Systematic scoping review of proposed explanations for “excess” mortality

Final Report
April 2016

Anne-Marie Bagnall – Institute for Health and Wellbeing, Leeds Beckett University
Gary Raine – Institute for Health and Wellbeing, Leeds Beckett University
Rebecca Jones – Institute for Health and Wellbeing, Leeds Beckett University
Alan White – Institute for Health and Wellbeing, Leeds Beckett University
Ben Mitchell – The Retail Institute, Faculty of Business and Law, Leeds Beckett University
Funding:
This is an independent report commissioned and funded by NHS Health Scotland. The views expressed are not necessarily those of NHS Health Scotland.

Conflicts of interest:
There were no conflicts of interest in the writing of this report.

Contributions:
The opinions expressed in this publication are not necessarily those of Leeds Beckett University or of the funders (NHS Health Scotland). Responsibility for the views expressed remains solely with the authors. Dr Anne-Marie Bagnall was the Principal Investigator for this work and has overall responsibility for the content of this report.


© Copyright 2015
The authors of this report and NHS Health Scotland hold joint copyright for the text of the report. The authors give permission for readers of the report to display and print the contents for their own non-commercial use, provided that the source is cited clearly following the citation details provided.
Acknowledgements

We would like to thank our team of researchers who assisted with screening and data extraction: Humaira Akter, Susan Coan, Dr Frances Darby, Karina Kinsella, Dr Kris Southby, and Dr James Woodall.

We would also like to thank Dr Paul Marchant who was on hand to help with statistical queries.

We would like to acknowledge the hard working staff of the Sheila Silver Library at Leeds Beckett University, and particularly Susan Ellis and Karl Darbyshire of the Interlibrary Loans Service team, who have dealt cheerfully and efficiently with an unprecedented number of document requests in a short time. We are very grateful to them.

We would also like to acknowledge the helpful feedback and support provided by the commissioning team, Dr Gerry McCartney at NHS Health Scotland and Dr David Walsh at the Glasgow Centre for Population Health.
Executive summary

Background
This systematic review was commissioned by NHS Health Scotland (NHSHS), who are engaged in collaborative research with The Glasgow Centre for Population Health (GCPH) to investigate reasons behind the ‘excess’ levels of mortality (that is, higher mortality over and above that explained by differences in deprivation) seen in Scotland, and especially in Glasgow, compared to other parts of the UK. This report is one of a number of research projects commissioned to update and build on the findings of the synthesis that was published in 2011 by NHS Health Scotland and includes a review of the international literature on “excess” levels of mortality between higher income countries.

A previous research synthesis sought to summarise and assess the many potential explanations that had been proposed for the higher mortality seen in Glasgow, and in Scotland as a whole, compared to England & Wales (after accounting for differences in socio-economic deprivation). The synthesis reported 17 different hypotheses, and attempted to assess their relevance to plausible causal pathways. The report concluded that, while poverty and deprivation linked to particular industrial employment patterns, poor housing and unhealthy cultural and behavioural patterns seemed the most likely explanation for higher mortality pre-1980, after 1980 the mortality pattern changed and deaths were largely alcohol and drug related, suicides, violent deaths and road traffic accidents in young adults, in addition to the continuing high rates of mortality from cardiovascular disease, cancer and stroke. The authors of the synthesis projected that this changed pattern could be attributed to factors resulting from the disempowerment and community disruption in Scotland and Glasgow following neoliberal political attack.

Since publication of that report, a considerable amount of further research has been undertaken to investigate some of the more plausible hypotheses identified, while a number of other potentially relevant theses have emerged over the same period, some of which have also been the focus of new investigation. Project 1 of this systematic review sought to incorporate the new research, as well as undertaking a comprehensive literature search to incorporate any existing hypotheses that may have been missed by the earlier work. Project 2 of this systematic review sought to comprehensively search for and review all existing hypotheses for excess mortality between other higher income countries.

Aims and objectives
Aim of Project 1: To identify all potential explanations for the high mortality in Scotland, or parts of Scotland, relative to comparable populations.
Objectives
- To develop a strategy for, and perform, a comprehensive literature search that enables identification of all relevant hypotheses.
- To screen all identified citations for relevance to the research question.
- To critically appraise included studies for potential sources of bias, error and confounding.
- To describe the identified hypotheses and the evidence or logic for that explanation.

Aim of Project 2: To identify explanations for excess mortality between otherwise comparable populations with a view to generating hypotheses relevant to the Scottish excess.

Objectives
- To develop a strategy for, and perform, a comprehensive literature search that enables identification of all relevant hypotheses.
- To screen all identified studies citations for relevance to the research question.
- To critically appraise included studies for potential sources of bias, error and confounding where possible.
- To extract, and summarise, describe the proposed potential explanations and the evidence or logic for that explanation.

Method
The project followed the usual stages of a systematic review\(^2\)\(^-\)\(^3\), except for validity assessment, adhering to the PRISMA guidelines for reporting\(^4\). A protocol and search strategy were developed and agreed with NHSHS and GCPH before the literature searches began.

The following databases were searched in November 2014: MEDLINE (including non-indexed articles and articles in progress), EMBASE, ASSIA, IDOX, Theses.com, the Cochrane Library, Web of Knowledge Social Sciences Citation Index, PsycINFO, NEXIS and CINAHL. The search was restricted to human articles. No limitations were imposed for year of publication or language.

Relevant grey literature was identified through a structured internet search using the search engines “Google” and “Google Scholar”, and by searching relevant websites such as the World Health Organisation, the Glasgow Centre for Population Health, the Office for National Statistics and the (former) Public Health Observatories. There was no date limit on these searches. Commentaries and discussion pieces (including blogs and newspaper or other media articles) were within the scope of the search.
Titles and abstracts of articles identified by the initial database searches were screened for relevance independently by one reviewer, with a random sample of 10% being screened by three reviewers. Disagreements were resolved by discussion. All articles were then reviewed in full by one reviewer for relevance before a decision to include or exclude was made.

Inclusion criteria
Participants: Studies based on comparisons between populations in high income countries, in any settings, were eligible for inclusion. Project 1 required reference to the higher mortality in Scotland, Glasgow, Greater Glasgow, Strathclyde, Clydeside or West Central Scotland (or other synonyms) but Project 2 included any higher income countries compared with each other. Articles reporting on people of all ages were eligible for inclusion. Studies that compared populations within a single country were excluded.

Study design: All relevant study designs were eligible for inclusion, both observational (e.g. case-control or cohort studies) and “natural experiments”. Theories and hypotheses proposed in commentaries and discussion pieces were also eligible for inclusion.

Outcome measures: The outcomes of interest were mortality and morbidity relevant to excess mortality in Scotland (e.g. cancer, heart disease, accidental injuries, alcohol and drug use).

Data were extracted by one reviewer, using a piloted electronic form (using Microsoft Excel). Data were extracted into the following categories: Bibliographic details; Countries being compared; Study design; Outcomes reported; Hypotheses proposed (if any); Category (with reference to McCartney et al. 2011¹ and Walsh 2014⁵); Reviewer comments. Due to time constraints, validity assessment did not take place, other than the extraction of information about the study design.

Summary of main or key results
Most of the proposed explanations in both projects were not given as a single explanation but were combined with explanations from other categories. As this is a systematic scoping review, without validity assessment of the included studies, we are unable to comment on the strength and quality of the evidence in each category, but can only indicate how much of it there is. The majority of included studies were retrospective observational studies, some of which almost certainly were of good quality, and some of which were probably not.

Project 1
Half of the included studies mentioned deprivation or deprivation-related artefacts as an explanation for the excess mortality in Glasgow or Scotland. The next largest category of explanations (29%) related to health behaviours: alcohol, smoking, drugs, diet, physical activity and other behaviours. Other significant
explanations related to political attack and effects of policies, health services
supply and demand, deindustrialisation, different culture of substance misuse,
possibly mechanisms (e.g. vitamin D deficiency; psychosocial stress), migration,
lower social capital, poor housing, life course effects, artefacts of measurement
and the quality of the external physical environment.

Project 2

In the international literature, the largest category of proposed explanations for
excess mortality related to health behaviours (37%), with deprivation featuring in
32%. Other significant explanations related to health services supply and
demand, income inequalities, artefacts of measurement, political attack or
effects, social capital, different culture of substance misuse, and genetic
differences. This project was limited however by the necessary exclusion of
studies which compared outcomes between populations within countries.

Conclusions

There is a great deal of relevant literature offering explanations for “excess”
mortality, both in Scotland and Glasgow, and in other countries. Further
research that includes validity assessment of these studies would be necessary
to understand the reasons more fully and to ascertain which are the most robust.
However we can make the following observations:

Project 1: Although deprivation is the most frequently proposed explanation for
higher mortality in Glasgow and the rest of Scotland (and the brief of this review
was to look at explanations over and above deprivation), deprivation seems to be
linked to many of the other proposed explanations in a way that might also
contribute to or exacerbate its effects. The second most frequently proposed
explanation for the excess mortality in Scotland and Glasgow is in the category
“health behaviours”, which includes diet, smoking, alcohol and drug misuse as
well as other behaviours such as physical activity. Other prominent explanations
are political attack or the effects of policies, health services supply and demand,
deindustrialisation and a different culture of substance misuse.

Project 2: Health behaviours is the most frequently proposed explanation for the
excess mortality in developed countries comparative to one another, more so
than even deprivation. Other frequently proposed hypotheses include health
services supply and demand, income inequality, “other artefacts” such as
measurement of mortality, and political effects, such as the post-Soviet transition.

Although the focus of the international literature (and also prominent in the
Scottish literature) seems to be on the “downstream” explanation of health
behaviours, there is also a considerable amount of research being published on
“upstream” and “midstream” explanations underlying these behaviours, both in
Scotland and internationally. Further research might focus on the links between these levels of explanations.

Main recommendations

Secondary research
The size of the literature, nature of the topic area and the nature of the more “upstream” explanations for excess mortality (such as political effects) suggest a realist review would be a useful way of formally “unpicking” the connections between upstream and downstream theories and effects. Realist reviews begin with a review of the theoretical literature, from which “context –mechanism – outcome” connections are proposed and tested by iterative searches of the literature and regular discussions with steering groups of experts.

Alternatively, full/ more detailed separate systematic reviews, including critical appraisal, could be undertaken of “promising” theories such as different culture of substance misuse, deindustrialisation, social capital, and health services supply and demand, capturing finer contextual information, and exploring links between “upstream” and “downstream” explanations.

Primary research
Further work on aspects of social capital and the different culture of substance misuse seem to be warranted.

A deeper analysis of the gendered component of the high rates of premature death would be of interest. Hearing the voices of men and women from different generations and across a spectrum of intersectional factors (for instance, ethnicity, sexuality, marital status, employment status) would create a detailed picture of how health behaviour is influenced by women’s and men’s socialised place in society.

Project 2:
It would seems to be of interest to explore in more detail the similarities and differences between upstream influences such as political effects, health behaviours and linked outcomes in Scotland and in eastern European countries.
1. Introduction

1.1 Background

This systematic review was commissioned by NHS Health Scotland (NHSHS), who are engaged in collaborative research with The Glasgow Centre for Population Health (GCPH) to investigate reasons behind the ‘excess’ levels of mortality (that is, higher mortality over and above that explained by differences in deprivation) seen in Scotland, and especially in Glasgow, compared to other parts of the UK. This report is one of a number of research projects commissioned to update and build on the findings of the synthesis that was published in 2011 by NHS Health Scotland and includes a review of the international literature on “excess” levels of mortality between higher income countries.

Patterns of premature mortality in Scotland, and specifically Glasgow, have come under considerable scrutiny in recent years. The excess mortality in Scotland and Glasgow is not just a historical issue: the current data on deaths for Glasgow reveal that 30.2% of all male deaths and 16.6% of female deaths occur within the working years of 15-64 years, as compared to 20.5% male deaths and 12.2% of female deaths in England and Wales, with 70% higher number of deaths in men as compared to women in Scotland, as opposed to 55% higher deaths in men as compared to women for England and Wales in these working years.

Scotland has the highest mortality in Western Europe and increasing amounts of evidence now suggest that not all of this higher mortality can be explained in terms of higher levels of deprivation (Scottish Public Health Observatory 2014). Hanlon et al. showed that all-cause deaths in Scotland (after adjustment for differences in area-based deprivation) increased from almost 5% higher than in England and Wales in 1981 to more than 8% by 2001, and was considerably higher for particular causes of death (e.g. lung cancer deaths and suicide were 26% and 41% higher respectively). The effect was seen across all deprivation groupings in Scotland (deprived and non-deprived), being most pronounced in

---


\(^a\) http://www.gcph.co.uk/work_themes/theme_1_understanding_glasgows_health/excess_mortality_comparing_glasgow


the areas of highest deprivation (Glasgow and other parts of West Central Scotland).

Various attempts have been made to make sense of the higher levels of premature mortality in Glasgow. Recently, research has focussed particularly on the three cities of Glasgow, Liverpool and Manchester. Research published by the Glasgow Centre for Population Health in 2010 showed that despite almost identical socio-economic profiles, Glasgow’s mortality profile was quite different to that of the two English cities: premature deaths were found to be more than 30% higher, with all deaths almost 15% higher. A number of hypotheses were proposed to explain this disparity, including access to services, poverty, geographical patterns of deprivation, persistence of poverty, policy and childhood experiences.

A previous research synthesis sought to summarise and assess the many potential explanations that had been proposed for the higher mortality seen in Glasgow, and in Scotland as a whole, compared to England & Wales (after accounting for differences in socio-economic deprivation). The synthesis reported 17 different hypotheses, and attempted to assess their relevance to plausible causal pathways, although due to the complexity of the issues involved, reasons for the higher mortality in Scotland and Glasgow were still unclear. The report concluded that, while poverty and deprivation linked to particular industrial employment patterns, poor housing and unhealthy cultural and behavioural patterns seemed the most likely explanation for higher mortality pre-1980, after 1980 the mortality pattern changed and deaths were largely alcohol and drug related, suicides, violent deaths and road traffic accidents in young adults, in addition to the continuing high rates of mortality from cardiovascular disease, cancer and stroke. The authors of the synthesis proposed that this changed pattern could be attributed to factors resulting from the disempowerment and community disruption in Scotland and Glasgow following neoliberal political attack (see Figure 1 for the logic model from that report, and also Collins & McCartney, 2011).

Since publication of that report, a considerable amount of further research has been undertaken to investigate some of the more plausible hypotheses identified in the 2011 report, while a number of other potentially relevant theses have emerged over the same period, some of which have also been the focus of new investigation. Project 1 of this systematic review sought to incorporate the new research with the research in the 2011 synthesis, as well as undertaking a comprehensive literature search to incorporate any existing hypotheses that may have been missed by the earlier work.

From studies elsewhere in the world, the most prevalent hypothesis proposed for the cause of the high levels of premature death was socio-economic deprivation. Nevertheless, cultural factors that go beyond poverty are
thought to have been a component in the rapid decline in life expectancy in the post-Soviet era\textsuperscript{23}. A common feature of the patterns of mortality between Scotland and the post-soviet countries are the high levels of alcohol abuse and alcohol related deaths and suicide deaths\textsuperscript{24, 25}. 
Taulbut et al. explored the lessons from other post-industrial countries in Europe in relation to the ‘Glasgow Effect’ and identified potential similarities in so much as they have shared de-industrialisation causing economic and social upheaval, but they also noted that the West Central of Scotland has generally better levels of employment and higher income levels than many countries where life expectancy has improved. They also noted higher levels of relative poverty in this region, thought to be a consequence of neoliberal policies widening social and economic inequalities in a way not seen across the rest of Europe, but which are seen within other regions of the UK where life expectancy is not so poor.

A comparative analysis undertaken in Baltic States between countries that have shared histories, but widening health gaps, found that whilst Lithuania was retaining a low level of life expectancy, neighbouring Latvia, Estonia and Finland were experiencing much faster recovery. Further analysis found that the improving countries were more proactive in introducing public health initiatives, such as alcohol and smoking control and the detection and management of cardiovascular health problems.

