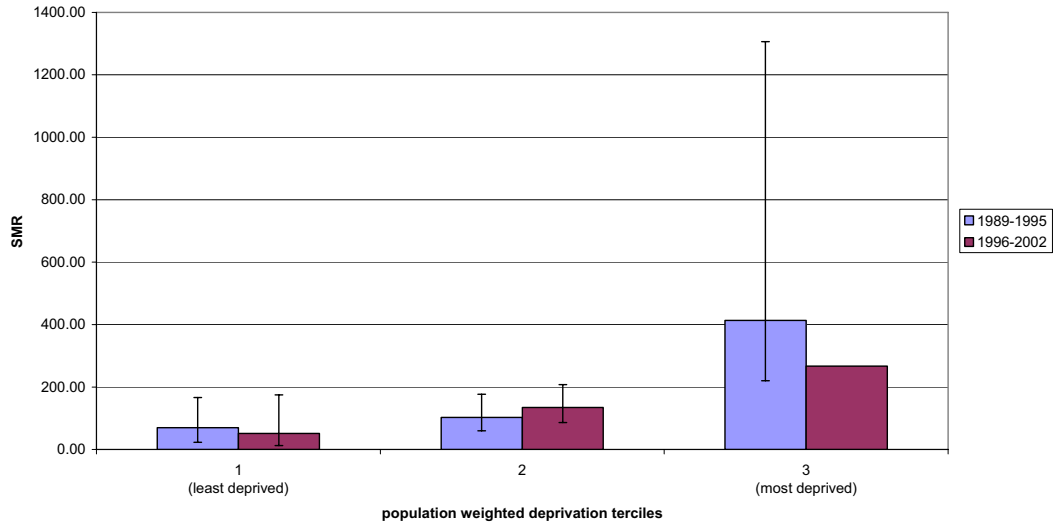
**The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
North Ayrshire Council Area**



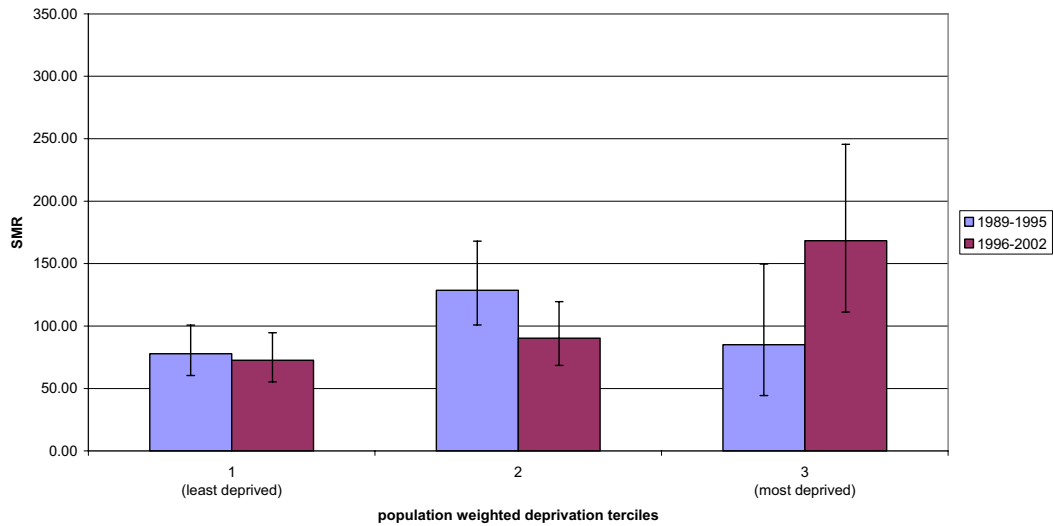
**The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
North Lanarkshire Council Area**



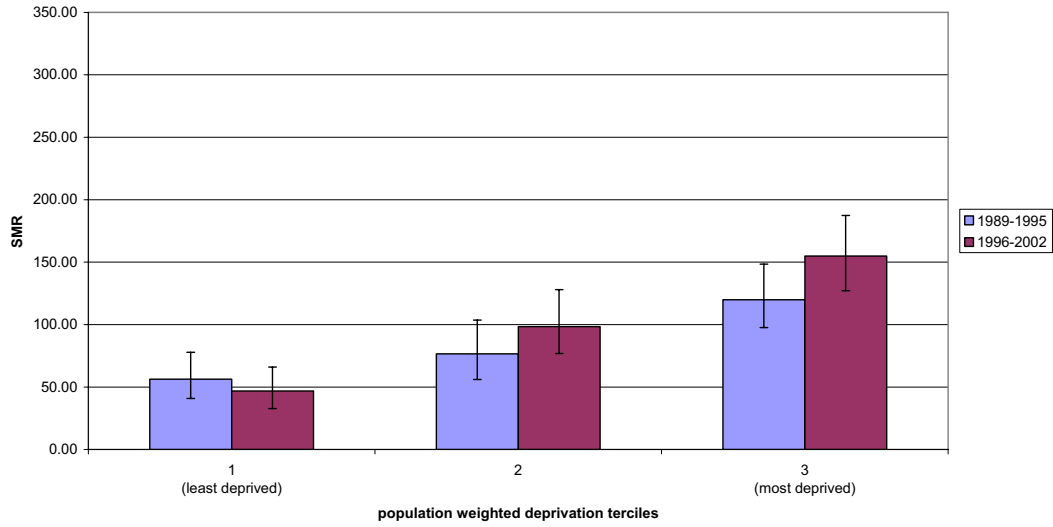
The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Orkney Islands Council Area



