

Mortality trends in countries and cities of the UK: a population-based trend analysis



RESEARCH SUMMARY

What was the research about?

We explored recent changes in mortality rates across the countries and key cities of the UK.

Why is this important?

Measures of mortality, such as life expectancy and standardised rates, provide important information about the health of the whole population, and are therefore good barometers for overall progress in society.

Mortality rates in Scotland and the UK have fallen consistently over centuries. However, since 2012, the rate of improvement has slowed, with a 'levelling off' of previously falling rates – and some suggestion of increasing rates in some parts of the country. This divergence from previous trends is unprecedented and is indicative of serious problems occurring in society. Previous 'events' that have impacted on these trends include the world wars and the Spanish Flu pandemic of the early 20th Century.

What did we do?

We analysed long-term trends (1981-2017) in mortality rates in Scotland, England & Wales, and Northern Ireland, and in key UK cities: Glasgow, Edinburgh, Dundee, and Aberdeen in Scotland; Liverpool, Manchester, Birmingham, Leeds, Sheffield, and Bristol in England; and Belfast in Northern Ireland. These are the largest cities in their respective countries, with the exception of London – this was excluded because its size and other characteristics make meaningful comparisons with other cities problematic.

We undertook a range of different analyses – by sex, different age groups, cause of death and, for the countries and Scottish cities only, by levels of socioeconomic deprivation. We quantified the changes in rates, and explored their impact on different measures of mortality inequalities (the gap between more and less deprived neighbourhoods in each location).

What did we find?

Four important sets of findings emerged from these analyses.

First, the recent changes – the ‘stalling’ or ‘slow down’ of improvement in mortality – were observed throughout the different countries and cities of the UK, and for both males and females. For example, female mortality rates in Scotland declined by around 4-6% in the 1980s and 1990s, by 7-9% during the 2000s – but then by less than 1% in the most recent period. Figures were similar in England & Wales and Northern Ireland, and in most cities; in fact in some cities rates actually *worsened* in the most recent period of analysis – this was the case for both males and females in Aberdeen and Dundee, and for females in Manchester.

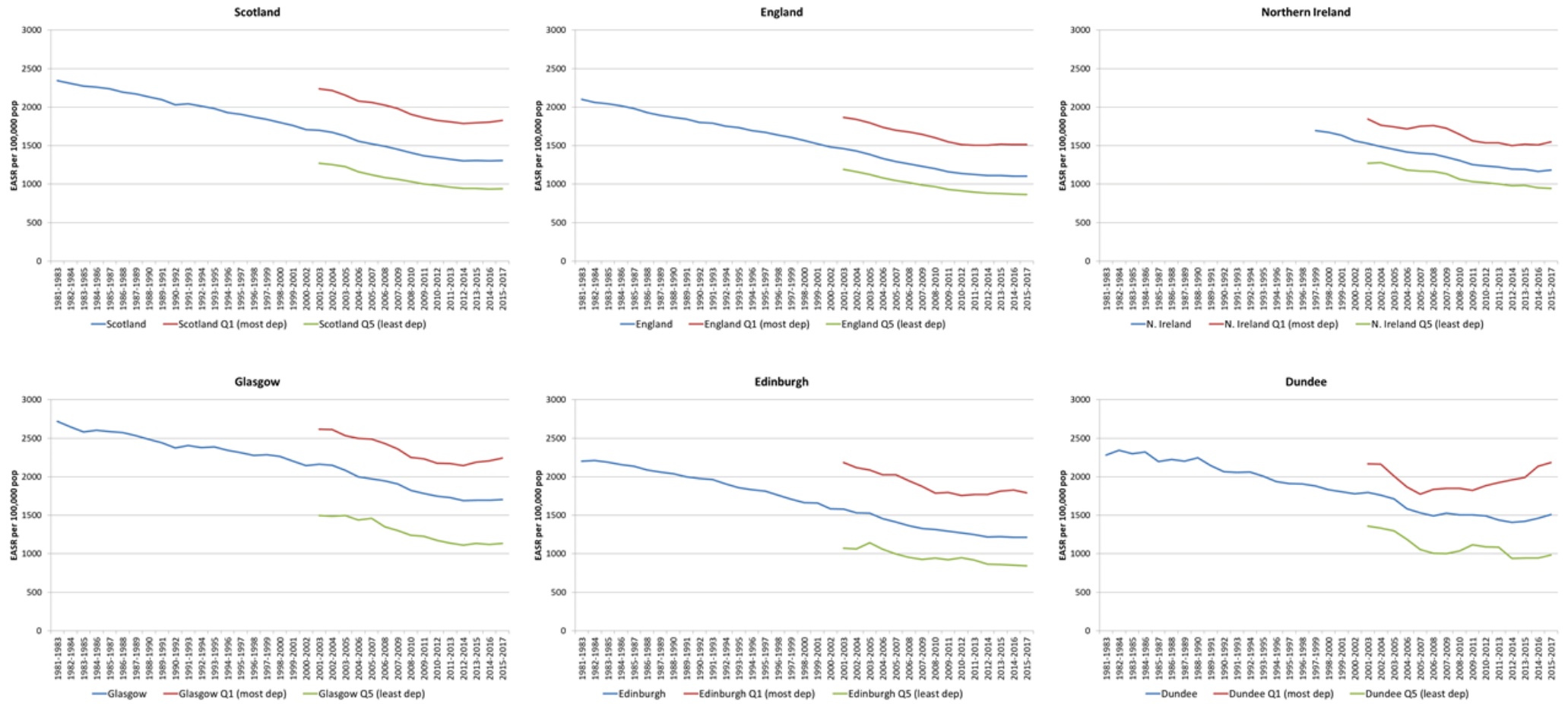
Second, the analyses showed that this overall ‘stalling’ of improvement is actually masking *increasing* death rates among the more deprived communities of the UK. In recent years those living in the most deprived fifth of the populations of Scotland, England, and Northern Ireland, and of all four Scottish cities, have seen their previously decreasing mortality rates *increase*. This is the case for males and females, and for different age groups. As a consequence, mortality inequalities have widened notably over the period. Some examples of these trends are shown for males in Figure 1 below.