Project 2 of this systematic review sought to comprehensively search for and review all existing hypotheses for excess mortality between other higher income countries.
1.2 Aims and objectives

Aim of Project 1: To identify all potential explanations for the high mortality in Scotland, or parts of Scotland, relative to comparable populations.

Objectives
- To develop a strategy for, and perform, a comprehensive literature search that enables identification of all relevant hypotheses.
- To screen all identified citations for relevance to the research question.
- To critically appraise included studies for potential sources of bias, error and confounding.
- To describe the identified hypotheses and the evidence or logic for that explanation.

Aim of Project 2: To identify explanations for excess mortality between otherwise comparable populations with a view to generating hypotheses relevant to the Scottish excess.

Objectives
- To develop a strategy for, and perform, a comprehensive literature search that enables identification of all relevant hypotheses.
- To screen all identified studies citations for relevance to the research question.
- To critically appraise included studies for potential sources of bias, error and confounding where possible.
- To extract, and summarise, describe the proposed potential explanations and the evidence or logic for that explanation.

1.3 Report structure

Chapter 2 describes the methodology of this systematic scoping review. In Chapter 3, the results of the literature search and the search for grey literature are presented, with the number and type of articles reporting theories in a range of categories presented and referenced for both projects 1 and 2. Chapter 1 presents a discussion of the findings, the limitations of the review, and attempts a brief overview of other relevant literature. Chapter 5 presents conclusions and observations, including recommendations for further research.

2. Methodology
2.1 Study design
Similar methods were adopted for projects 1 and 2, albeit using different search terms. The project followed the usual stages of a systematic review\textsuperscript{2, 3}, except for validity assessment, adhering to the PRISMA guidelines for reporting\textsuperscript{4}.

A protocol and search strategy were developed and agreed with NHSHS and GCPH before the literature searches began.

2.2 Search Strategy
A search strategy was developed and discussed in collaboration with the project leads from NHSHS/ GCPH, alongside subject librarians from NHSHS. The following databases were searched in November 2014: MEDLINE (including non-indexed articles and articles in progress), EMBASE, ASSIA, IDOX, Theses.com, the Cochrane Library, Web of Knowledge Social Sciences Citation Index, PsycINFO, NEXIS and CINAHL. The search was restricted to human articles. No limitations were imposed for year of publication or language. The results of the search were de-duplicated using Endnote reference management system.

Relevant grey literature was identified through a structured internet search using the search engines “Google” and “Google Scholar”, and by searching relevant websites such as the World Health Organisation, the Glasgow Centre for Population Health, the Office for National Statistics and the (former) Public Health Observatories. There was no date limit on these searches. Commentaries and discussion pieces (including blogs and newspaper or other media articles) were within the scope of the search.

Sample search strategies and a search history can be found in Appendix 1 of this report.

2.3 Study selection
Titles and abstracts of articles identified by the initial database searches were screened for relevance independently by one reviewer, with a random sample of 10% being screened by three reviewers, for the purpose of testing and agreeing on the inclusion criteria. Disagreements were resolved by discussion, with full copies of articles identified as potentially relevant by any reviewer being obtained for detailed screening.

All articles were then reviewed in full by one reviewer for relevance before a decision to include or exclude was made. Queries were resolved through discussion within the review team and with reference to the commissioning team where necessary.
2.4 Inclusion criteria

Participants: Studies based on comparisons between populations in high income countries, in any settings, were eligible for inclusion. Project 1 required reference to the higher mortality in Scotland, Glasgow, Greater Glasgow, Strathclyde, Clydeside or West Central Scotland (or other synonyms) but Project 2 included any higher income countries compared with each other. Articles reporting on people of all ages were eligible for inclusion. Studies that compared populations within a single country were excluded.

Study design: All relevant study designs were eligible for inclusion, both observational (e.g. case-control or cohort studies) and “natural experiments”. Theories and hypotheses proposed in commentaries and discussion pieces were also eligible for inclusion.

Outcome measures: The outcomes of interest were mortality and morbidity relevant to excess mortality in Scotland (e.g. cancer, heart disease, accidental injuries, alcohol and drug use).

2.5 Data extraction

Data were extracted by one reviewer, using a piloted electronic form (using Microsoft Excel). Data were extracted into the following categories: Bibliographic details; Countries being compared; Study design; Outcomes reported; Hypotheses proposed (if any); Category (with reference to McCartney et al. 20111 and Walsh 20145); Reviewer comments.

2.6 Critical Appraisal

We planned to critically appraise all included studies, using the STROBE checklist for observational studies28, or other checklists as appropriate (e.g. AMSTAR for a systematic review29). For expert discussions and commentaries, we planned to use the NOTARI checklist developed by the Joanna Briggs Institute to critically appraise the source of the evidence. Theories retrieved from social media such as Twitter, YouTube and (comments on) newspaper articles were included but we did not plan to critically appraise them unless a credible source of evidence was cited.

However, the large number of included articles (see “Findings”) and the need to produce a report within a certain timescale meant that critical appraisal did not take place, other than the extraction of information about the study design.

2.7 Analysis

A fully referenced list of hypotheses relevant to each project is presented, with prominence being given to findings from prospective study designs or systematic reviews. Findings are tabulated for ease of reference so that hypotheses can be associated with or “mapped” against study designs, countries or regions being
compared. Findings for Projects 1 and 2 are presented separately, although themes common to both are highlighted.
3. Results

3.1 Study selection

Figure 2 shows the study selection flowchart. A total of 27,723 "hits" were identified by the searches as potentially relevant, and their titles and abstracts were screened for inclusion. 25,597 articles were excluded at this stage as not relevant, leaving 2,126 articles to be obtained in full. Of these, 1,207 were excluded, 91 were unobtainable, and 41 were recorded as "awaiting assessment", either because they had been requested as interlibrary loans and not yet arrived (n=15), or because they were in a foreign language and we were unable to translate them (n=26).

Articles were excluded for the following reasons: no geographical comparison (n=625); no theory or explanation offered for excess mortality (n=266); not related to mortality outcomes (n=126); not high income countries (n=69); briefing documents, citations, critiques or press releases relating to full reports that were included (n=15); historical papers (n=8); errata papers not related to an included study (n=4); methodology papers (n=2); and a book review (n=1).

This left 837 articles that were included in the review: 305 in Project 1 and 532 in Project 2.

Details of all the studies included in Project 1 (Scotland or Glasgow compared to other countries or parts of Scotland) can be found in Appendix 2, while details of all the studies included in Project 2 (any higher income country compared to any other higher income country or countries) can be found in Appendix 3.

3.2 Description of included studies

Most of the included studies (n=174 (59%) in Project 1, n=326 (60%) in Project 2) were retrospective observational studies using national or regional data sets, some with data linkage to cross-sectional surveys. A small number of prospective cohort studies have been included (n= 18 in Project 130-47, n=29 in Project 248-76, along with very small numbers of other study designs such as RCTs (n= 1 in Project 177, n=1 in Project 278, systematic reviews (none in Project 1, n=8 in Project 279-86 and qualitative research (n=1 in Project 187, n=3 in Project 288-90).

3.3 Overview of theories

Figures 2 and 3 show the distribution of theories within categories. The largest category by far in Project 1 (see Figure 3) and second largest in Project 2 (see Figure 4) was theories linked to deprivation, income or wealth. Other categories which were well populated in both projects were health behaviours (which was
the largest category in Project 2), health services supply and demand, and political attack or effects.

In Project 1, other frequently proposed theories were: different culture of substance misuse (often alcohol); possible mechanisms contributing to excess mortality, such as psychosocial stress; lower social capital; deindustrialisation; migration; poor housing; life course effects; other artefacts (such as how deaths are registered); quality of external physical environment, anomie, climatic differences (e.g. lack of sun leading to vitamin D deficiency, or cold/ damp conditions leading to ill health); family and gender relationships and parenting differences; income inequalities; individual values (especially with regard to risk taking and attitudes towards the future e.g. not expecting to live long enough to experience the consequences of risky health behaviours); sense of coherence.

In Project 2, other frequently proposed theories were: income inequalities; other artefacts (to do with measurement of mortality); social capital; different culture of substance misuse; educational attainment; genetic differences; individual values; possible mechanisms (by which external factors may affect health, such as by increasing psychosocial stress), and welfare regimes.

There do not seem to be many striking differences between projects 1 and 2 in terms of the distribution of theories across categories. However, theories in the “health behaviours” category form a higher proportion of the international literature (37%), than they do in the literature relating to Scotland and Glasgow (29%). Instead, the literature in Project 1 has a stronger focus (than the literature in Project 2) on more "upstream" or "midstream" explanations such as political attack, external environment and social capital. The international literature has a greater focus on “downstream” explanations and in this sense does not seem to have caught up with the work going on in Scotland and Glasgow, which seems more advanced with regard to the reasons underlying people’s health behaviours that may lead to excess mortality.

Some theories which did not seem to quite fit into existing categories from previous syntheses (McCartney G. et al. 2011; Walsh D. 2014) are listed below:

- ability to heal or ward off insults to organs; Poorer symptom awareness; number of concomitant illnesses; lower potential for resuscitation
- local culture
- implementation of prevention strategies/policy
- lag in the process of lifestyle change
- increased flu activity; other infections
- policy implementation ( The control of asbestos & other industrial carcinogens)
- Later availability of refrigeration; availability of foods & variety of diet
- Comorbidity
- inequalities in power, prestige
• High rate of preterm births
• Greater trade union membership and political representation by women;
• Public awareness
• Happiness, gender empowerment
• Patient behaviour; help-seeking behaviours; Comorbidity
• Bovine Spongiform Encephalitis (BSE) crisis
• Availability of suicide methods (e.g. guns, high buildings)
• War & terrorist attack has protective effect. Continuous risk to national security has generated a national feeling of common destiny that strengthens sense of belonging
• Hepatitis C epidemic
• Efficacy of suicide prevention efforts; changing socioeconomic conditions in the world; proportionally fewer suicide-prone individuals remaining after a period of high suicide rates.
• Phase transition
• Driving long distances on poor roads in inclement weather conditions; Differences in the availability or appeal of prevention programs
• Level of control over life
• Socioeconomic modernisation (Historical process of large scale socioeconomic changes in society such as rising prosperity, industrialisation, urbanisation & expansion of mass education)
• Low birth weight/ early childhood experiences/ life course effects
• Epigenetics
• Living in mountainous regions
• Faster pace of urban life
• Gompertzian effects (i.e. this is a model of change over time whereby the change is initially slow and effects a small proportion of the population, a tipping point is then reached and the change rapidly spreads as more people are exposed, and then finally the rate of change slows down again as there are fewer and fewer people left unexposed).
• Anger / hate (from social media)
• Something in the Glasgow water supply (toxins?) (from social media)
• Microbiome (from social media)
• Radiation from nuclear submarines (from social media)
No of records identified through database searching:

- Main Databases: 24,955
- COPAC: 1,615
- IDOX: 1,039
- Total: 27,609

No of additional records identified through other sources: 114

No of records identified: Total 27,723

No of records screened: Total 27,723

No of records excluded: 27,723 – 2,126 = 25,597

No of full-text articles assessed for eligibility:

- Main Databases: 1,831
- COPAC: 105
- IDOX: 76
- Other: 114
- Ordered: 2,126

No of full-text articles excluded:
- No geographic comparison: 625
- No theory/hypothesis/explanation: 266
- Not related to mortality: 126
- Not developed countries: 69
- Unobtainable: 91
- Briefing documents (full paper incl.): 9
- Historical papers: 8
- Errata papers: 4
- Press releases: 3
- Citation only: 2
- Methodology paper: 2
- Book review: 1
- Critique: 1

No of studies included: 837

No of studies still awaiting assessment: 41

No of studies assessed as background: 41
Figure 3: Distribution of theories for excess mortality in Scotland (Project 1)
Figure 4: Distribution of theories for excess mortality in international studies (Project 2)
3.4 Theories (by category)
Examples in each category are taken from systematic reviews or prospective cohort studies, where possible.

3.4.1 Deprivation
In this review, as in the 2011 synthesis, deprivation is defined as absolute or relative poverty. The deprivation hypothesis in McCartney 2011 suggests that the “Scottish Effect” would be explained by deprivation, but that the measures have, since 1981, become increasingly unsuitable in capturing the changing nature of the deprivation experienced by the population\(^9\). However in this review, such artefactual explanations relating to the measurement of deprivation have been recorded in a different category (Deprivation artefact), as a large number of articles in both Projects 1 and 2 proposed that deprivation itself, rather than the measurement of it, was one of the causes of “excess” mortality between areas or countries. Although the objective of this systematic review was to review proposed explanations for excess mortality over and above that explained by deprivation, we have included this category to give a full picture of explanations proposed for higher mortality, and because many of the other categories of proposed explanations include deprivation as a causal or correlated link.

The deprivation artefact hypothesis from the 2011 synthesis suggests that the excess mortality or Scottish effect would be explained by deprivation but that the measures have since 1981 become increasingly unsuitable in capturing the changing nature of the deprivation experienced by the population. Four aspects of the measurement of deprivation which would explain the apparent but artefactual Scottish effect are highlighted in the 2011 synthesis as:
1. The Carstairs index has become outdated
2. The proxy measures of deprivation available do not adequately capture how deprivation is experienced
3. Issues around the size, and consistency of size, of the small areas at which historical measures of deprivation (Carstairs) were calculated
4. Underestimation of the population denominator for Scotland.

**Project 1:**
A total of 153 articles (50%) mentioned deprivation or deprivation area artefacts as a potential explanation for excess mortality in Scotland or Glasgow.\(^6, 7, 11-13, 36, 39, 40, 42, 47, 80, 92-224, 112, 162, 170, 225-230\). Three were prospective cohort studies\(^36, 42, 47\).

Most articles that proposed deprivation as an explanation for excess mortality acknowledged that deprivation alone did not explain all of the excess. Two examples are given below.

Results of a survey of four neighbourhoods in Glasgow City, nested in the West of Scotland Twenty-07 prospective cohort study (Forsyth et al. 1994)\(^36\), suggested that intra-urban variations in eating habits were not entirely explicable
in terms of individual socio-economic or socio-demographic characteristics, household finances or even local availability or accessibility of food outlets. Instead, the authors suggested that observed patterns were best explained by a dynamic model taking into account household resources, local availability and cultural factors such as traditional beliefs about appropriate or healthy diets. They observed that components of a healthy diet may be least accessible and most costly in neighbourhoods whose inhabitants are least healthy, poorer, have fewer facilities for buying and preparing food, have to buy food more frequently and in smaller quantities, and who do not like or value the diet recommended by the “experts”.

A study by Gemmell et al (2000)\textsuperscript{119} on seasonal variations in mortality found that they were associated with socioeconomic status as well as outdoor temperature. The authors hypothesised that the strength of the relationship between temperature and mortality is likely to be a result of the population being unable to protect themselves adequately from the effects of temperature (possibly due to housing characteristics such as fuel poverty or the presence of dampness and condensation) rather than the effects of temperature itself.

**Project 2:**

A total of 190 articles (36\%) mentioned deprivation or deprivation area artefacts as a potential explanation for excess mortality in the international literature\textsuperscript{18, 50, 56, 61, 70, 73, 76, 81, 84, 86, 231-410}. Three were systematic reviews\textsuperscript{81, 84, 86} and seven were prospective cohort studies\textsuperscript{50, 55, 58, 61, 70, 73, 76}.

One systematic review\textsuperscript{81} which included studies from Sweden, Denmark, US, Scotland, Canada, Italy, Japan, Spain, England, Brazil, and the Netherlands, found socioeconomic deprivation to be a powerful independent predictor of the development of heart failure and adverse outcomes. The authors concluded that although heart failure represents the endpoint of numerous different pathophysiological processes and ‘chains of events’, each modifiable throughout the disease trajectories, the precise mechanisms underlying this interaction were complex and “remain elusive”, due to the challenges of disentangling many and varied life course processes leading to heart failure and inequalities among patients with heart failure. Nevertheless, they recommend that every link in the chain of events is a target for research, while the pathways mediating the inequality are amenable to both public health and clinical interventions.