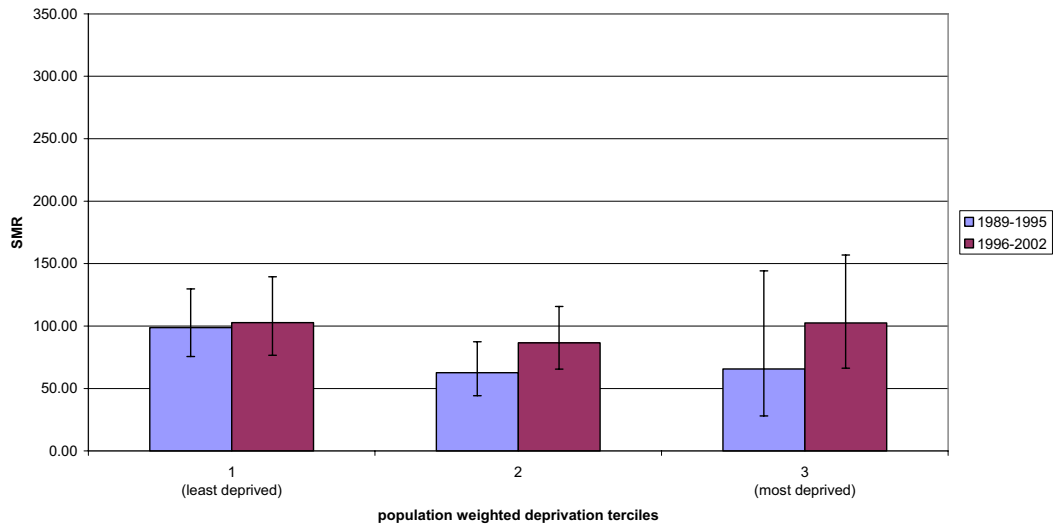
The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Perth & Kinross Council Area



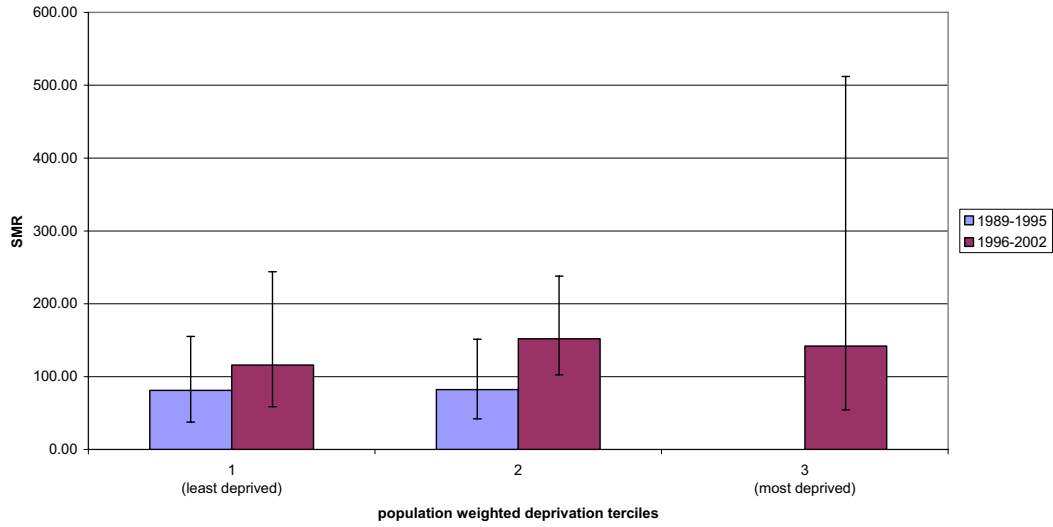
The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Renfrewshire Council Area



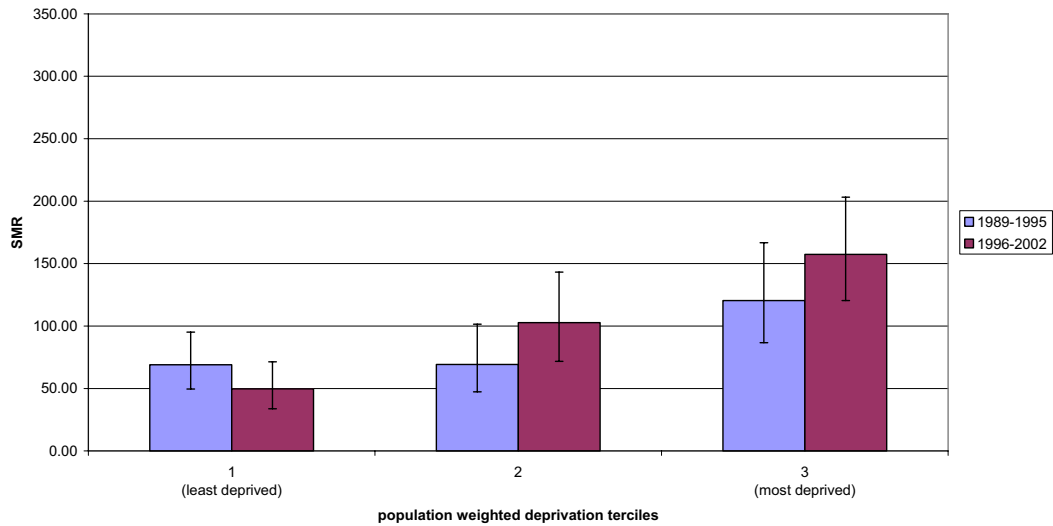
The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Scottish Borders Council Area