(Note: relative inequalities – measured, for example, by comparing the mortality of the most and least deprived sections of the population – have been widening in Scotland and the UK for many decades. This was previously caused by rates among the least deprived *improving faster* than those of the most deprived: importantly, however, rates for the latter were still falling. What we are now witnessing is a *new form of inequality*, caused by death rates among the most deprived actually going up, while those of the least deprived continue to fall).

Third, these widening inequalities, driven by mortality changes in the most recent years, were seen for a broad set of different causes of death. These include both chronic conditions such as respiratory and cardiovascular diseases, as well as more socially influenced causes such as alcohol and drug-related deaths.

Finally, while these changes in mortality occurred across all parts of the UK, Scotland (and its cities) does stand out in terms of some specific issues – for example its much higher rates of drug-related deaths. Among all the UK cities, Dundee now has the highest rate of death for this cause, driven by notable increases in the most recent period of analysis. Glasgow also has a very high mortality drug-related death rate for this cause, and indeed among the cities, has the highest rates for many causes. The reasons for the latter have been explained in previous GCPH-led research. Much is also known about the causes of Scotland’s high drug-related death rates.

Figure 1. European age-standardised mortality rates (males, all ages, all causes) per 100,000 population, three-year rolling averages by selected country, city and country/city-specific deprivation quintiles



Source: Walsh D., McCartney G., Minton J., Parkinson J., Shipton D., Whyte B. Changing mortality trends in countries and cities of the UK: a population-based trend analysis. *BMJ Open* 2020; 10: e038135

What does all this mean?

Considering the findings alongside all the other recent research into the issue – both within the UK and internationally – the most likely explanation for these trends is the UK Government’s programme of so-called ‘austerity’: unprecedented cuts to public spending including social security budgets, which has impacted on the most vulnerable members of society. It is therefore important to use this evidence, alongside other research findings, to bring about changes in policy to protect the health of the poorest and most vulnerable in society.

In addition to the action that must be taken at a UK level to address this, the research emphasises the importance of using all devolved and local powers and opportunities that exist to mitigate the effects of such policies and protect and improve the lives of *all* in society, particularly the most vulnerable.

It is important to note that this research pre-dates the COVID-19 pandemic, and points to the public health emergency and inequalities crisis the UK was already faced with pre-pandemic. The pandemic adds to the urgency of the issue if we are to reverse these trends.

Where can I get more information?

The analyses have been described in more detail in this *BMJ Open* journal paper ‘Changing mortality trends in countries and cities of the UK: a population-based trend analysis’. Read the paper here: <https://bmjopen.bmj.com/content/10/11/e038135.full>

You can watch a short presentation of the key findings by lead author Dr David Walsh here: <https://www.youtube.com/watch?v=4-98OoDkfmq>

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