A recent systematic review which examined alcohol consumption as a potential explanation for socioeconomic inequalities in mortality, and included studies from Finland, Sweden, Russia, Estonia, Poland, Switzerland, and Canada\textsuperscript{84} found a 1.5–2-fold higher mortality for alcohol-attributable causes compared with all causes in participants with low socioeconomic status (SES). This indicates that whereas low SES is associated with an elevated risk of dying, this risk is especially elevated for alcohol-attributable causes of death.
Another systematic review which included studies from USA, Germany, Austria and Britain, found that individuals with unmet loan payments had suicidal ideation and suffered from depression more often than those without such financial problems. Unpaid financial obligations were also related to poorer subjective health and health-related behaviour. The authors concluded that indebtedness at an individual level has serious effects on health.

3.4.2 Migration

In the 2011 synthesis, relating to Project 1 (Scotland and Glasgow) only, the most frequently proposed hypothesis relating to migration was that Scotland or Glasgow suffered from a greater degree of emigration of healthy individuals than other areas, leaving behind a more unhealthy population which would be more likely to suffer from higher mortality (the opposite of the “healthy migrant effect”).

Project 1:
There were 23 articles (7.5%) which mentioned migration as a potential explanation for excess mortality in Scotland or Glasgow. Three were prospective cohort studies.

A prospective cohort study in the West of Scotland found that people of Irish Catholic descent, and specifically men with patrilineal Irish descent had higher death rates from all causes and from cardiovascular disease. The authors suggested that smoking and relative deprivation during childhood and adulthood contributed to this excess mortality, but did not account for all of it.

Project 2:
Some 11 articles (2%) mentioned migration as a potential explanation for excess mortality in the international literature. One was a prospective cohort study, nine were retrospective observational studies and one was a cross-sectional survey.

A prospective cohort study of migrants from the former Soviet Union living in either Israel or Germany found that, after adjusting for several co-variates, there were differences between migrants in the cause of death patterns in the two host countries, which the authors suggested may have been associated with differences in their initial conditions or with effects of the destination country. They concluded that duration of residence had an impact on migrant mortality, but that the extent to which the change in mortality is attributable to related modifications in risk factors or differences in healthcare utilisation could not be determined.
3.4.3 Genetic differences

As in the 2011 synthesis, the genetic hypothesis suggests that populations experiencing "excess" mortality are either predisposed to negative health behaviours or are particularly vulnerable to their effects, as a result of differences in the genetic mix of the population.

Project 1:
A total of 15 articles (5%) mentioned genetic differences as a potential explanation for excess mortality in Scotland or Glasgow\textsuperscript{12, 13, 31, 35, 39, 139, 170, 177, 199, 217, 218, 426-429}.

Two were prospective cohort studies\textsuperscript{31, 35}, nine were retrospective observational studies\textsuperscript{12, 39, 139, 177, 199, 426-429}, two were cross-sectional surveys\textsuperscript{13, 218} one was a newspaper article with comments\textsuperscript{170} and one was a blog with comments\textsuperscript{217}.

A prospective cohort study that compared people in Aberdeen to the West of Scotland and the whole of Scotland\textsuperscript{35}, found that higher childhood IQ was linked to better survival rates. The authors proposed the following potential mechanisms: childhood IQ might be a record of bodily insult up to that age, including perinatal and childhood problems; childhood IQ might be a marker for bodily system integrity (IQ is a marker for something more basic about the organism); IQ at age 11 years might be a predictor of better health behaviours and knowledge over the life span; and IQ might confer an entry to environments that are safer (i.e. educational and occupational outcomes).

Another prospective cohort study\textsuperscript{31} found that men in the West of Scotland with patrilineal Irish descent had higher death rates from 'all causes', and specifically cardiovascular disease. Whilst smoking and relative deprivation during childhood and adulthood contributed to the high Irish mortality, there remained a substantial excess of premature mortality which was unaccounted for.

Project 2:
There were 34 articles (6%) that mentioned genetic differences as a potential explanation for excess mortality in the international literature\textsuperscript{56, 82, 260, 277, 279, 282, 287, 291, 303, 318, 430-453}.

One was a prospective cohort study\textsuperscript{56} and one was a systematic review\textsuperscript{82}.

The authors of a prospective cohort study which compared mortality, systolic blood pressure and forced expiration volume (FEV) in Italian and Greek men\textsuperscript{56} found that although cholesterol explained some of the higher mortality in Italian men, 75% was explained by differences in baseline blood pressure and FEV, which could be genetic rather than behavioural factors.

A systematic review of 98 aggregate & multilevel studies examining the association between income inequality & health\textsuperscript{82} found that the association was weak at an individual level and proposed that other factors (such as genetic factors) may have a stronger effect.
3.4.4 Health behaviours

In the 2011 synthesis\(^1\) the health behaviours hypothesis asserts that a large proportion of the higher mortality in Scotland and Glasgow (and, in Project 2, the higher mortality in some countries compared to other countries) can be attributed to alcohol-, smoking- and drug-related deaths because of a higher prevalence of these negative health behaviours. The hypothesis also includes worse dietary habits (in terms of the intake of fat, salt and sugar, and lower intakes of fruit and vegetables) and lower physical activity. In this review we also found examples of other negative health behaviours (e.g. unprotected sex increasing the risk of diseases such as HIV/ AIDS and cervical cancer).

**Project 1:**
A total of 91 articles (30\%) mentioned health behaviours as a potential explanation for excess mortality in Scotland or Glasgow\(^{11, 12, 15, 16, 31, 36, 37, 40, 46, 47, 92, 94, 98, 100, 107, 125, 129, 130, 137, 139, 140, 144, 146, 151, 152, 156, 158, 163-165, 168, 177, 181, 182, 187, 190-192, 194, 196, 199, 202, 207, 208, 211, 213, 220, 222, 223, 226, 412, 419, 426-428, 454-491.\)


Findings from a survey carried out as part of a prospective cohort study in the countries of the UK\(^{38}\) showed that Scottish people smoked and drank more, were more overweight and had lower consumption of fruit and vegetables than people in other countries in the UK. Another prospective cohort study\(^{37}\) reported that lung cancer rates are higher in the West of Scotland at all levels of cigarette exposure than in other cohort studies (UK and US), which might indicate that more non-smokers died from lung cancer in Glasgow than in other areas, while another\(^{46}\) found that cigarette smoking and blood pressure could explain part of the regional variation in mortality in Scotland, but that much remains unaccounted for.

**Project 2:**

Twelve were prospective cohort studies\(^{50, 51, 53, 56, 61, 63, 64, 69, 70, 72, 74, 76, 38}\) and two were systematic reviews\(^{82, 84}.\)

A recent systematic review which examined alcohol consumption as a potential explanation for socioeconomic inequalities in mortality, and included studies from Finland, Sweden, Russia, Estonia, Poland, Switzerland, and Canada\(^{84}\) found a 1.5–2-fold higher mortality for alcohol-attributable causes compared with all causes in participants with low socioeconomic status (SES). This indicates that
whereas low SES is associated with an elevated risk of dying, this risk is especially elevated for alcohol-attributable causes of death.

One prospective cohort study comparing smoking and mortality in Australia and New Zealand\textsuperscript{53} found that trends in smoking did not fit well with trends in mortality. The authors suggested that this could be because while an overall decline in the prevalence of smoking had been observed, there appeared to be little change in heavy smoking.

The prospective cohort study comparing mortality in Italian and Greek men suggested that differences in diet may be one of the factors associated with improved longevity in Greek men\textsuperscript{56}. Another prospective cohort study comparing Finland, Italy and the Netherlands\textsuperscript{63} reported that 20 year mortality is lowest in men with the healthiest diet according to WHO recommendations.

### 3.4.5 Individual values

This hypothesis from the 2011 synthesis asserts that if certain populations (such as the population of Scotland, the West of Scotland and Glasgow) had a different psychological outlook to others, in terms of their aspirations or time preferences (favouring immediate rewards to delayed gratification – hedonism) this may have a negative impact on mortality, most likely through negative health behaviours relating to alcohol, drug and tobacco use. We have included attitudes to risk and increased risk taking in this category.

**Project 1:**
A total of 11 articles (4\%) mentioned individual values as a potential explanation for excess mortality in Scotland or Glasgow\textsuperscript{110, 112, 129, 170, 171, 192, 455, 475, 595-597}. None were prospective cohort studies or systematic reviews.

A recent quantitative study from the Glasgow Centre for Population Health\textsuperscript{205} found evidence against individual values being an explanatory factor for the excess mortality in Glasgow, as a cross-sectional survey of participants in Glasgow, Liverpool and Manchester found no substantial difference between the three cities in peoples’ individual values.

**Project 2:**
There were 30 articles (6\%) which mentioned individual values as a potential explanation for excess mortality in the international literature\textsuperscript{48, 89, 266, 274, 275, 303, 322, 335, 345, 354, 356, 357, 362, 363, 406, 497, 503, 513, 569, 598-608}. One prospective cohort study\textsuperscript{48} that compared Lithuania and the Netherlands found that a negative evaluation of one’s health was associated with mortality. The authors suggested that a potential explanation may be that those who rate their health as poor tend to think they can do little to prevent disease (and so do not try to take control of their health).
3.4.6 Different culture of substance misuse

This hypothesis from the 2011 synthesis suggested that the way in which substances (illicit drugs, alcohol and tobacco) are used in Scotland (or other countries with higher mortality) differs from that elsewhere and/or that there is a unique culture surrounding their use which exacerbates their effect. The hypothesis does not require the per capita use of substances, or the distribution of their use among the population to be different.

Project 1:
There were 22 articles (7%) that mentioned different culture of substance misuse as a potential explanation for excess mortality in Scotland or Glasgow. One prospective cohort study reported that problem drug use accounted for a third of the excess mortality in Scotland compared with England among people aged 15 to 54, supporting Hanlon et al's suggestion that the "Scottish effect" can be explained by higher prevalence of risk behaviours within a particular level of deprivation.

Project 2:
A total of 37 articles (7%) mentioned different culture of substance misuse as a potential explanation for excess mortality in the international literature. One was a prospective cohort study comparing the impact of opiate use on mortality in 8 European countries. The authors suggested that not all excess mortality was likely to be caused by opiate use - strong risks factors for mortality, such as deprivation, smoking, drinking and other risky behaviour were strongly associated with opiate use.

3.4.7 Culture of boundlessness and alienation/ anomie

The 2011 synthesis stated that it had been suggested that Scotland and Glasgow may have a culture different to other areas in terms of boundlessness, hopelessness and alienation. Similar cultural patterns were observed during the 19th century in some industrial cities. The theory is that this distinctive subculture undermines pre-existing behavioural restraints leading to greater risk-taking and self-destructive behaviour (such as alcohol/ drug misuse and violence).

Project 1:
There were 15 articles (5%) that mentioned anomie, or a culture of boundlessness and alienation as a potential explanation for excess mortality in Scotland or Glasgow. None were prospective cohort studies or systematic reviews. For example, anomie was related to excess risk for anxiety and heart attack in one study.
3.4.8 Family, gender relations and parenting differences

The 2011 synthesis reported that if family breakdown, acrimony between partners or dysfunctional parenting were more prevalent in Scotland and Glasgow (and other places with higher mortality) this would have a negative effect on health.

Project 1:
There were 15 articles (5%) that mentioned family, gender relations or parenting differences as a potential explanation for excess mortality in Scotland or Glasgow 13, 43, 44, 105, 112, 120, 144, 162, 180, 219, 456, 458, 482, 619, 621. Two were prospective cohort studies 43, 44. One 43 suggested a potential explanation that differences in early years’ experiences in terms of poor mental health, lack of formal qualifications, "low warmth" parent-child relationships, are associated with poor outcomes for child health, and with higher levels of mortality and morbidity in adulthood. However, although the authors found that the proportion of women smoking during pregnancy were higher, and the proportion of mothers breastfeeding were lower in Scotland compared with England, and that Scotland had a higher proportion of lone parent households than England and higher levels of conflict between parents about how to raise their children, in absolute terms, these differences were small.

Project 2:
Eleven articles (2%) mentioned family, gender relations or parenting differences as a potential explanation for excess mortality in the international literature 261, 287, 288, 323, 356, 406, 452, 626-629. None were prospective cohort studies or systematic reviews.

3.4.9 Social capital

It was suggested in the 2011 synthesis that "social capital" in Scotland and Glasgow was lower than elsewhere and that this had had a detrimental impact on health. Definitions of social capital vary and can include the quality of relationships between individuals, families, communities, but also the relationships between communities and the relationships of individuals and communities with “the state”.

Project 1:
A total of 21 articles (7%) mentioned social capital as a potential explanation for excess mortality in Scotland or Glasgow. None were prospective cohort studies or systematic reviews.

One article (<1%) mentioned increased individualisation and lower levels of trust as a potential explanation for excess mortality in Glasgow. This was a qualitative study with interviews with key informants in Glasgow, Liverpool and Manchester.

**Project 2:**

There were 39 articles (7%) that mentioned social capital as a potential explanation for excess mortality in the international literature. One was a prospective cohort study and one was a systematic review.

A prospective cohort study comparing mortality in America and Sweden found that social networks were important predictors of longevity for both samples. However, marital status and participation in formal organizations predicted longevity for the Americans, whereas contact with children emerged as the predictor variable for the Swedes. The authors also suggested that the Swedish welfare system had eliminated poverty, which contributed to their higher eight year survival rate.

The systematic review found that social participation and social networks were negatively associated with mortality. The authors suggested that this was because social participation and being integrated in social networks may strengthen self-esteem and coping strategies needed during difficult life situations. Social participation can result in greater empowerment and accountability. Trust may reduce social anxiety and protect against chronic stress, and supportive networks can improve access to resources, goods, aid and assistance. A trustful and supportive environment thus reduces social isolation, and has positive effects on peoples' health status.

**3.4.10 Health services supply and demand**

The 2011 synthesis proposed that if the quality, accessibility or demand for health services was lower in Scotland and Glasgow compared to other areas, this might increase the differential mortality – since populations with equal need for services might benefit inequitably from them (thereby generating differential outcomes).

**Project 1:**
There were 28 articles (9%) that mentioned health services supply and demand as a potential explanation for excess mortality in Scotland or Glasgow. One prospective cohort study reported that treatment and survival rates within Scotland for patients with lung cancer seemed lower than in other European countries. The authors suggested this could be due to variations in investigation, comorbidity and treatment and outcomes between different centres.

**Project 2:**
There were 128 articles (24%) that mentioned health services supply and demand as a potential explanation for excess mortality in the international literature. Eight were prospective cohort studies, one was a randomised controlled trial, and one was a systematic review.

The systematic review authors noted that medical treatment was one of the factors that previous work had suggested might help to understand health “differences” within and among populations. A randomised controlled trial found that there were substantial differences in placebo group rates of mortality, coronary deaths and major coronary events between countries (Denmark, Finland, Iceland, Norway and Sweden) and suggested that surgical and medical therapy varied importantly between countries.

### 3.4.11 Sectarianism

The 2011 synthesis included the hypothesis that both the higher mortality in Scotland and the distinct Scottish effect could be explained by Scotland being more affected by sectarianism than other areas and that this has negatively impacted on health.

**Project 1:**
Four articles (1%) mentioned sectarianism as a potential explanation for excess mortality in Scotland or Glasgow. Two were reports of a prospective cohort study which found that those of Irish catholic descent (in the West of Scotland) are at some disadvantage compared with the rest of the population in terms of general and physical health, psychological distress, physical measures (cardiovascular health) and mortality.

**Project 2:**
No articles mentioned sectarianism as a potential explanation for excess mortality in the international literature.
3.4.12 Industrialisation
Rapid industrialisation has been proposed as a potential explanation for Glasgow’s excess mortality, particularly with regard to its perceived association with poor housing and overcrowding (and subsequent negative effect on gender relations) as well as with regard to poor health and safety procedures in the workplace.