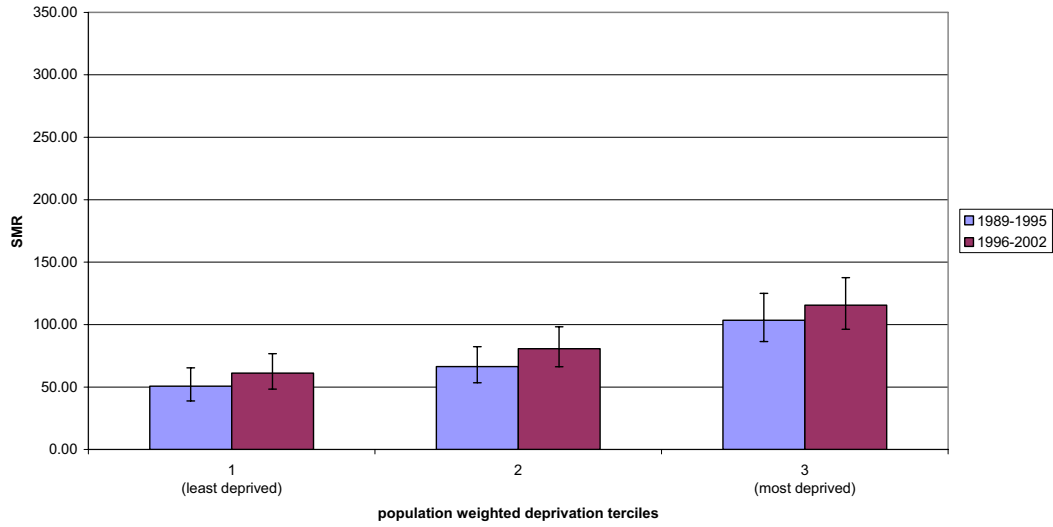
The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Shetland Islands Council Area



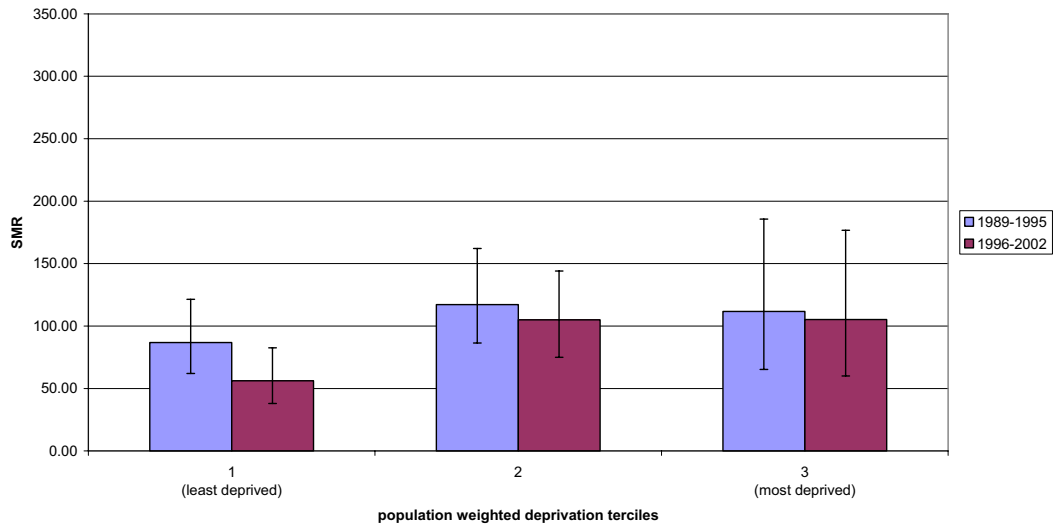
The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
South Ayrshire Council Area



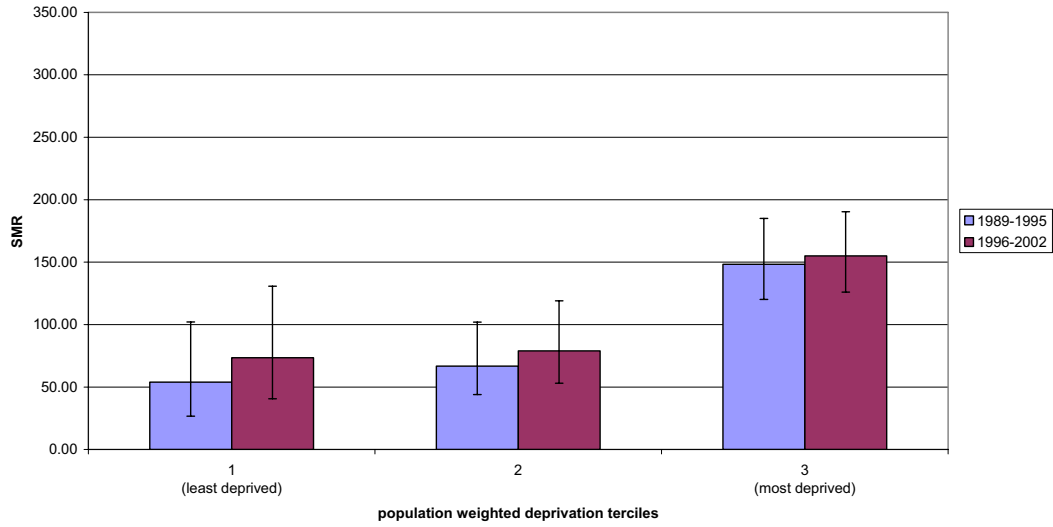
**The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
South Lanarkshire Council Area**



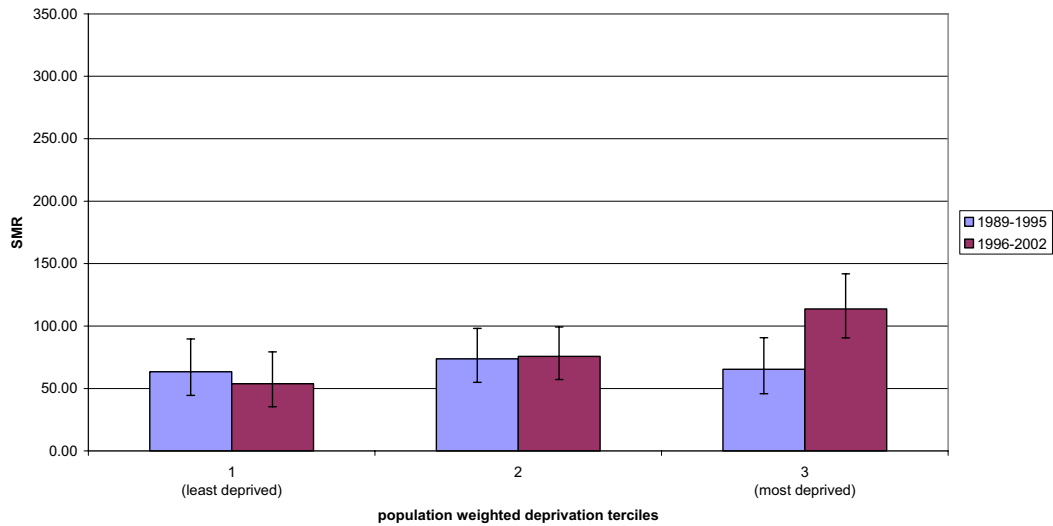
**The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
Stirling Council Area**