Project 1:
Seven articles (2%) mentioned industrialisation as a potential explanation for excess mortality in Scotland or Glasgow. None were prospective cohort studies or systematic reviews.

Project 2:
No articles mentioned industrialisation as a potential explanation for excess mortality in the international literature.

3.4.13 Deindustrialisation
The 2011 synthesis mentioned deindustrialisation as a popular hypothesis: Scotland and Glasgow suffered from more profound deindustrialisation than other areas, which in turn compounded the effect of deprivation to exacerbate mortality.

Project 1:
Twenty-four articles (8%) mentioned deindustrialisation as a potential explanation for excess mortality in Scotland or Glasgow. None were prospective studies or systematic reviews.

Project 2:
Two articles (<1%) mentioned deindustrialisation as a potential explanation for excess mortality in the international literature. Neither were prospective cohort studies or systematic reviews.

3.4.14 Income inequalities
"The relationship between income inequality and health has been independently discovered several times by people who appeared not to know of each other’s work" (Wilkinson 2002, referring to (at least) Steckel 1983, Waldmann 1992 and Rodgers 1979).
Income inequalities are said to be the major determinant of people’s unequal living standards and are in turn shaped by inequalities in education and occupation: in this way the relationship between a country’s wealth and health is mediated by policy or the “redistributive ambitions of the government” (Graham 2007, quoting Atkinson 1999). Theories relating to income inequalities are potentially more relevant to Project 2 than Project 1, as the socioeconomic and political structures that lead to income inequality tend to be applied at the national level. There is evidence that wide income inequalities adversely affect overall levels of health, perhaps because societies with marked income inequalities also display less trust and less community spirit, which in turn lead to more violence, greater stress and poorer health. The authors of the 2011 synthesis suggested that if Scotland and Glasgow suffered from greater income inequality, this would have an additional impact to that of deprivation and thereby help to explain the Scottish Effect.

Project 1:
Eleven articles (4%) mentioned income inequalities as a potential explanation for excess mortality in Scotland or Glasgow. None were prospective cohort studies or systematic reviews.

Project 2:
Seventy-three articles (14%) mentioned income inequalities as a potential explanation for excess mortality in the international literature. One was a systematic review, although this reported only a weak association between income inequality and mortality.

A 2004 systematic review of 98 aggregate & multilevel studies examining the association between income inequality & health reported that countries that had greater trade union membership and political representation by women had better child mortality profiles. The authors suggest that low levels of coronary heart disease in southern Europe may be related to high prevalence and low social inequality in healthy eating, while the relatively low life expectancy of Danish women is likely related to the historical patterns of relatively high prevalence and low social inequality in smoking. Results show that neither an income inequality nor psychosocial environment theory of health is universally applicable to understanding why some countries have better population health than others. Explanations for between-country differences in health will require an appreciation of the complex interactions of history, culture, politics, economics, and the status of women and ethnic minorities.

A recent paper by experts in this field mentioned that suicides are an exception to the general pattern, having a tendency to be more common in more equal societies, despite evidence that depression is more common in more unequal societies. The authors suggest that although the explanation may
be, as Burrows & Laflamme (2010) suggest, that social gradients in suicides are not always consistent internationally, there may be some truth in the view that violence can be directed either outwards or inwards and that “if suicide is, like homicide, often a response to adversity, we think it likely that greater equality increases a tendency to blame oneself rather than others for what goes wrong”.

3.4.15 Culture of limited social mobility

It was suggested in the 2011 synthesis that there was a culture of limited aspiration in Scotland which had led to limited social mobility – this was linked to both a cultural lack of confidence through the influence of Calvinism, and also to a distinctive culture of social control where people were discouraged from being seen to be doing better than their peers. These distinctive cultural patterns were thought to have emerged in the first decades of the 20th century.

Project 1:
Five articles (2%) mentioned culture of limited social mobility (or Calvinism) as a potential explanation for excess mortality in Scotland or Glasgow. None were prospective cohort studies or systematic reviews.

Project 2:
Two articles (<1%) mentioned culture of limited social mobility as a potential explanation for excess mortality in the international literature. Neither were prospective cohort studies or systematic reviews.

3.4.16 Political attack/ effects of policy

There were three aspects to this hypothesis, which emerged as the preferred hypothesis in the 2011 synthesis. First, that the UK as a whole was exposed to neoliberal ideology and policies from 1979 onwards in a way in which other European countries were not. This neoliberalism amounted to a political attack on the institutions and culture of the organised working class. Second, that Scotland and Glasgow were more vulnerable to the damaging effects of this neoliberal “political attack” than other areas of the UK. Thirdly, that in Scotland there was a distinctive cultural reaction to this because of the perceived problems of democratic illegitimacy.

Project 1:
Thirty articles (10%) mentioned political attack or the effects of policies as a potential explanation for excess mortality in Scotland or Glasgow. None were prospective cohort studies or systematic reviews.

Project 2:
Sixty-five articles (12%) mentioned political attack or the effects of policies as a potential explanation for excess mortality in the international literature\textsuperscript{61, 236, 239, 246, 252, 255-257, 267, 268, 290, 293, 304, 305, 313, 314, 316, 319, 324, 326, 330, 332, 333, 345, 355, 368, 369, 376, 379, 384, 387, 397, 409, 410, 442, 444, 502, 527, 531, 534, 544, 552, 603, 608, 628, 635, 639, 695, 697, 714, 715, 728, 729, 747-758.}

One was a prospective cohort study\textsuperscript{61}, and three were evidence (not systematic) reviews\textsuperscript{255, 256, 751}.

Although many Eastern European countries have gone through large political and economic changes in the recent past, there is some evidence that the negative effects of these changes can be mitigated against, for example Grigoriev et al.\textsuperscript{527} suggested that a key explanation for the absence of an abrupt mortality increase in Belarus immediately after the dissolution of the USSR lies in the diverging paths of socioeconomic development chosen by the Belarussian and Russian authorities after the collapse of the communist system. Unlike Belarus, Russia adopted a mass privatisation programme, which was poorly implemented, and this was associated with increased adult male mortality.

A comparison of the United States of America and Canada\textsuperscript{642} suggests that while both countries underwent significant neoliberal reforms between 1980 and 2008, Canada showed more resilience in terms of health inequalities due to differences in the degree of income inequality (itself resulting from differences in features of labour markets, tax and transfer policies), equality in the provision of social goods such as health care and education, and the extent of social cohesiveness across ethnic and social class-based groups.

3.4.17 Housing

Poor and overcrowded housing has been proposed as a potential explanation for some of the excess mortality in Glasgow and Scotland.

**Project 1:**
Twenty-one articles (7%) mentioned poor housing as a potential explanation for excess mortality in Scotland or Glasgow\textsuperscript{112, 119, 123, 136, 140, 146, 156, 164, 170, 171, 181, 221, 472, 491, 619, 699-701, 759-761}.

None were prospective cohort studies or systematic reviews.

**Project 2:**
Nine articles (2%) mentioned poor housing as a potential explanation for excess mortality in the international literature\textsuperscript{79, 245, 297, 333, 374, 375, 530, 726, 762}.

One was a systematic review\textsuperscript{79}, seven were retrospective observational studies\textsuperscript{245, 333, 374, 375, 530, 726, 762}, and one was a commentary\textsuperscript{297}.

One systematic review\textsuperscript{79} found no consistent relation between housing quality and excess winter mortality or excess winter hospitalisation, although some studies showed a weak protective effect of home heating.
3.4.18 Quality of external physical environment

The quality of the external physical environment, including such things as air and water pollution, has been proposed as a potential explanation for excess mortality.

Project 1:

Nineteen articles (6%) mentioned quality of the external physical environment as a potential explanation for excess mortality in Scotland or Glasgow 112, 139, 156, 167, 170, 177, 195, 217, 223, 419, 428, 455, 481, 622, 701, 747, 763-765.

None were prospective cohort studies or systematic reviews.

Project 2:

Eighteen articles (3%) mentioned quality of the external physical environment as a potential explanation for excess mortality in the international literature 19, 311, 314, 335, 345, 445, 501, 530, 538, 585, 656, 693, 766-771.

None were prospective cohort studies or systematic reviews.

3.4.19 Other artefact

Artefactual explanations other than the deprivation area artefact have been proposed as potential explanations for excess mortality: these include gender/sex, ethnicity as well as mortality measurement artefacts – some to do with area size (as with deprivation artefacts) and others to do with reporting of death and calculation of mortality rates.

Project 1:

Nineteen articles (6%) mentioned other artefacts as a potential explanation for excess mortality in Scotland or Glasgow 121, 126, 137, 170, 175, 463, 476, 488, 621, 743, 763, 772-779.

None were prospective cohort studies or systematic reviews.

Project 2:

There were 59 articles (11%) which mentioned other artefacts as a potential explanation for excess mortality in the international literature 49, 137, 240, 282, 283, 319, 322, 323, 325, 339, 342, 344, 354, 366, 425, 432, 503, 508, 540, 556, 563, 571, 577, 637, 655, 664, 667, 683, 688, 694, 721, 754, 755, 780-805.

Two were prospective cohort studies 49, 667. One suggested that the detection of any associations between depression and mortality is dependent on the measurement used and method of analysis. The other reported that the increasing mortality rate was almost exclusively explained by an increasing case-fatality rate.
One retrospective observational study (<1%) mentioned self-selection as a potential explanation for excess mortality in the international literature\textsuperscript{231}.

Two articles (<1%) mentioned a Gompertzian effect (i.e. a rate of change that is initially slow, then fast, then slow again as a factor diffuses through a population) as a potential explanation for excess mortality in the international literature: one book chapter and one retrospective observational study\textsuperscript{445, 806}. For example, in their book chapter Deaton & Paxson 2004\textsuperscript{806} suggested that over time, declines in mortality are driven by technological advances or by the emergence of new infectious diseases such as AIDS. These advances and retreats are associated with specific conditions and specific treatments, and so affect men and women and different age groups differently.

**3.4.20 Possible mechanisms**

**Project 1:**
A total of 22 articles (7%) mentioned possible mechanisms (of how external factors may affect health) as a potential explanation for excess mortality in Scotland or Glasgow\textsuperscript{13, 16, 80, 112, 139, 156, 170, 204, 217, 458, 472, 482, 596, 619, 620, 623, 746, 747, 807-810}.

One was a systematic review that looked at the effects of climate on vitamin D levels.\textsuperscript{80} The review reported a significant association between supplementation with vitamin D and reduction in mortality. The authors suggested:

> “a clear pathway of cause and effect can be shown from environmental factors and the modern effects of industrialization, which reduce sun exposure and vitamin D uptake, to the major physical illnesses that excessively afflict Scots today. The same pathway can also be traced to an increased vulnerability of Scots to mental illness, drug and alcohol problems, although social factors must clearly be involved with these endpoints. The pathway also shows the complex interaction of these factors with diet, 21\textsuperscript{st} century lifestyle and national failures in policy and advice.”

**Project 2:**
Twenty-six articles (5%) mentioned possible mechanisms as a potential explanation for excess mortality in the international literature\textsuperscript{85, 239, 252, 255, 257, 274, 300, 319, 320, 324, 372, 373, 437, 442, 513, 526, 534, 552, 555, 639, 642, 671, 747, 792, 811, 812}.

One was a meta-analysis of 8 prospective cohort studies looking at vitamin D levels\textsuperscript{85}.

Ten articles mentioned psychosocial stress as a potential mechanism\textsuperscript{252, 255, 257, 274, 300, 513, 534, 639, 642, 747}.
One article mentioned hormones as a potential mechanism\textsuperscript{437}. One article mentioned Helicobacter pylori (an organism found in the gut) as a potential mechanism\textsuperscript{812}.

### 3.4.21 Water

**Project 1:**
Four articles (1\%) mentioned water hardness as a potential explanation for excess mortality in Scotland or Glasgow\textsuperscript{191, 426, 813, 814}, although one of these\textsuperscript{814}, a newspaper article, claimed that water hardness was not to blame for Glasgow’s excess mortality compared to Edinburgh. None were prospective cohort studies or systematic reviews.

One article (<1\%) mentioned water supply as a potential explanation for excess mortality in Glasgow\textsuperscript{112}. This was a newspaper article to which there were four online comments about contamination of the water supply near the Clyde. Two mentioned toxins in the water coming from sewage, and one mentioned toxins in the ground and water coming from (previous) heavy industry.

**Project 2:**
No articles mentioned water hardness or water supply as a potential explanation for excess mortality in the international literature.

### 3.4.22 Urbanisation or urban planning

**Project 1:**
Seven articles (2\%) mentioned aspects of urbanisation or urban planning as a potential explanation for excess mortality in Scotland or Glasgow\textsuperscript{36, 107, 112, 116, 133, 701, 815}.

The authors of a prospective cohort study\textsuperscript{36} suggested that the observed intra-urban variations in eating habits were best explained by a dynamic model which takes into account household resources, local availability and cultural factors such as traditional beliefs about appropriate or healthy diets. Components of a healthy diet may be least accessible and most costly in neighbourhoods whose inhabitants are least healthy, poorer, have fewer facilities for buying and preparing food, have to buy food more frequently and in smaller quantities, and who do not like or value the diet recommended by the experts. Increasing the supply or reducing the cost of healthy foods in an area may have little impact if these healthy foods do not fit the cultural repertoire of local people. Equally, changing beliefs, attitudes and values about healthy foods may be ineffective if these foods are not easily available at affordable prices.

**Project 2:**
Six articles (1%) mentioned aspects of urbanisation as a potential explanation for excess mortality in the international literature. All six were retrospective observational studies.

A large retrospective observational study involving analysis of national datasets reported a clear rural excess mortality in Russia and Romania.

### 3.4.23 Scale of urban change

The scale and nature of urban change in Glasgow has been proposed as a partial explanation for the excess mortality.

**Project 1:**
Three articles (1%) mentioned the scale of urban change as a potential explanation for excess mortality in Scotland or Glasgow. None were prospective cohort studies or systematic reviews.

**Project 2:**
Four articles (<1%) mentioned the scale of urban change as a potential explanation for excess mortality in the international literature. None were prospective cohort studies or systematic reviews.

### 3.4.24 Sense of coherence

The concept of sense of coherence (SOC) was put forward by Aaron Antonovsky in 1979 to explain why some people become ill under stress and others stay healthy. The SOC is defined as: “The extent to which one has a pervasive, enduring though dynamic, feeling of confidence that one’s environment is predictable and that things will work out as well as can reasonably be expected.” Difference in people’s sense of coherence was proposed as a potential explanation for poor health in Glasgow and Scotland by the Chief Medical Officer in 2015.

**Project 1:**
Twelve articles (4%) mentioned sense of coherence as a potential explanation for excess mortality in Scotland or Glasgow. None were prospective cohort studies or systematic reviews.

**Project 2:**
One retrospective observational study (<1%) mentioned sense of coherence as a potential explanation for excess mortality in the international literature. This was a publication from the LiViCordia study comparing risk factors for coronary heart disease in Swedish and Lithuanian men.
3.4.25 Life course effects
Strictly speaking, life-course approaches to health inequalities explicitly consider how exposures acting from before conception through to death could have important health consequences. We have included influences acting in early childhood (e.g. poor nutrition, poor parenting) in this category. It is thought that the physical and psychological stress caused by adverse circumstances in early life can have an effect on the development of the brain as well as the more obvious effects on the body, leading to greater susceptibility and less resilience to risk factors for poor health in adulthood.

Project 1:
There were 20 articles (7%) that mentioned life course effects or early childhood experience as a potential explanation for excess mortality in Scotland or Glasgow 16, 39, 47, 94, 107, 117, 120, 147, 162, 170, 181, 458, 622, 623, 703, 818-822. None were prospective cohort studies or systematic reviews.

Project 2:
Eight articles (1.5%) mentioned life course effects or early childhood experience as a potential explanation for excess mortality in the international literature27, 66, 67, 281, 721, 823-825. Two were about the same prospective cohort study66, 67, suggesting that higher mortality from cancers associated with infection and from viral hepatitis among migrants from the former Soviet Union might result from higher prevalence of infections which were acquired in earlier years of life. Three were retrospective observational studies27, 281, 823, two were commentaries721, 824 and one was the Chief Medical Officer’s report for England and Wales825 which advocated for a public health emphasis on the health of children.

3.4.26 Climate
The 2011 synthesis presented two separate hypotheses regarding the role of the Scottish climate in explaining the excess mortality: that Scots suffer from a lack of sunlight and consequent deficit in vitamin D; and that harsher winters increase mortality through the effects of the cold. These adverse effects may be exacerbated by existing health conditions, poor housing, substance misuse or deprivation. The international literature also mentions heat and solar radiation as possible climatic risk factors for excess mortality.

Project 1:
Fourteen articles (5%) mentioned climate as a potential explanation for excess mortality in Scotland or Glasgow 80, 112, 119, 136, 170, 191, 426, 491, 619, 620, 759, 809, 810, 826. One was a systematic review80 which reported a significant association between supplementation with vitamin D and reduction in mortality. The authors suggested:
“a clear pathway of cause and effect can be shown from environmental factors and the modern effects of industrialization, which reduce sun
exposure and vitamin D uptake, to the major physical illnesses that excessively afflict Scots today. The same pathway can also be traced to an increased vulnerability of Scots to mental illness, drug and alcohol problems, although social factors must clearly be involved with these endpoints. The pathway also shows the complex interaction of these factors with diet, 21st century lifestyle and national failures in policy and advice.

Project 2:
Fourteen articles (3%) mentioned climate as a potential explanation for excess mortality in the international literature. One was a modelling study, one was a systematic review relating to excess winter mortality and housing, ten were retrospective observational studies relating to sun exposure and skin cancer, temperature, excess winter mortality, heat and other climatic differences, one was a commentary, and one was a report.

One article (<1%) mentioned solar radiation as a potential explanation for excess mortality in the international literature. This was a commentary focused on the prevalence of the ‘apolipoprotein e epsilon 4’ allele and links to coronary heart disease mortality.

3.4.27 Educational attainment
Project 1:
Seven articles (2%) mentioned educational attainment as a potential explanation for excess mortality in Scotland or Glasgow. The authors of a prospective cohort study in the West of Scotland suggested that low IQ in childhood or adulthood was associated with elevated rates of later death or disease, but found that although adjusting for IQ markedly reduced socioeconomic gradients in health, it did not completely explain them.

Project 2:
Twenty-nine articles (6%) mentioned educational attainment as a potential explanation for excess mortality in the international literature. One was a prospective cohort study which suggested that educational experiences (both cultural and environmental) may be of primary importance in setting the pattern for lifetime smoking behaviour.

3.4.28 Epigenetics
Epigenetics refers to external or environmental factors that turn genes on and off and affect how cells read genes. It has been suggested that this can have a
trans-generational effect, for example in one study\textsuperscript{837} the paternal (but not maternal) grandsons of Swedish men who were exposed during pre-adolescence to famine in the 19th century were less likely to die of cardiovascular disease.

Project 1:
Five articles (2\%) mentioned epigenetics as a potential explanation for excess mortality in Scotland or Glasgow\textsuperscript{112, 129, 170, 619, 699}. None were prospective cohort studies or systematic reviews.

Project 2:
One retrospective observational study (<1\%) mentioned epigenetics as a potential explanation for excess mortality in the international literature\textsuperscript{445}.

3.4.29 Mental illness

Project 1:
Four articles (1\%) mentioned mental illness as a potential explanation for excess mortality in Scotland or Glasgow\textsuperscript{112, 168, 196, 622}. None were prospective cohort studies or systematic reviews.

Project 2:
Two commentaries (<1\%) mentioned mental illness as a potential explanation for excess mortality in the international literature\textsuperscript{521, 754}.

3.4.30 Lack of empowerment/ control

Project 1:
Three articles (1\%) mentioned lack of empowerment/ control as a potential explanation for excess mortality in Scotland or Glasgow\textsuperscript{217, 619, 623}. These were all newspaper articles or blogs.

Project 2:
Six articles (1\%) mentioned lack of empowerment/ control as a potential explanation for excess mortality in the international literature\textsuperscript{19, 330, 538, 629, 811, 835}. None were prospective cohort studies or systematic reviews.

3.4.31 Violent/ gang culture

Project 1:
Four articles (1\%) mentioned violent or gang culture as a potential explanation for excess mortality in Scotland or Glasgow\textsuperscript{112, 171, 619, 620}. These were all newspaper or online articles (or comments about them).

Project 2:
Two articles (<1%) mentioned violent or gang culture as a potential explanation for excess mortality in the international literature: one commentary\textsuperscript{261}, and one retrospective observational study\textsuperscript{336}.

3.4.32 Labour market/ nature of employment or workplace
It has been proposed that there is something different about work practices that contributes to the excess mortality in Scotland and Glasgow.\textsuperscript{744}

Project 1:
Five articles (2%) mentioned the labour market or nature of workplace as a potential explanation for excess mortality in Scotland or Glasgow\textsuperscript{426, 456, 744, 838, 839}. None were prospective cohort studies or systematic reviews.

Project 2:
Eight articles (1.5%) mentioned the labour market or nature of workplace as a potential explanation for excess mortality in the international literature\textsuperscript{237, 294, 380, 408, 503, 605, 840, 841}. None were prospective cohort studies or systematic reviews.

3.4.33 Access to/ availability of/ purity of alcohol/ drugs
Project 1:
One article (<1%) mentioned increased availability and affordability of alcohol as a potential explanation for increased alcohol-related deaths in young women in Scotland\textsuperscript{194}.

Project 2:
Three articles (<1%) mentioned access to or purity of drugs or alcohol as a potential explanation for excess mortality in the international literature\textsuperscript{361, 517, 673}. None were prospective cohort studies or systematic reviews.

3.4.34 Overcrowding
Project 1:
Five articles (2%) mentioned overcrowding as a potential explanation for excess mortality in Scotland or Glasgow\textsuperscript{112, 140, 618, 699, 701}. None were prospective cohort studies or systematic reviews.

Project 2:
Two retrospective observational studies (<1%) mentioned overcrowding as a potential explanation for excess mortality in the international literature\textsuperscript{233, 279}.

3.4.35 Welfare regime
The redistributive potential of welfare regimes could mitigate against the negative effects caused by deprivation and income inequality, therefore countries with
effective welfare regimes may have less premature mortality than countries with ineffective welfare regimes.

**Project 1:**
Two articles (<1%) mentioned welfare regime as a potential explanation for excess mortality in Scotland or Glasgow\(^{176, 746}\). None were prospective cohort studies or systematic reviews.

**Project 2:**
Ten articles (2%) mentioned welfare regime as a potential explanation for excess mortality in the international literature\(^{58, 237, 238, 267, 268, 276, 284, 752, 757, 842}\). One prospective cohort study\(^{58}\) reported that American respondents had a lower 8-year survival rate than the Swedes and concluded that the Swedish respondents seem to have benefited from the welfare state’s guaranteed provision of preventive and other medical services. Also, the ‘spread the wealth’ strategy behind the Swedish welfare system has eliminated poverty, a singularly important risk factor. In contrast, most of the Missouri respondents had extremely low incomes and were living in medically underserved rural areas. Bambra\(^{238}\) reported that the negative relationship between unemployment and health is consistent across Europe but varies by welfare state regime, suggesting that levels of social protection may have a moderating influence. There were also clear differences by welfare state regime: relative inequalities were largest in the Anglo-Saxon, Bismarckian and Scandinavian regimes.

### 3.4.36 Use of child safety measures

**Project 1:**
Two articles (<1%) mentioned use of safety measures as a potential explanation for excess mortality in Scotland or Glasgow\(^{121, 131}\). None were prospective cohort studies or systematic reviews.

**Project 2:**
Three retrospective observational studies (<1%) mentioned use of safety measures as a potential explanation for excess mortality in the international literature\(^{345, 605, 843}\).

### 3.4.37 Obesity

**Project 1:**
No articles mentioned obesity as a potential explanation for excess mortality in Scotland or Glasgow.

**Project 2:**
One retrospective observational study (<1%) of 15 EU member states mentioned obesity as a potential explanation for excess mortality in the international literature\(^{844}\).
3.4.38 More lethal methods of suicide

Project 1:
No articles mentioned more lethal methods of suicide as a potential explanation for excess mortality in Scotland or Glasgow.

Project 2:
Two retrospective observational studies (<1%) mentioned more lethal methods of suicide as a potential explanation for excess mortality in the international literature\textsuperscript{845, 846}.

Two articles (<1%) mentioned gun control legislation & attitudes as a potential explanation for excess mortality in the international literature. One was a retrospective observational study\textsuperscript{575}, and one was a letter\textsuperscript{847}.

3.4.39 Time of child bearing/ fertility

Project 1:
No articles mentioned time of child bearing or fertility as a potential explanation for excess mortality in Scotland or Glasgow.

Project 2:
One article (<1%) mentioned time of child bearing or fertility as a potential explanation for excess mortality in the international literature\textsuperscript{55}. Doblhammer\textsuperscript{55} compared two cohort studies and suggested that there might be a physiological “trade-off” between fertility and longevity, but found that this effect was not as strong as the influence of deprivation or education.

3.4.40 Transition of childhood to adolescence

Project 1:
No articles mentioned transition from childhood to adolescence as a potential explanation for excess mortality in Scotland or Glasgow.

Project 2:
One article (<1%) mentioned transition from childhood to adolescence as a potential explanation for excess mortality in the international literature\textsuperscript{848}. This was a retrospective observational study.

3.5 Summary of findings

Most of the proposed explanations in both projects were not given as a single explanation but were combined with explanations from other categories. As this is a systematic scoping review, without validity assessment of the included
studies, we are unable to comment on the strength and quality of the evidence in each category, but can only indicate how much of it there is. The majority of included studies were retrospective observational studies, some of which almost certainly were of good quality, and some of which were probably not.

**Project 1**
Half of the included studies mentioned deprivation or deprivation-related artefacts as an explanation for the excess mortality in Glasgow or Scotland. The next largest category of explanations (29%) related to health behaviours: alcohol, smoking, drugs, diet, physical activity and other behaviours. Other significant explanations related to political attack and effects of policies, health services supply and demand, deindustrialisation, different culture of substance misuse, possible mechanisms by which external factors can influence health (e.g. vitamin D deficiency; psychosocial stress), migration, lower social capital, poor housing, life course effects, artefacts of measurement and the quality of the external physical environment.

**Project 2**
In the international literature, the largest category of proposed explanations for excess mortality related to health behaviours (37%), with deprivation featuring in 32%. Other significant explanations related to health services supply and demand, income inequalities, artefacts of measurement, political attack or effects, social capital, different culture of substance misuse, and genetic differences.
4. Discussion

1. Findings and comparison with existing research

The range of theories put forward as possible explanations for the ‘Glasgow Effect’ show that there is still much speculation as to the origins of the problem. This reinforces the observation that this is not a simple cause-effect relationship and that, as a complex problem, there are a complex array of factors that are at play. In this systematic scoping review, theories were placed into 40 categories, whereas in McCartney et al.91 only 17 categories were used, however it is likely that some of the least-populated categories in our review could be subsumed into one of the pre-existing 17 categories. Potentially novel categories may be: rapid industrialisation in Glasgow; poor housing; quality of the external physical environment; artefacts in the way mortality is recorded and measured; other artefacts; life course effects; sense of coherence; epigenetics; urbanisation/urban planning; scale of urban change; welfare regimes; labour market/nature of employment or workplace; more lethal methods of suicide.

Having noted for completeness the large volume of literature reporting on the deprivation factor, the majority of the rest of the wide ranging theories for Project 1 and particularly for Project 2 have a strong flavour of health behaviours and lifestyles underpinning their positions. Many of the theories are directed at the greater propensity of populations with excess mortality to drink excessively, to smoke, to have a poor diet, and to have a high risk taking culture, and the reasons behind this behaviour.

On exploring the international dimension it seems that the places that have most resonance with the ‘Glasgow Effect’ are those Eastern European states that have experienced a similar ‘political attack’ alongside massive social upheaval as a result of de-industrialisation and economic recession. In the case of these countries the rapid dissembling of the USSR produced a similar state of anomie described in the GCPH (2011) report to Glasgow. They have been affected by a combination of socio-economic hardship coupled with major blows to national identity and sense of place in the world849-851. Each state had to contend with a population left without purpose and lacking in social direction, a void filled with alcohol, drug abuse, violence, poor diet and marked mental health problems. Similarly to Scotland the principal cause of premature death in Russia and the Baltic states are directly attributable to alcohol (cardiomyopathy, acute poisoning, liver failure etc.) and smoking (lung cancer, COPD), there are also higher levels of accidental deaths24, 27, 852, 853.

Nevertheless though some important similarities are seen between what is occurring in Glasgow and Scotland and these other countries there are important differences too. Historically in the former Communist states there was a general reluctance to focus on non-communicable diseases, with a general focus being on communicable diseases and a medical curative approach. This left little in the
way of alcohol reform, tobacco control, and legislation against drink driving etc.\textsuperscript{854, 855}: this is not the case in Scotland, where there is a well-developed public health strategy in place, underpinned with sound epidemiological support. For instance, accidents do not have the same level of mortality in Scotland due to the stricter health and safety legislation within the workplace and more stringent road safety legislation.

In Russia and other Eastern European countries the main group affected by premature death are working age men, whereas in Scotland though the male life expectancy is poor the effect is also pronounced for women. High smoking and alcohol intake are very much a male preserve in Russia, whereas in Scotland (as noted for project 1), examination of the literature relating to women’s identity also demonstrates a stronger propensity to drink\textsuperscript{856} and smoke\textsuperscript{857}. In Scotland there are more similarities between men's and women’s dietary patterns, and although much of this is explained by socio-economic factors in Scotland\textsuperscript{858}, this is not the case elsewhere as in the Baltic states women still tend to have a better diet than men\textsuperscript{859}.

Potential reasons underlying these detrimental behaviours in Glasgow are the focus of a large body of work by the Glasgow Centre for Population Health, which has explored not only the prevalence of the behaviours themselves between Glasgow, Liverpool and Manchester, but also more “upstream” or “midstream” explanations such as aspects of social capital, anomie, individual values, sense of coherence, and culture of substance misuse. A recent cross-sectional survey and quantitative study reported lower levels of trust among key informants in Glasgow than in Liverpool or Manchester, but other aspects of social capital did not differ between the three cities.

2. Limitations

**Protocol deviations:** We stated in the protocol for this review that “the reference lists of the included studies and relevant review articles will be scanned for other potential relevant literature and papers listed as citing the eligible studies on will be reviewed for relevance”. However, we were unable to do this owing to the large number of included articles. We also did not contact key authors other than the commissioners of the research (Dr Gerry McCartney and Dr David Walsh).

The search strategies were too sensitive at first, bringing up an unmanageable number of titles and abstracts, and had to be narrowed (made more specific). This means we may have missed some relevant studies.

Twenty-six papers were in foreign language and due to time constraints we have not translated them. We do not know whether they would make a substantial
difference to the review findings (although this is probably unlikely). Similarly, 15 potentially relevant papers did not arrive within the timescale of the review.

We had planned to undertake critical appraisal of all included articles using validated checklists but again, owing to the large number of included articles and a need for the review to be completed within a certain timeframe, this was not possible and we have only been able to make a note of study design to give an indication of the strength of the evidence in each theoretical category.

Again, due to time constraints, there was limited opportunity for discussion within the team about allocation of categories and study designs. This means that some included studies may not have all the correct categories assigned to them, and some of the study designs may have been wrongly allocated. We do not expect that this would have a substantial impact on the review findings, as without validity assessment we have been very cautious about drawing conclusions.

We were also unable to track multiple publications of the same study (again owing to time constraints) which means that although some categories are mentioned in a large number of articles, they probably relate to a smaller number of studies.