**The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
West Dunbartonshire Council Area**

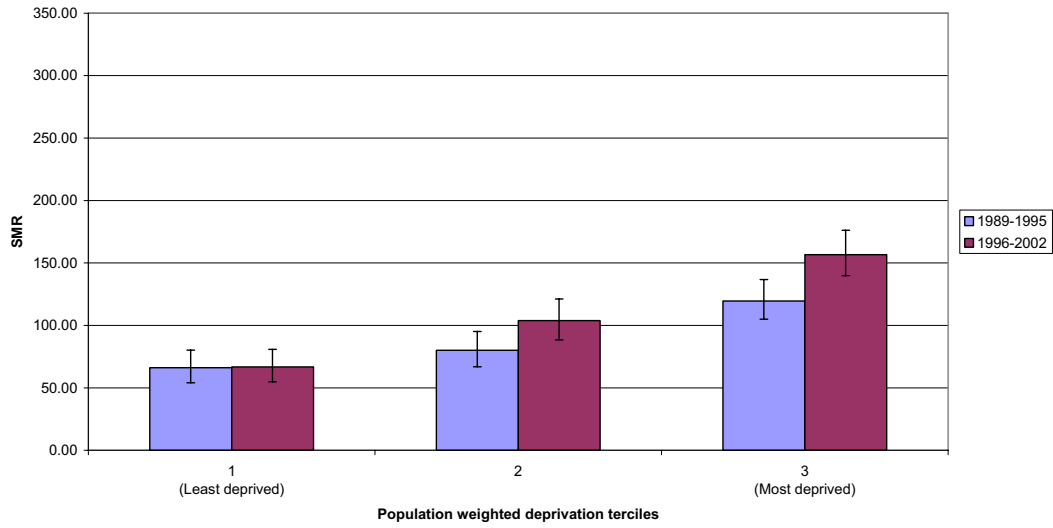


**The widening suicide gap (1989-1995 to 1996-2002)
among all persons aged 15 years and older
West Lothian Council Area**

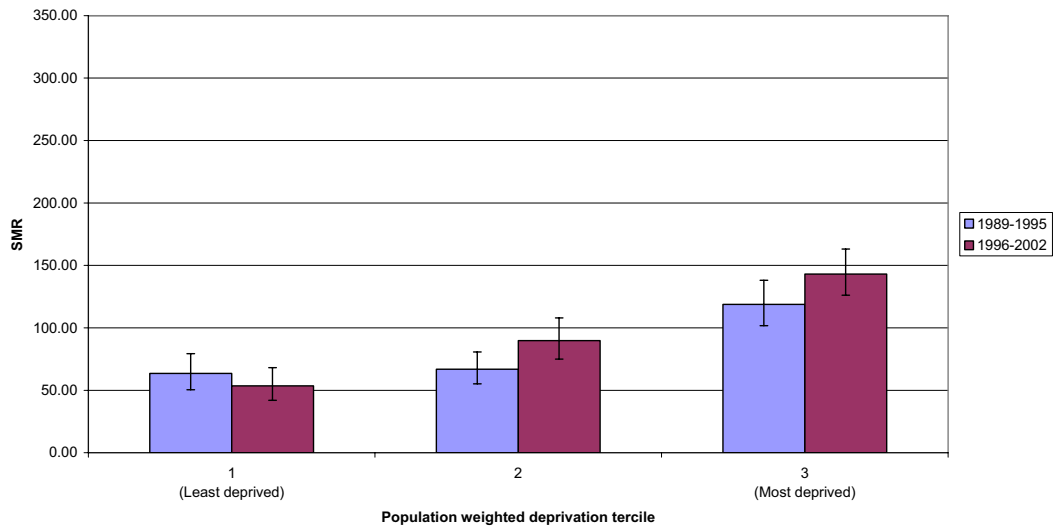


Annex 10 SMRs by population weighted deprivation tercile, all persons,
separately for each health board, 1989-95 and 1996-2002

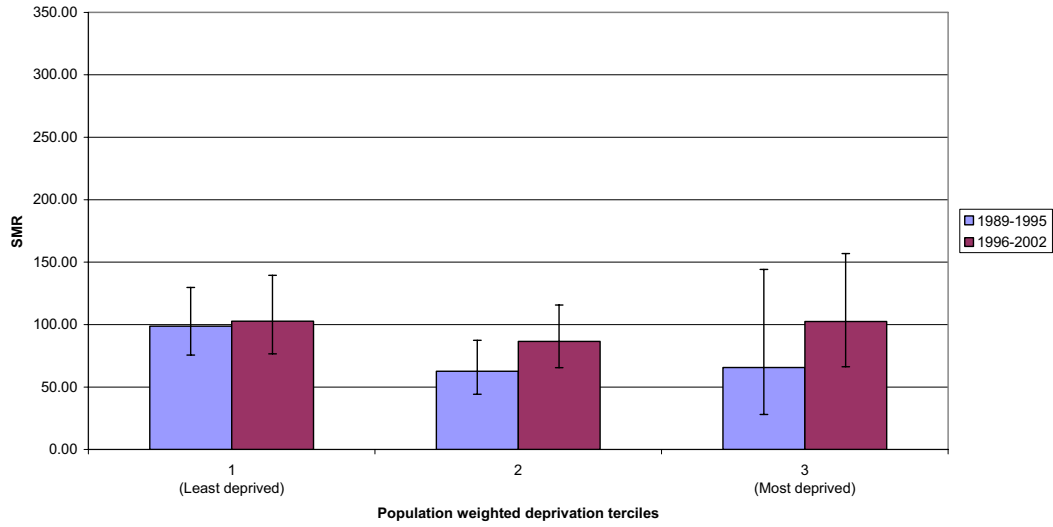
**The widening suicide gap (1989-1995 to 1996-2002)
all persons aged 15 years and over
Argyll & Clyde Health Board**