**Limitations of included articles:** Although validity assessment was not undertaken due to time constraints, around 60% of included studies were retrospective observational studies using population-level data e.g. from UK Census. Although this is probably the most appropriate study design for population level studies of mortality, the main limitation of this study design is that it cannot infer causation, only correlation. Well-conducted retrospective studies can still tell us a lot, but as we were unable to assess the included studies for validity, we cannot comment on the strength of the evidence. For this reason we have mainly presented examples from prospective cohort studies (which can be used to distinguish between cause and effect\(^{860}\)), and from systematic reviews (in which validity assessment has already been undertaken).

**Limitations of review:** This review was limited to studies that compared mortality within different parts of Scotland, or studies that compared mortality between other countries. Our searches found many other studies of potential relevance that compared mortality between different areas or groups within the same country. Potentially the most useful subset of these would be the within-country USA studies, due to both the size and the level of variation and inequality within that country. However, time constraints would have made it impossible to include these studies, even if we had originally planned to.

Owing to the broad nature of some of the theoretical categories into which papers were assigned, it is possible that potentially significant information related to explanations for mortality differences could be lost. For example, one study
examined inter-country differences in lung cancer mortality and identified smoking & specifically variations in the type of tobacco smoked as being potentially important. Another study found that the pattern and type of alcohol drunk was more important than the amount. Simply categorizing the theory from such findings as “health behaviour” and/or “different culture of substance misuse” misses the important finer detail. Ideally, the finer contextual information which may offer important insights should be captured as well.

Although we have presented evidence in separate categories, a substantial number of included studies presented models involving “chains” of hypotheses, such as the LiVicordia (Linkoping – Vilnius – coronary – artery – disease- risk – assessment – study) hypothesis:

“The psychosocial situation is stressful in Lithuania. The effects of social environment lead to a defeat reaction with increased cortisol responses to acute stress. This hypercortisolism causes a more prevalent metabolic syndrome in Lithuanian men, which includes abdominal obesity, high plasma triglycerides, low HDL cholesterol, small dense LDL, higher SBP and insulin resistance. Small dense LDL is more susceptible to oxidation. Oxidised LDL initiate atherosclerosis, which is the pathologic basis behind CHD.”

Many such chains included the deprivation hypothesis. We have developed a very basic model indicating where we think most of the categories mentioned in the review can be placed (whether “upstream”, “midstream” or “downstream”), as well as factors which may act across all levels of the model, for good or bad (Figure 5). This may or may not be helpful when considering multiple explanations for excess mortality, although it cannot indicate all the different interactions and feedback loops that could take place (which are probably better illustrated for Scotland in McCartney et al. 2011(Figure 1).

Finally, this systematic review became a systematic scoping review due to the large number of relevant studies and the short time available, but given more time and resources there are other approaches that can be taken to reviews of theories, including realist synthesis methods.
Figure 5: Simplified representation of potential explanations for excess mortality in this systematic review

**Upstream**
- Deprivation;
- Income inequality;
- Migration;
- Deindustrialisation;
- Rapid industrialisation;
- Health services supply and demand;
- Urbanisation/urban planning;
- Scale of urban change;
- Labour market/workplace;
- Use of safety measures;

**Midstream**
- Social capital;
- Anomie;
- Life course effects/epigenetics;
- Individual values;
- Different culture of substance misuse;
- Sectarianism;
- Culture of limited social mobility;
- Housing/overcrowding;
- Lack of empowerment/control

**Downstream**
- Health behaviours;
- Violence;
- Family, gender relations and parenting differences;
- Sense of coherence;
- Educational attainment;
- Mental illness;
- Purity/access to drugs/alcohol;
- More lethal suicide methods

**Outcomes**
- Increased deaths:
  - Drug-related;
  - Alcohol-related;
  - Suicide;
  - Homicide;
  - Road traffic accidents

**Potential mechanisms of effect**
- Vitamin D; psychosocial stress; hormones

**Moderators of effect**
- Political attack – ; Regime change + or - ; Welfare regime + or - ; Effects of policy + or – ; External physical environment + or - ;
- Genetic effects; Climate
5. Conclusions and recommendations

5.1 Conclusions
As this is a systematic scoping review with a comprehensive literature search, but without validity assessment, we are able to make observations, rather than definitive conclusions.

There is a great deal of relevant literature offering explanations for “excess” mortality, both in Scotland and Glasgow, and in other countries. Further research that includes validity assessment of these studies would be necessary to understand the reasons more fully and to ascertain which are the most robust. However we can make the following observations:

Project 1: Although deprivation is the most frequently proposed explanation for excess mortality in Glasgow and the rest of Scotland (and the brief of this review was to look at explanations over and above deprivation), it seems to be linked to many of the other proposed explanations in a way that also contributes to or exacerbates their effects. The second most frequently proposed explanation for the excess mortality in Scotland and Glasgow is in the category “health behaviours”, which includes diet, smoking, alcohol and drug misuse as well as other behaviours such as physical activity. Other prominent explanations are political attack or the effects of policies, health services supply and demand, deindustrialisation and a different culture of substance misuse.

Project 2: Health behaviours is the most frequently proposed explanation for the excess mortality in developed countries comparative to one another, more so than even deprivation. Other frequently proposed hypotheses include health services supply and demand, income inequality, “other artefacts” such as measurement of mortality, and political effects, such as the post-Soviet transition.

Although the focus of the international literature (and also prominent on the Scottish literature) seems to be on the “downstream” explanation of health behaviours, there is also considerable research being undertaken on “upstream” and “midstream” explanations underlying these behaviours, both in Scotland and internationally. Further research might focus on the links between these explanations, as in the logic model proposed in the 2011 synthesis (Figure 1).

5.2 Recommendations for further research

Secondary research
The size of the literature, nature of the topic area and the nature of the more “upstream” explanations for excess mortality (such as political effects) suggest a
realist review would be a useful way of formally “unpicking” the connections between upstream and downstream theories and effects. Realist reviews begin with a review of the theoretical literature, from which “context –mechanism – outcome” connections are proposed and tested by iterative searches of the literature and regular discussions with steering groups of experts.

Alternatively, full/more detailed separate systematic reviews, including critical appraisal, could be undertaken of “promising” theories such as different culture of substance misuse, deindustrialisation, social capital, and health services supply and demand, capturing finer contextual information, and exploring links between “upstream” and “downstream” explanations.

**Primary research**
Further work on aspects of social capital and the different culture of substance misuse seem to be warranted.

A deeper analysis of the gendered component of the high rates of premature death would be of interest. Hearing the voices of men and women from different generations and across a spectrum of intersectional factors (for instance, ethnicity, sexuality, marital status, employment status) would create a detailed picture of how health behaviour is influenced by women’s and men’s socialised place in society.

**Project 2:**
It would seem to be of interest to explore in more detail the similarities and differences between upstream influences such as political effects, health behaviours and linked outcomes in Scotland and in eastern European countries.
6. References

5. Walsh D. An analysis of the extent to which socio-economic deprivation explains higher mortality in Glasgow in comparison with other post-industrial UK cities, and an investigation of other possible explanations. Glasgow: University of Glasgow; 2014.


2011-11-01;34(Dec 89):556-60.


111. Dorling D. Death in Britain: how local mortality rates have changed: 1950s-1990s: Joseph Rowntree Foundation, York Publishing Services Ltd, 64 Hallfield Road, Layerthorpe, York YO3 7XQ; 1997.


130. Hanlon Pea. Chasing the Scottish Effect. Why Scotland needs a step-change in health if it is to catch up with the rest of Europe. Glasgow: Public Health Institute of Scotland2001.


134. Hetherington P. Harry Burns: 'We need compassion, not judgements about poor people'. The Guardian [serial on the Internet]. 2014; 12 March: Available from:


146. Leonard S. Health is where your home is. Scotland on Sunday. 1996;11 February:8-9.


161. McIntosh L. More workless homes than any other city — new statistics underline the ‘Glasgow effect’. The Times. 2013 5 September


200. Taulbut M, Poirier G, Walsh D. Case study - Health and its determinants in West Central Scotland compared to Nord-Pas-de-Calais in France Glasgow: Glasgow Centre for Population Health2011.

201. Taulbut M, Walsh D. Case study - Health and its determinants in West Central Scotland compared to Silesia in Poland. Glasgow: Glasgow Centre for Population Health2011.

Deindustrialisation study - phase two. Glasgow: Glasgow Centre for Population Health 2011.


246. Daniels GA. Underlying influences on health and mortality trends in post-industrial regions of Europe: University of Glasgow; 2014.


334. Miles R. Neighborhood disorder and smoking: findings of a European urban survey. Social Science and Medicine. 2006;9(63):2464-75


359. Pritchard C, Williams R. Poverty and child (0–14 years) mortality in the USA and other Western countries as an indicator of 'how well a country meets the needs of its children' (UNICEF). International Journal of Adolescent Medicine and Health. 2011;23(3):251-5.


385. Thomson CS, Hole DJ, Twelves CJ, Brewster DH, Black RJ. Prognostic factors in women with breast cancer: distribution by socioeconomic status and effect on


431. Davis PA, Sano T. The difference in gastric cancer between Japan, USA and Europe: what are the facts? what are the suggestions? Critical Reviews In Oncology/Hematology. 2001;40(1):77-94.


2013-07-03;127(4):357-68.


447. Takahashi I, Matsuzaka M, Umeda T, Yamai K, Nishimura M, Danjo K, et al. Differences in the influence of tobacco smoking on lung cancer between Japan and


554. Melinder KA, Andersson R. Stable and dynamic differences in injury mortality between the Nordic countries. What do they say about inherent national


597. Reid M. Behind the 'Glasgow effect'. Bull World Health Organ. 2011:701-76.


781. Blackwelder WC, Alling DW, Stuart-Harris CH. Association of excess mortality from chronic nonspecific lung disease with epidemics of influenza. Comparison of


Appendix 1: Search strategy

6.1 Selected search histories

Social Policy and Practice
1 (mortality or mortality curve or mortality data or mortality gap or mortality indicator or mortality rate or mortality rates or mortality ratio or mortality ratios or mortality risk or mortality study or mortality trend).de. (893)
2 (death or death rate or death rate statistics or death rates or deaths).de. (4303)
3 (life expectancy or life expectancy gap).de. (372)
4 (fatal or fatalities).de. (6)
5 (survival rate or survival rates).de. (12)
6 (health outcome or health outcomes).de. (18)
7 health status.de. (15)
8 (health status or health status measure).de. (16)
9 self assessed health.de. (4)
10 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 (5336)
11 (excess death or excess mortality or excess winter death rate).de. (4)
12 (premature death or premature deaths or premature mortality).de. (22)
13 (inequality or inequality in health or inequality measures).de. (1165)
14 inequalities.de. (117)
15 divergence.de. (4)
16 (variation or variation in mortality or variations).de. (74)
17 (difference or differential or differential rate).de. (23)
18 disparity.de. (10)
19 10 or 12 (5349)
20 11 or 13 or 14 or 15 or 16 or 17 or 18 (1383)
21 explanation.de. (9)
22 (causal connection or causal factor or causal link or causal model or causal relationship or causality or causation or cause or "cause of death" or causes).de. (1779)
23 (comparison or comparisons or comparative analyses or comparative analysis or comparative approach or comparative case study or comparative data or comparative mortality figure or comparative rate or comparative research or comparative statistic or comparative statistics or comparative studies or comparative study).de. (2993)
24 (determinant or "determinant of health" or determinants or "determinants of health").de. (17)
25 origin.de. (16)
26 reason.de. (10)
27 (effect or effects).de. (9336)
28 relationship.de. (253)
29 (theory or theory building or theoretical or theoretical analysis or theoretical explanation or theoretical framework or theoretical literature or theoretical model or theoretical perspective or theories).de. (1057)
30 (concept or concepts or conceptual approach or conceptual basis or conceptual framework or conceptual model or conceptualisation).de. (131)
(hypothesis or hypotheses).de. (6)
notion.de. (1)
(factor or factors).de. (16)
21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33 (15033)
("Scottish effect" or "Glasgow effect" or "Scotland effect").af. (9)
(mortality* or death* die or dying or "life expectancy" or "expectation of life" or "survival rate" or fatal* or "health outcome" or "health status" or "self-assessed health" or "self-perceived health" or "years of life lost").af. (7700)
(Excess* or "above expect*" or "above average" or extreme or premature or inegalit* or diverg* or variation or inordinate or differen* or disparit* or "geographical patterning" or younger).af. (55226)
(indicator* or statistic* or data or distribution or probability or "case control" or trend*).ab,de,hw,ti. (61334)
(high* adj3 (prevalence or incidence or amount* or level* or average* or rate*)).af. (9242)
(explanation* or caus* or compar* or determinant or origin or reason or effect or relationship or theory or theories or concept* or hypothesis or notion* or factor*).af. (108202)
(Scotland or Scottish or Britain or UK or "United Kingdom" or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen).af. (147597)
19 and 20 and 41 (64)
19 and 37 and 41 (564)
20 and 36 and 41 (88)
36 and 37 and 41 (963)
36 and 39 and 41 (168)
19 and 39 and 41 (102)
42 or 43 or 44 or 45 or 46 or 47 (1132)
19 and 20 and 34 (26)
19 and 20 and 40 (53)
19 and 34 and 37 (116)
19 and 34 and 38 (180)
19 and 34 and 39 (23)
19 and 37 and 40 (764)
(Excess* or "above expect*" or "above average" or extreme or premature or inegalit* or diverg* or variation or inordinate or differen* or disparit* or "geographical patterning" or younger).ab,ti. (53628)
(explanation* or caus* or compar* or determinant or origin or reason or effect or relationship or theory or theories or concept* or hypothesis or notion* or factor*).ab,ti. (99020)
19 and 38 and 40 (1144)
(indicator* or statistic* or data or distribution or probability or "case control" or trend*).ti. (6912)
19 and 40 and 58 (182)
19 and 39 and 40 (172)
20 and 36 and 40 (85)
34 and 36 and 37 (171)
34 and 36 and 58 (42)
34 and 36 and 39 (21)
36 and 37 and 40 (1453)
36 and 40 and 58 (237)
36 and 39 and 40 (367)
49 or 50 or 51 or 52 or 53 or 54 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 (2108)
48 or 68 (2595)