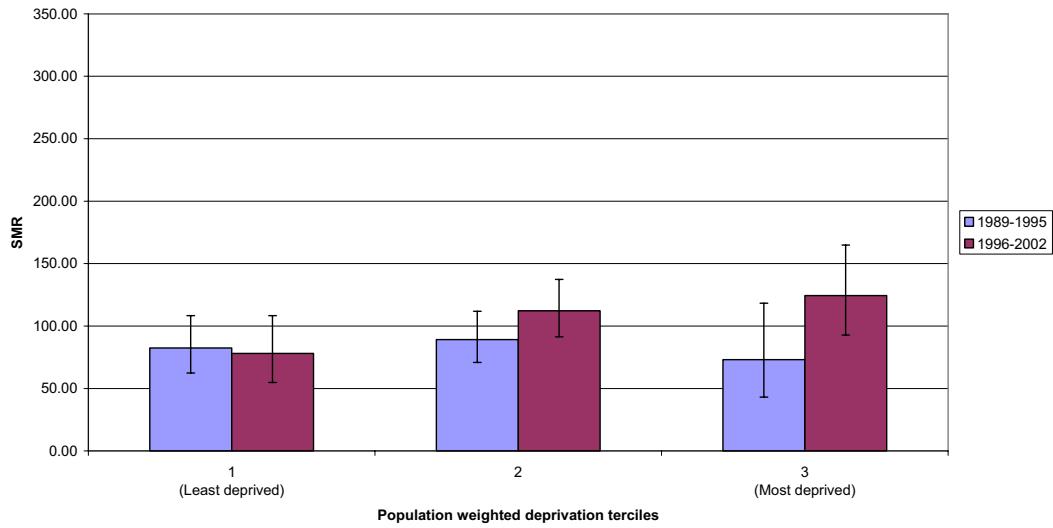
**The widening suicide gap (1989-1995 to 1996-2002)
all persons aged 15 years and over
Ayrshire & Arran Health Board**



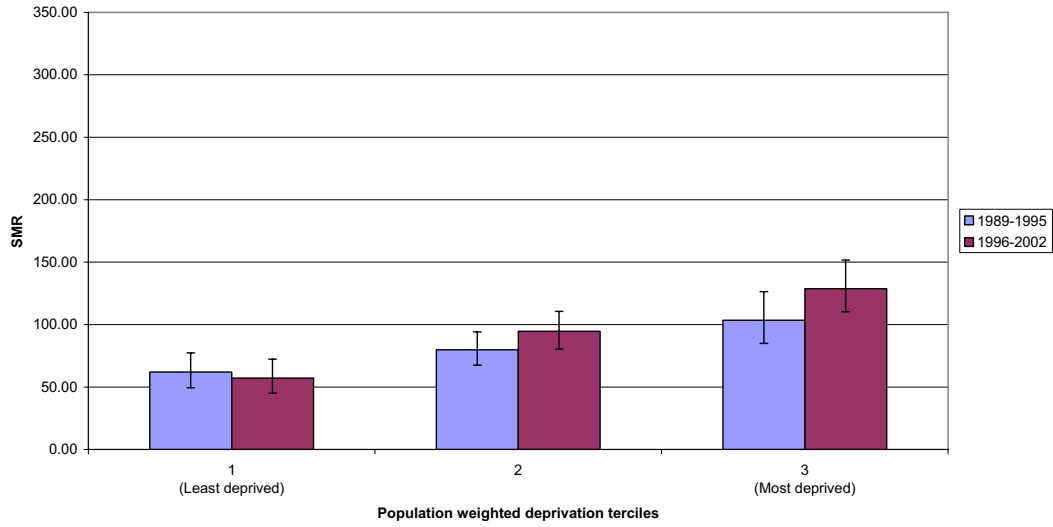
The widening suicide gap (1989-1995 to 1996-2002)
all persons aged 15 years and over
Borders Health Board



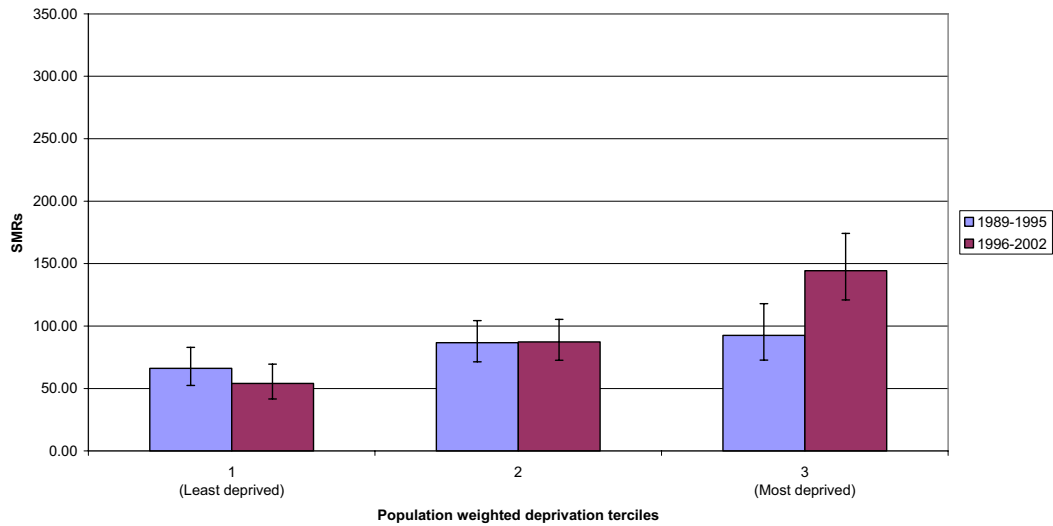
The widening suicide gap (1989-1996 to 1996-2002)
all persons aged 15 years and over
Dumfries & Galloway Health Board



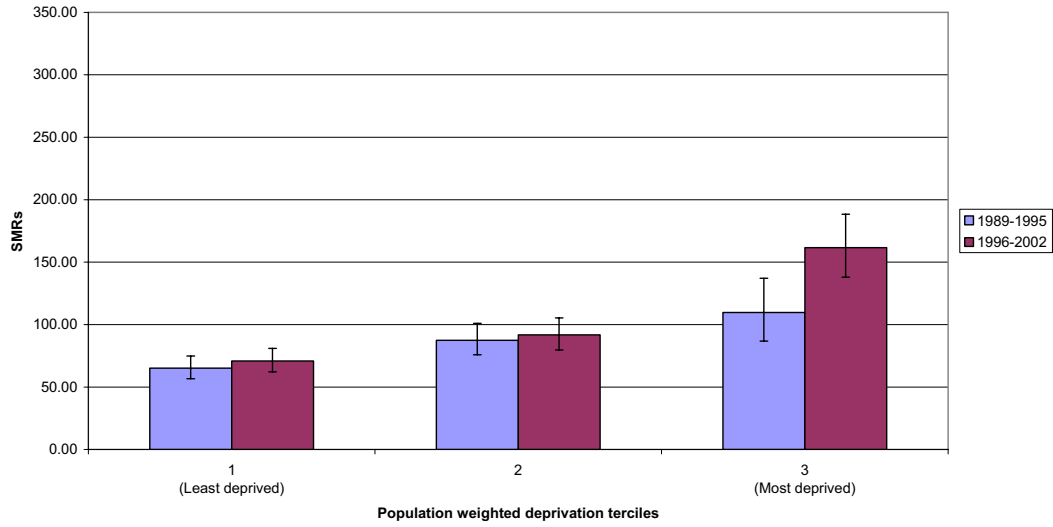
**The widening suicide gap (1989-1995 to 1996-2002)
all persons aged 15 years and over
Fife Health Board**



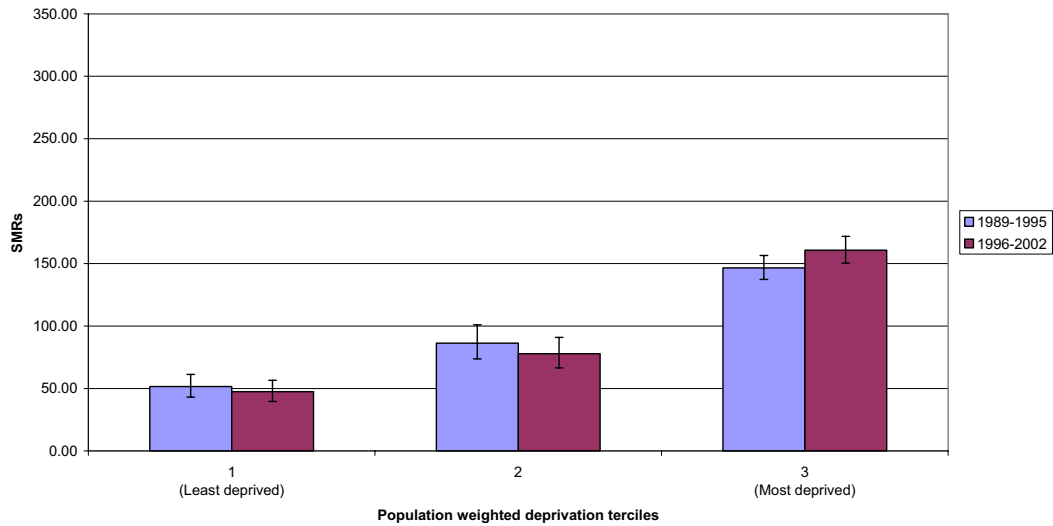
**The widening suicide gap (1989-1995 to 1996-2002)
all persons aged 15 years and over
Forth Valley Health Board**



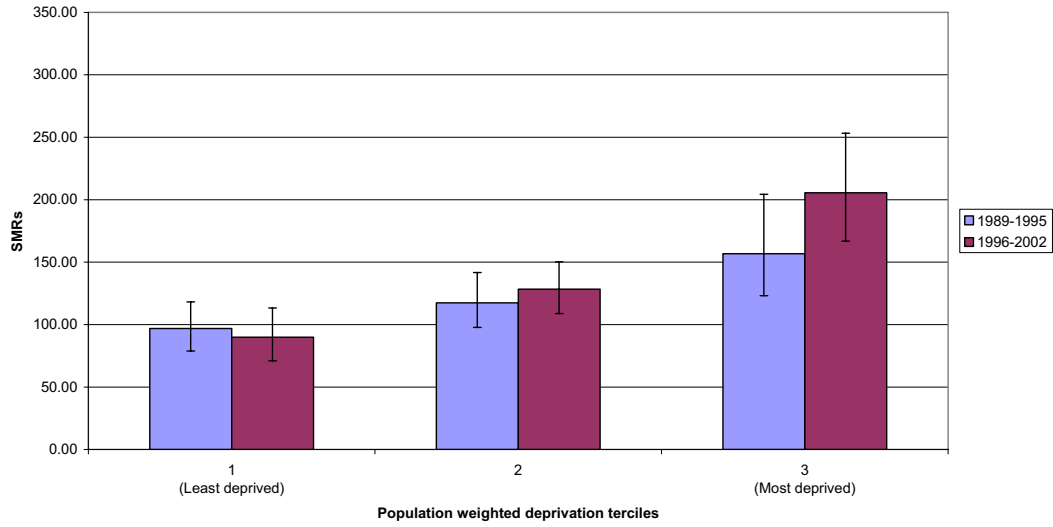
The widening suicide gap (1989-1995 to 1996-2002)
all persons aged 15 years and over
Grampian Health Board