**Embase**

<table>
<thead>
<tr>
<th>Search</th>
<th>Search Terms</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(health status or health status indicator).sh.</td>
<td>77712</td>
</tr>
<tr>
<td>2</td>
<td>mortality.sh.</td>
<td>431267</td>
</tr>
<tr>
<td>3</td>
<td>death.sh.</td>
<td>146191</td>
</tr>
<tr>
<td>4</td>
<td>sudden death.sh.</td>
<td>26702</td>
</tr>
<tr>
<td>5</td>
<td>infant mortality.sh.</td>
<td>9132</td>
</tr>
<tr>
<td>6</td>
<td>premature mortality.sh.</td>
<td>680</td>
</tr>
<tr>
<td>7</td>
<td>(maternal mortality or maternal mortality ratio or maternal mortality statistics).sh.</td>
<td>11401</td>
</tr>
<tr>
<td>8</td>
<td>life expectancy.sh.</td>
<td>26841</td>
</tr>
<tr>
<td>9</td>
<td>(survival rate or survival rates).sh.</td>
<td>139144</td>
</tr>
<tr>
<td>10</td>
<td>quality adjusted life year.sh.</td>
<td>12812</td>
</tr>
<tr>
<td>11</td>
<td>1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10</td>
<td>774369</td>
</tr>
<tr>
<td>12</td>
<td>average.sh.</td>
<td>234</td>
</tr>
<tr>
<td>13</td>
<td>(inequalities or inequalities in health or inequality).sh.</td>
<td>133</td>
</tr>
<tr>
<td>14</td>
<td>variation.sh.</td>
<td>19</td>
</tr>
<tr>
<td>15</td>
<td>differences.sh.</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>(disparities or disparity).sh.</td>
<td>25</td>
</tr>
<tr>
<td>17</td>
<td>(geographical variation or geographical variations).sh.</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Count</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>18</td>
<td>indicator.sh.</td>
<td>920</td>
</tr>
<tr>
<td>19</td>
<td>statistics.sh.</td>
<td>199830</td>
</tr>
<tr>
<td>20</td>
<td>distribution.sh.</td>
<td>27</td>
</tr>
<tr>
<td>21</td>
<td>probability.sh.</td>
<td>48995</td>
</tr>
<tr>
<td>22</td>
<td>(case control or case control studies or case control study).sh.</td>
<td>78150</td>
</tr>
<tr>
<td>23</td>
<td>(trend or trend analysis or trend study).sh.</td>
<td>11595</td>
</tr>
<tr>
<td>24</td>
<td>12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23</td>
<td>334081</td>
</tr>
<tr>
<td>25</td>
<td>explanation.sh.</td>
<td>5</td>
</tr>
<tr>
<td>26</td>
<td>(causal analysis or &quot;causality/causes&quot; or cause or cause specific mortality or causes).sh.</td>
<td>38</td>
</tr>
<tr>
<td>27</td>
<td>(comparative or comparative analyses or comparative analysis).sh.</td>
<td>14</td>
</tr>
<tr>
<td>28</td>
<td>(determinant or determinants or &quot;determinants of health&quot;).sh.</td>
<td>15</td>
</tr>
<tr>
<td>29</td>
<td>(theories or theory).sh.</td>
<td>23830</td>
</tr>
<tr>
<td>30</td>
<td>concept.sh.</td>
<td>3</td>
</tr>
<tr>
<td>31</td>
<td>hypothesis.sh.</td>
<td>106067</td>
</tr>
<tr>
<td>32</td>
<td>factor.sh.</td>
<td>1</td>
</tr>
<tr>
<td>33</td>
<td>25 or 26 or 27 or 28 or 29 or 30 or 31 or 32</td>
<td>129113</td>
</tr>
<tr>
<td>34</td>
<td>(mortality* or death* die or dying or &quot;life expectancy&quot; or &quot;expectation of life&quot; or &quot;survival rate&quot; or fatal* or &quot;health outcome&quot; or &quot;health status&quot; or &quot;self-assessed health&quot; or &quot;self-perceived health&quot; or &quot;years of life lost&quot;).af.</td>
<td>1050589</td>
</tr>
<tr>
<td>35</td>
<td>(mortality* or death* die or dying or &quot;life expectancy&quot; or &quot;expectation of life&quot; or &quot;survival rate&quot; or fatal* or &quot;health outcome&quot; or &quot;health status&quot; or &quot;self-assessed health&quot; or &quot;self-perceived health&quot; or &quot;years of life lost&quot;).ti,ab.</td>
<td>721672</td>
</tr>
<tr>
<td>36</td>
<td>(mortality* or death* die or dying or &quot;life expectancy&quot; or &quot;expectation of life&quot; or &quot;survival rate&quot; or fatal* or &quot;health outcome&quot; or &quot;health status&quot; or &quot;self-assessed health&quot; or &quot;self-perceived health&quot; or &quot;years of life lost&quot;).ti.</td>
<td>99340</td>
</tr>
<tr>
<td>37</td>
<td>(Excess* or &quot;above expect*&quot; or &quot;above average&quot; or extreme or premature or ineqalit* or diverg* or variation or inordinate or differen* or disparit* or &quot;geographical patterning&quot; or younger).af.</td>
<td>4712074</td>
</tr>
<tr>
<td>38</td>
<td>(Excess* or &quot;above expect*&quot; or &quot;above average&quot; or extreme or premature or ineqalit* or diverg* or variation or inordinate or differen* or disparit* or &quot;geographical patterning&quot; or younger).ti,ab.</td>
<td>4293292</td>
</tr>
<tr>
<td>39</td>
<td>(Excess* or &quot;above expect*&quot; or &quot;above average&quot; or extreme or premature or ineqalit* or diverg* or variation or inordinate or</td>
<td>461737</td>
</tr>
<tr>
<td></td>
<td>differen* or disparit* or &quot;geographical patterning&quot; or younger).ti.</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>40</td>
<td>(indicator* or statistic* or data or distribution or probability or &quot;case control&quot; or trend*).af.</td>
<td>4298891</td>
</tr>
<tr>
<td>41</td>
<td>(indicator* or statistic* or data or distribution or probability or &quot;case control&quot; or trend*).ti.</td>
<td>266559</td>
</tr>
<tr>
<td>42</td>
<td>(high* adj3 (prevalence or incidence or amount* or level* or average* or rate*)).ti.</td>
<td>909177</td>
</tr>
<tr>
<td>43</td>
<td>(high* adj3 (prevalence or incidence or amount* or level* or average* or rate*)).ti,ab.</td>
<td>879126</td>
</tr>
<tr>
<td>44</td>
<td>(high* adj3 (prevalence or incidence or amount* or level* or average* or rate*)).ti.</td>
<td>27796</td>
</tr>
<tr>
<td>45</td>
<td>(explanation* or caus* or compar* or determinant or origin or reason or effect or relationship or theory or theories or concept* or hypothesis or notion* or factor*).af.</td>
<td>8605618</td>
</tr>
<tr>
<td>46</td>
<td>(explanation* or caus* or compar* or determinant or origin or reason or effect or relationship or theory or theories or concept* or hypothesis or notion* or factor*).ti,ab.</td>
<td>7670601</td>
</tr>
<tr>
<td>47</td>
<td>(explanation* or caus* or compar* or determinant or origin or reason or effect or relationship or theory or theories or concept* or hypothesis or notion* or factor*).ti.</td>
<td>1488258</td>
</tr>
<tr>
<td>48</td>
<td>(Scotland or Scottish or Britain or UK or &quot;United Kingdom&quot; or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen).af.</td>
<td>4043147</td>
</tr>
<tr>
<td>49</td>
<td>11 and 24 and 48</td>
<td>8968</td>
</tr>
<tr>
<td>50</td>
<td>11 and 24 and 33 and 49</td>
<td>81</td>
</tr>
<tr>
<td>51</td>
<td>11 and 24 and 46 and 48</td>
<td>6253</td>
</tr>
<tr>
<td>52</td>
<td>11 and 24 and 47 and 48</td>
<td>1252</td>
</tr>
<tr>
<td>53</td>
<td>(Scotland or Scottish or Britain or UK or &quot;United Kingdom&quot; or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen).ti,ab.</td>
<td>275159</td>
</tr>
<tr>
<td>54</td>
<td>11 and 24 and 47 and 53</td>
<td>244</td>
</tr>
<tr>
<td>55</td>
<td>11 and 39 and 48</td>
<td>5862</td>
</tr>
<tr>
<td>56</td>
<td>11 and 39 and 48</td>
<td>891</td>
</tr>
<tr>
<td>57</td>
<td>11 and 33 and 39 and 48</td>
<td>85</td>
</tr>
<tr>
<td>58</td>
<td>11 and 39 and 47 and 48</td>
<td>861</td>
</tr>
<tr>
<td>59</td>
<td>11 and 39 and 47 and 53</td>
<td>142</td>
</tr>
<tr>
<td>60</td>
<td>11 and 41 and 48</td>
<td>5864</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>11 and 41 and 47 and 53</td>
<td>134</td>
</tr>
<tr>
<td>62</td>
<td>11 and 41 and 46 and 53</td>
<td>773</td>
</tr>
<tr>
<td>63</td>
<td>11 and 44 and 48</td>
<td>501</td>
</tr>
<tr>
<td>64</td>
<td>11 and 44 and 53</td>
<td>71</td>
</tr>
<tr>
<td>65</td>
<td>24 and 33 and 36</td>
<td>62</td>
</tr>
<tr>
<td>66</td>
<td>24 and 36 and 48</td>
<td>2170</td>
</tr>
<tr>
<td>67</td>
<td>24 and 36 and 46 and 48</td>
<td>1670</td>
</tr>
<tr>
<td>68</td>
<td>24 and 36 and 47 and 48</td>
<td>398</td>
</tr>
<tr>
<td>69</td>
<td>24 and 36 and 46 and 53</td>
<td>307</td>
</tr>
<tr>
<td>70</td>
<td>36 and 39 and 48</td>
<td>1714</td>
</tr>
<tr>
<td>71</td>
<td>((mortality* or death* die or dying or &quot;life expectancy&quot; or &quot;expectation of life&quot; or &quot;survival rate&quot; or fatal* or &quot;health outcome&quot; or &quot;health status&quot; or &quot;self-assessed health&quot; or &quot;self-perceived health&quot; or &quot;years of life lost&quot;) adj3 (Excess* or &quot;above expect*&quot; or &quot;above average&quot; or extreme or premature or inequalit* or diverg* or variation or inordinate or differen* or disparit* or &quot;geographical patterning&quot; or younger)).ti,ab.</td>
<td>26227</td>
</tr>
<tr>
<td>72</td>
<td>((mortality* or death* die or dying or &quot;life expectancy&quot; or &quot;expectation of life&quot; or &quot;survival rate&quot; or fatal* or &quot;health outcome&quot; or &quot;health status&quot; or &quot;self-assessed health&quot; or &quot;self-perceived health&quot; or &quot;years of life lost&quot;) adj3 (Excess* or &quot;above expect*&quot; or &quot;above average&quot; or extreme or premature or inequalit* or diverg* or variation or inordinate or differen* or disparit* or &quot;geographical patterning&quot; or younger)).ti.</td>
<td>2588</td>
</tr>
<tr>
<td>73</td>
<td>48 and 72</td>
<td>965</td>
</tr>
<tr>
<td>74</td>
<td>53 and 72</td>
<td>155</td>
</tr>
<tr>
<td>75</td>
<td>46 and 73</td>
<td>724</td>
</tr>
<tr>
<td>76</td>
<td>47 and 73</td>
<td>144</td>
</tr>
<tr>
<td>77</td>
<td>36 and 44 and 48</td>
<td>146</td>
</tr>
<tr>
<td>78</td>
<td>50 or 54 or 57 or 59 or 61 or 64 or 65 or 68 or 69 or 74 or 76 or 77</td>
<td>1647</td>
</tr>
<tr>
<td>79</td>
<td>(&quot;Scottish effect&quot; or &quot;Glasgow effect&quot; or &quot;Scotland effect&quot;).af.</td>
<td>22</td>
</tr>
<tr>
<td>80</td>
<td>78 or 79</td>
<td>1664</td>
</tr>
<tr>
<td>81</td>
<td>11 and 24 and 33</td>
<td>371</td>
</tr>
<tr>
<td>82</td>
<td>11 and 24 and 47</td>
<td>4511</td>
</tr>
<tr>
<td>83</td>
<td>11 and 33 and 41</td>
<td>269</td>
</tr>
<tr>
<td>84</td>
<td>11 and 33 and 39</td>
<td>361</td>
</tr>
<tr>
<td></td>
<td>11 and 24 and 44</td>
<td>11 and 39 and 47</td>
</tr>
<tr>
<td>---</td>
<td>-----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>86</td>
<td>((Excess* or &quot;above expect*&quot; or &quot;above average&quot; or extreme or premature or inequalit* or diverg* or variation or inordinate or differen* or disparit* or &quot;geographical patterning&quot; or younger) adj3 (explanation* or caus* or compar* or determinant or origin or reason or effect or relationship or theory or theories or concept* or hypothesis or notion* or factor*)).ti.</td>
<td></td>
</tr>
<tr>
<td>87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>88</td>
<td>((Excess* or &quot;above expect*&quot; or &quot;above average&quot; or extreme or premature or inequalit* or diverg* or variation or inordinate or differen* or disparit* or &quot;geographical patterning&quot; or younger) adj5 (explanation* or caus* or compar* or determinant or origin or reason or effect or relationship or theory or theories or concept* or hypothesis or notion* or factor*)).ti.</td>
<td></td>
</tr>
<tr>
<td>89</td>
<td>11 and 88</td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>11 and 87</td>
<td></td>
</tr>
<tr>
<td>91</td>
<td>24 and 36 and 47</td>
<td></td>
</tr>
<tr>
<td>92</td>
<td>((mortality* or death* die or dying or &quot;life expectancy&quot; or &quot;expectation of life&quot; or &quot;survival rate&quot; or fatal* or &quot;health outcome&quot; or &quot;health status&quot; or &quot;self-assessed health&quot; or &quot;self-perceived health&quot; or &quot;years of life lost&quot;) adj3 (explanation* or caus* or compar* or determinant or origin or reason or effect or relationship or theory or theories or concept* or hypothesis or notion* or factor*)).ti.</td>
<td></td>
</tr>
<tr>
<td>93</td>
<td>24 and 92</td>
<td></td>
</tr>
<tr>
<td>94</td>
<td>33 and 71</td>
<td></td>
</tr>
<tr>
<td>95</td>
<td>33 and 72</td>
<td></td>
</tr>
<tr>
<td>96</td>
<td>47 and 72</td>
<td></td>
</tr>
<tr>
<td>97</td>
<td>39 and 87</td>
<td></td>
</tr>
<tr>
<td>98</td>
<td>((mortality* or death* die or dying or &quot;life expectancy&quot; or &quot;expectation of life&quot; or &quot;survival rate&quot; or fatal* or &quot;health outcome&quot; or &quot;health status&quot; or &quot;self-assessed health&quot; or &quot;self-perceived health&quot; or &quot;years of life lost&quot;) adj3 (explanation* or caus* or compar* or determinant or origin or reason or effect or relationship or theory or theories or concept* or hypothesis or notion* or factor*)).ti.</td>
<td></td>
</tr>
<tr>
<td>99</td>
<td>39 and 98</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>41 and 98</td>
<td></td>
</tr>
<tr>
<td>101</td>
<td>44 and 98</td>
<td></td>
</tr>
<tr>
<td>102</td>
<td>36 and 41 and 47</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Search terms</td>
<td>Result</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>103</td>
<td>((mortality* or death* die or dying or &quot;life expectancy&quot; or &quot;expectation of life&quot; or &quot;survival rate&quot; or fatal* or &quot;health outcome&quot; or &quot;health status&quot; or &quot;self-assessed health&quot; or &quot;self-perceived health&quot; or &quot;years of life lost&quot;) adj3 (indicator* or statistic* or data or distribution or probability or &quot;case control&quot; or trend*)).ti.</td>
<td>2309</td>
</tr>
<tr>
<td>104</td>
<td>47 and 103</td>
<td>302</td>
</tr>
<tr>
<td>105</td>
<td>36 and 44 and 47</td>
<td>88</td>
</tr>
<tr>
<td>106</td>
<td>81 or 83 or 84 or 85 or 93 or 94 or 95 or 96 or 99 or 100 or 101 or 104 or 105</td>
<td>2938</td>
</tr>
<tr>
<td>107</td>
<td>80 or 106</td>
<td>4008</td>
</tr>
<tr>
<td></td>
<td><strong>ASSIA</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Search</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Search terms</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S68</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ab((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*)) AND (((SU.EXACT(&quot;Maternal mortality&quot;) OR SU.EXACT(&quot;Infant mortality&quot;) OR SU.EXACT(&quot;Infant mortality rate&quot;) OR SU.EXACT(&quot;Mortality rate&quot;) OR SU.EXACT(&quot;Mortality&quot;) OR SU.EXACT(&quot;Premature mortality&quot;) OR SU.EXACT(&quot;Child mortality&quot;) OR SU.EXACT(&quot;Sudden death&quot;) OR SU.EXACT(&quot;Death&quot;)) OR (SU.EXACT(&quot;Years of potential life lost&quot;) OR SU.EXACT(&quot;Life expectancy&quot;) OR SU.EXACT(&quot;Health status&quot;))) AND (SU.EXACT(&quot;Geographic variations&quot;) OR SU.EXACT(&quot;Trends&quot;) OR SU.EXACT(&quot;Non-normal</td>
<td>509°</td>
</tr>
</tbody>
</table>
variations") OR SU.EXACT("Regional variations") OR SU.EXACT("Extremes") OR SU.EXACT("Inequalities") OR SU.EXACT("Data") OR SU.EXACT("Health indicators") OR SU.EXACT("Disparity") OR SU.EXACT("Probability") OR SU.EXACT("Case controlled studies") OR SU.EXACT("Incidence") OR SU.EXACT("Prevalence") OR SU.EXACT("Averages") OR SU.EXACT("Statistics") OR SU.EXACT("Indicators") OR SU.EXACT("Distribution"))