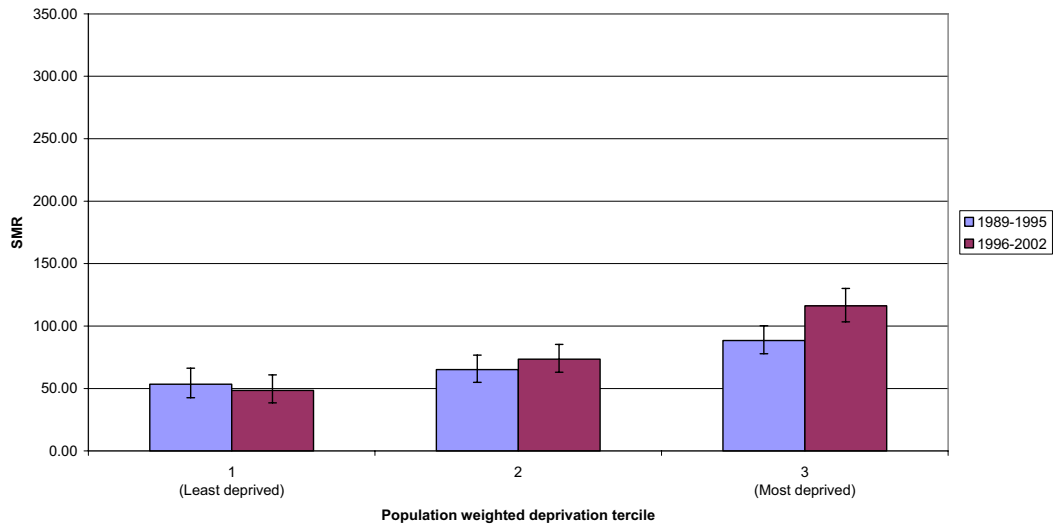
The widening suicide gap (1989-1995 to 1996-2002)
all persons aged 15 years and over
Greater Glasgow Health Board



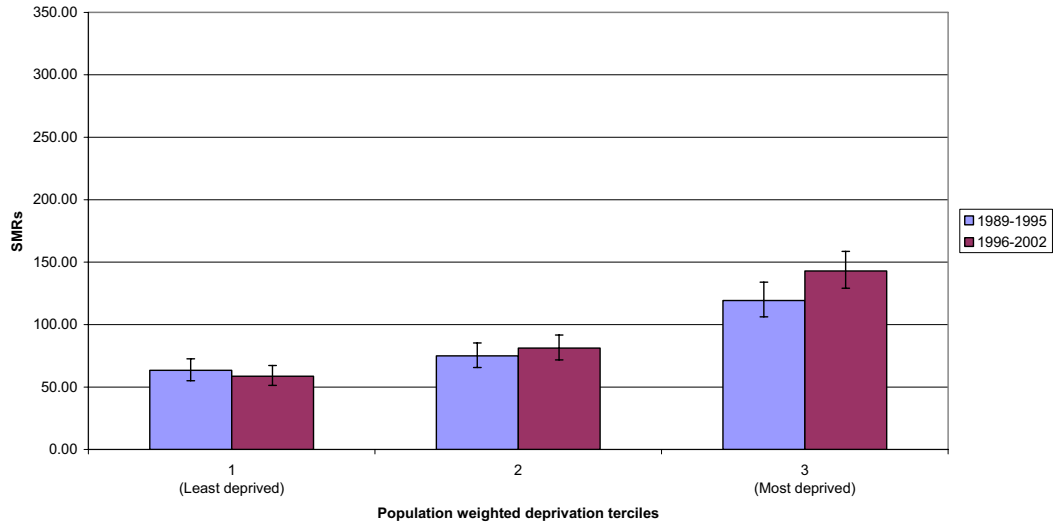
**The widening suicide gap (1989-1995 to 1996-2002)
all persons aged 15 years and over
Highlands Health Board**



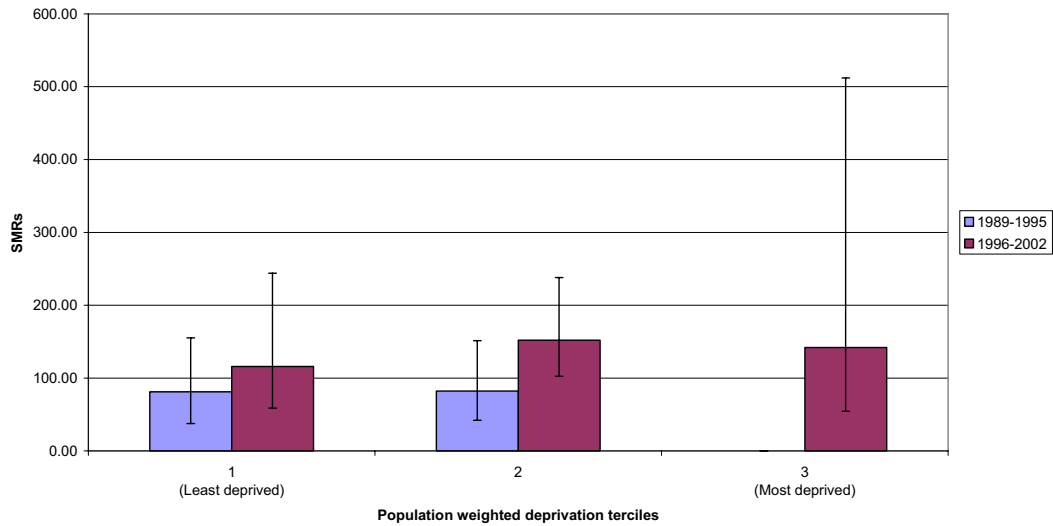
**The widening suicide gap (1989-1995 to 1996-2002)
all persons aged 15 years and over
Lanarkshire Health Board**



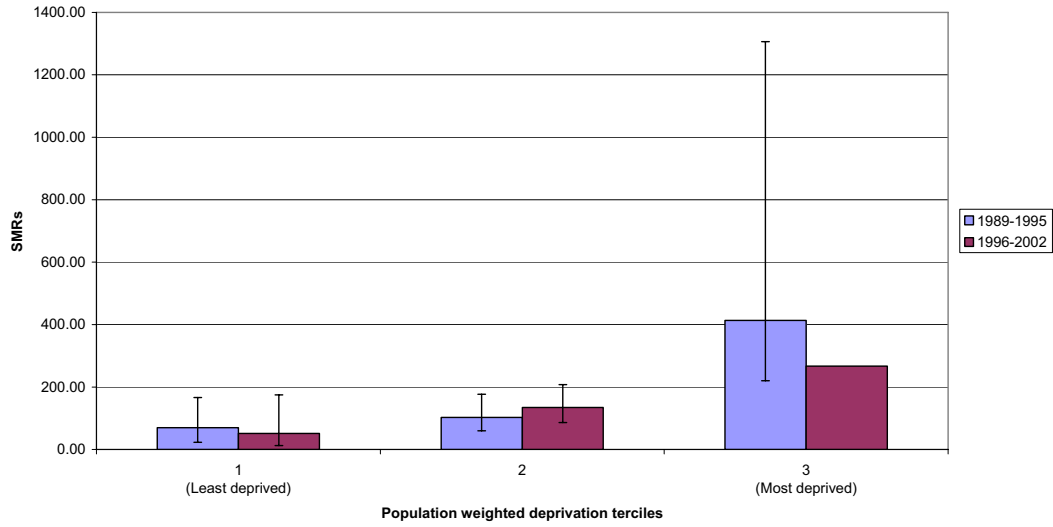
**The widening suicide gap (1989-1995 to 1996-2002)
all persons aged 15 years and over
Lothian Health Board**



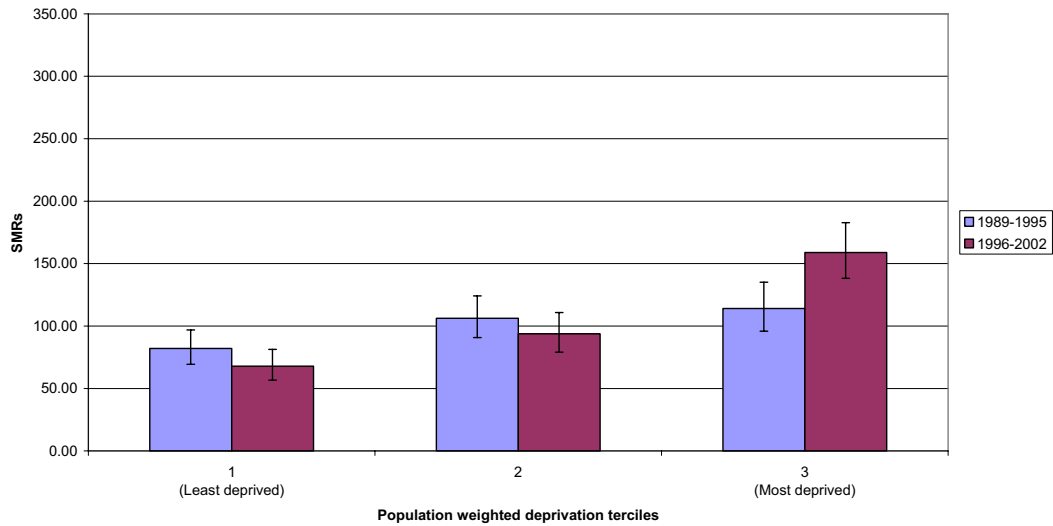
**The widening suicide gap (1989-1995 to 1996-2002)
all persons aged 15 years and over
Shetland Health Board**



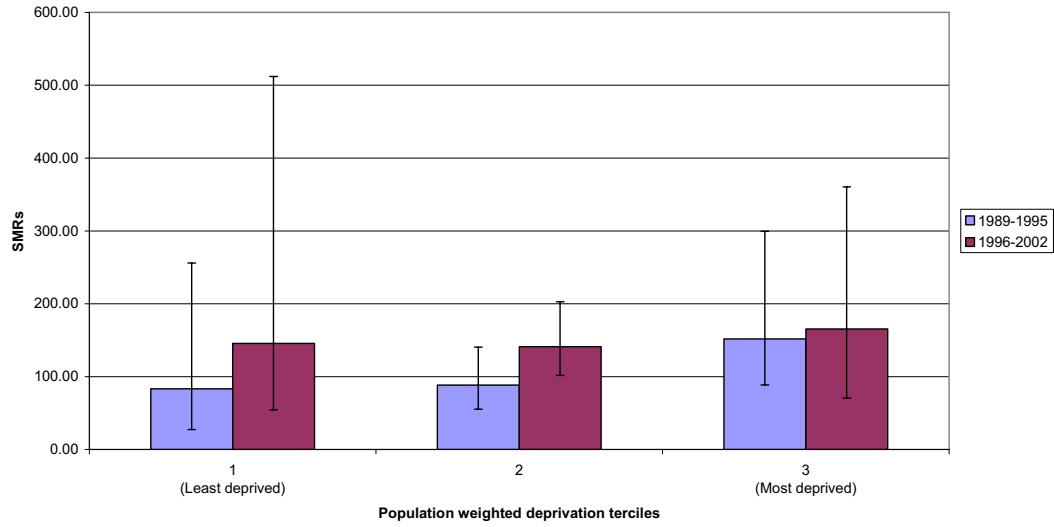
**The widening suicide gap (1989-1995 to 1996-2002)
all persons aged 15 years and over
Orkney Health Board**



**The widening suicide gap (1989-1995 to 1996-2002)
all persons aged 15 years and over
Tayside Health Board**



The widening suicide gap (1989-1995 to 1996-2002)
all persons aged 15 years and over
Western Isles Health Board



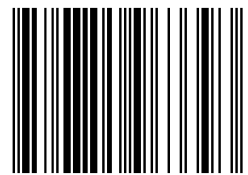
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