Databases:
Applied Social Sciences Index and Abstracts (ASSIA)

S67

(ti((mortality* OR death* die OR dying OR "life expectancy" OR "expectation of life" OR "survival rate" OR fatal* OR "health outcome" OR "health status" OR "self-assessed health" OR "self-perceived health" OR "years of life lost")) AND ab(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)) AND ti((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*))) OR (ti((mortality* OR death* die OR dying OR "life expectancy" OR "expectation of life" OR "survival rate" OR fatal* OR "health outcome" OR "health status" OR "self-assessed health" OR "self-perceived health" OR "years of life lost")) AND ti(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*))) OR (ti((mortality* OR death* die OR dying OR "life expectancy" OR "expectation of life" OR "survival rate" OR fatal* OR "health outcome" OR "health status" OR "self-assessed health" OR "self-perceived health" OR "years of life lost")) AND ti((Excess* OR "above expect*" OR "above average" OR "life expectancy" OR "expectation of life" OR "survival rate" OR fatal* OR "health outcome" OR "health status" OR "self-assessed health" OR "self-perceived health" OR "years of life lost")) AND ti((Excess* OR "above expect*" OR "above average" OR extreme OR premature OR inordinat OR differen* OR disparit* OR "geographical patterning" OR younger)) AND ab((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*)))

2334°
life" OR "survival rate" OR fatal* OR "health outcome" OR "health status" OR "self-assessed health" OR "self-perceived health" OR "years of life lost") AND ab((Excess* OR "above expectancy" OR "above average" OR extreme OR premature OR inegalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR "geographical patterning" OR younger)) AND ti((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*))))) OR (ti((mortality* OR death* die OR dying OR "life expectancy" OR "expectation of life" OR "survival rate" OR fatal* OR "health outcome" OR "health status" OR "self-assessed health" OR "self-perceived health" OR "years of life lost")) AND ab(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)) AND (SU.EXACT("Theory") OR SU.EXACT("Effect size") OR SU.EXACT("Causes") OR SU.EXACT("Long term effects") OR SU.EXACT("Causal reasoning") OR SU.EXACT("Causality") OR SU.EXACT("Factor analysis") OR SU.EXACT("Determinants") OR SU.EXACT("Conceptual effects") OR SU.EXACT("Comparative studies") OR SU.EXACT("Concept formation") OR SU.EXACT("Explanations") OR SU.EXACT("Comparative research") OR SU.EXACT("Causal attributions") OR SU.EXACT("Mortality salience effects")) OR (ab((mortality* OR death* die OR dying OR "life expectancy" OR "expectation of life" OR "survival rate" OR fatal* OR "health outcome" OR "health status" OR "self-assessed health" OR "self-perceived health" OR "years of life lost")) AND ab(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)) AND (SU.EXACT("Theory") OR SU.EXACT("Effect size") OR SU.EXACT("Causes") OR SU.EXACT("Long term effects") OR SU.EXACT("Causal reasoning") OR SU.EXACT("Causality") OR SU.EXACT("Factor analysis") OR SU.EXACT("Determinants") OR SU.EXACT("Conceptual effects") OR SU.EXACT("Comparative studies") OR SU.EXACT("Concept formation") OR SU.EXACT("Explanations") OR SU.EXACT("Comparative research") OR SU.EXACT("Causal attributions") OR SU.EXACT("Mortality salience effects")) OR (ab((mortality* OR death* die OR dying OR "life expectancy" OR "expectation of life" OR "survival rate" OR fatal* OR "health outcome" OR "health status" OR "self-assessed health" OR "self-perceived health" OR "years of life lost")) AND ab(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)) AND (SU.EXACT("Theory") OR SU.EXACT("Effect size") OR SU.EXACT("Causes") OR SU.EXACT("Long term effects") OR SU.EXACT("Causal reasoning") OR SU.EXACT("Causality") OR SU.EXACT("Factor analysis") OR SU.EXACT("Determinants") OR SU.EXACT("Conceptual effects") OR SU.EXACT("Comparative studies") OR SU.EXACT("Concept formation") OR SU.EXACT("Explanations") OR SU.EXACT("Comparative research") OR SU.EXACT("Causal attributions") OR SU.EXACT("Mortality salience effects")) OR (ab((mortality* OR death* die OR dying OR "life expectancy" OR "expectation of life" OR "survival rate" OR fatal* OR "health outcome" OR "health status" OR "self-assessed health" OR "self-perceived health" OR "years of life lost")) AND ti((indicator* OR statistic* OR data OR distribution OR probability OR "case control" OR trend*))) AND
SU.EXACT("Years of potential life lost") OR SU.EXACT("Life expectancy") OR SU.EXACT("Health status").) AND ti((indicator* OR statistic* OR data OR distribution OR probability OR "case control" OR trend*)) AND ab((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*)) OR ((SU.EXACT("Maternal mortality") OR SU.EXACT("Infant mortality") OR SU.EXACT("Infant mortality rate") OR SU.EXACT("Mortality rate") OR SU.EXACT("Mortality") OR SU.EXACT("Premature mortality") OR SU.EXACT("Child mortality") OR SU.EXACT("Sudden death") OR SU.EXACT("Death").) OR (SU.EXACT("Years of potential life lost") OR SU.EXACT("Life expectancy") OR SU.EXACT("Health status").) AND ti((Excess* OR "above expect*" OR "above average" OR extreme OR premature OR inequalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR "geographical patterning" OR younger)) AND ti((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*).) OR ((SU.EXACT("Maternal mortality") OR SU.EXACT("Infant mortality") OR SU.EXACT("Infant mortality rate") OR SU.EXACT("Mortality rate") OR SU.EXACT("Mortality") OR SU.EXACT("Premature mortality") OR SU.EXACT("Child mortality") OR SU.EXACT("Sudden death") OR SU.EXACT("Death").) OR (SU.EXACT("Years of potential life lost") OR SU.EXACT("Life expectancy") OR SU.EXACT("Health status").) AND (SU.EXACT("Theory") OR SU.EXACT("Effect size") OR SU.EXACT("Causes") OR SU.EXACT("Long term effects") OR SU.EXACT("Causal reasoning") OR SU.EXACT("Causality") OR SU.EXACT("Factor analysis") OR SU.EXACT("Determinants") OR SU.EXACT("Conceptual effects") OR SU.EXACT("Comparative studies") OR SU.EXACT("Concept formation") OR SU.EXACT("Explanations") OR SU.EXACT("Comparative research") OR SU.EXACT("Causal attributions") OR SU.EXACT("Mortality salience effects").)) OR ((SU.EXACT("Maternal mortality") OR SU.EXACT("Infant mortality") OR SU.EXACT("Infant mortality rate") OR SU.EXACT("Mortality rate") OR SU.EXACT("Mortality") OR SU.EXACT("Premature mortality") OR SU.EXACT("Child mortality") OR SU.EXACT("Sudden death") OR SU.EXACT("Death").) OR (SU.EXACT("Years of potential life lost") OR
<p>| S66 | ti((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ab(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)) AND ti((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*)) AND ab((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*)) | 119° |
| S65 | ti((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ti(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)) AND ti((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*)) AND ab((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*)) | 13° |
| S64 | ti((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ab(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)) AND ab((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*)) AND ab((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*)) | 415° |</p>
<table>
<thead>
<tr>
<th>Page</th>
<th>Query</th>
<th>Databases</th>
</tr>
</thead>
<tbody>
<tr>
<td>S63</td>
<td><code>ti((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ti((indicator* OR statistic* OR data OR distribution OR probability OR &quot;case control&quot; OR trend*)) AND ab((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*))</code></td>
<td>Applied Social Sciences Index and Abstracts (ASSIA)</td>
</tr>
<tr>
<td>S62</td>
<td><code>(ti((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ti((Excess* OR &quot;above expect*&quot; OR &quot;above average&quot; OR extreme OR premature OR inequalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR &quot;geographical patterning&quot; OR younger)) AND ab((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*)) OR (ti((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ab((Excess* OR &quot;above expect*&quot; OR &quot;above average&quot; OR extreme OR premature OR inequalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR &quot;geographical patterning&quot; OR younger)) AND ti((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*))</code></td>
<td>Applied Social Sciences Index and Abstracts (ASSIA)</td>
</tr>
<tr>
<td>S61</td>
<td><code>ti((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ab((Excess* OR &quot;above expect*&quot; OR &quot;above average&quot; OR extreme OR premature OR inequalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR &quot;geographical patterning&quot; OR younger)) AND ti((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*))</code></td>
<td>474°</td>
</tr>
<tr>
<td>S60</td>
<td>Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>ti((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ti((Excess* OR &quot;above expect*&quot; OR &quot;above average&quot; OR extreme OR premature OR inordinate OR differen* OR disparit* OR &quot;geographical patterning&quot; OR younger)) AND ab((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*))</td>
<td></td>
<td></td>
</tr>
<tr>
<td>497°</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S59</th>
<th>Databases: Applied Social Sciences Index and Abstracts (ASSIA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ti((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ab((Excess* OR &quot;above expect*&quot; OR &quot;above average&quot; OR extreme OR premature OR inordinate OR differen* OR disparit* OR &quot;geographical patterning&quot; OR younger)) AND ab((high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)) AND (SU.EXACT(&quot;Theory&quot;) OR SU.EXACT(&quot;Effect size&quot;) OR SU.EXACT(&quot;Causes&quot;) OR SU.EXACT(&quot;Long term effects&quot;) OR SU.EXACT(&quot;Causal reasoning&quot;) OR SU.EXACT(&quot;Causality&quot;) OR SU.EXACT(&quot;Factor analysis&quot;) OR SU.EXACT(&quot;Determinants&quot;) OR SU.EXACT(&quot;Conceptual effects&quot;) OR SU.EXACT(&quot;Comparative studies&quot;) OR SU.EXACT(&quot;Concept formation&quot;) OR SU.EXACT(&quot;Explanations&quot;) OR SU.EXACT(&quot;Comparative research&quot;) OR SU.EXACT(&quot;Causal attributions&quot;) OR SU.EXACT(&quot;Mortality salience effects&quot;))</td>
<td></td>
</tr>
<tr>
<td>1534°</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S58</th>
<th>Databases:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ti((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ab((high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)) AND (SU.EXACT(&quot;Theory&quot;) OR SU.EXACT(&quot;Effect size&quot;) OR SU.EXACT(&quot;Causes&quot;) OR SU.EXACT(&quot;Long term effects&quot;) OR SU.EXACT(&quot;Causal reasoning&quot;) OR SU.EXACT(&quot;Causality&quot;) OR SU.EXACT(&quot;Factor analysis&quot;) OR SU.EXACT(&quot;Determinants&quot;) OR SU.EXACT(&quot;Conceptual effects&quot;) OR SU.EXACT(&quot;Comparative studies&quot;) OR SU.EXACT(&quot;Concept formation&quot;) OR SU.EXACT(&quot;Explanations&quot;) OR SU.EXACT(&quot;Comparative research&quot;) OR SU.EXACT(&quot;Causal attributions&quot;) OR SU.EXACT(&quot;Mortality salience effects&quot;))</td>
<td></td>
</tr>
<tr>
<td>11°</td>
<td></td>
</tr>
<tr>
<td>S57</td>
<td>( \text{ab((mortality* OR death* OR die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ab(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)) AND (SU.EXACT(&quot;Theory&quot;) OR SU.EXACT(&quot;Effect size&quot;) OR SU.EXACT(&quot;Causes&quot;) OR SU.EXACT(&quot;Long term effects&quot;) OR SU.EXACT(&quot;Causal reasoning&quot;) OR SU.EXACT(&quot;Causality&quot;) OR SU.EXACT(&quot;Factor analysis&quot;) OR SU.EXACT(&quot;Determinants&quot;) OR SU.EXACT(&quot;Conceptual effects&quot;) OR SU.EXACT(&quot;Comparative studies&quot;) OR SU.EXACT(&quot;Concept formation&quot;) OR SU.EXACT(&quot;Explanations&quot;) OR SU.EXACT(&quot;Comparative research&quot;) OR SU.EXACT(&quot;Causal attributions&quot;) OR SU.EXACT(&quot;Mortality salience effects&quot;)))}</td>
</tr>
<tr>
<td>S56</td>
<td>( \text{ab((mortality* OR death* OR die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ti((indicator* OR statistic* OR data OR distribution OR probability OR &quot;case control&quot; OR trend*)) AND (SU.EXACT(&quot;Theory&quot;) OR SU.EXACT(&quot;Effect size&quot;) OR SU.EXACT(&quot;Causes&quot;) OR SU.EXACT(&quot;Long term effects&quot;) OR SU.EXACT(&quot;Causal reasoning&quot;) OR SU.EXACT(&quot;Causality&quot;) OR SU.EXACT(&quot;Factor analysis&quot;) OR SU.EXACT(&quot;Determinants&quot;) OR SU.EXACT(&quot;Conceptual effects&quot;) OR SU.EXACT(&quot;Comparative studies&quot;) OR SU.EXACT(&quot;Concept formation&quot;) OR SU.EXACT(&quot;Explanations&quot;) OR SU.EXACT(&quot;Comparative research&quot;) OR SU.EXACT(&quot;Causal attributions&quot;) OR SU.EXACT(&quot;Mortality salience effects&quot;)))}</td>
</tr>
<tr>
<td>S55</td>
<td>( \text{ab((mortality* OR death* OR die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ti((Excess* OR &quot;above expect*&quot; OR &quot;above average&quot; OR extreme OR premature OR inequality* OR diverg* OR variation OR inordinate OR differ* OR dispar* OR &quot;geographical patterning&quot; OR younger)) AND (SU.EXACT(&quot;Theory&quot;) OR}</td>
</tr>
</tbody>
</table>
SU.EXACT("Effect size") OR SU.EXACT("Causes") OR
SU.EXACT("Long term effects") OR SU.EXACT("Causal reasoning") OR SU.EXACT("Causality") OR
SU.EXACT("Factor analysis") OR SU.EXACT("Determinants") OR
SU.EXACT("Conceptual effects") OR
SU.EXACT("Comparative studies") OR SU.EXACT("Concept formation") OR SU.EXACT("Explanations") OR
SU.EXACT("Comparative research") OR SU.EXACT("Causal attributions") OR SU.EXACT("Mortality salience effects")

Databases:
Applied Social Sciences Index and Abstracts (ASSIA)
| S52 | ab((mortality* OR death* die OR dying OR "life expectancy" OR "expectation of life" OR "survival rate" OR fatal* OR "health outcome" OR "health status" OR "self-assessed health" OR "self-perceived health" OR "years of life lost")) AND (SU.EXACT("Geographic variations") OR SU.EXACT("Trends") OR SU.EXACT("Non-normal variations") OR SU.EXACT("Regional variations") OR SU.EXACT("Extremes") OR SU.EXACT("Inequalities") OR SU.EXACT("Data") OR SU.EXACT("Health indicators") OR SU.EXACT("Disparity") OR SU.EXACT("Probability") OR SU.EXACT("Case controlled studies") OR SU.EXACT("Incidence") OR SU.EXACT("Prevalence") OR SU.EXACT("Averages") OR SU.EXACT("Statistics") OR SU.EXACT("Indicators") OR SU.EXACT("Distribution")) AND ab((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*)) Databases: Applied Social Sciences Index and Abstracts (ASSIA) |
| S51 | ((SU.EXACT("Maternal mortality") OR SU.EXACT("Infant mortality") OR SU.EXACT("Infant mortality rate") OR SU.EXACT("Mortality rate") OR SU.EXACT("Mortality") OR SU.EXACT("Premature mortality") OR SU.EXACT("Child mortality") OR SU.EXACT("Sudden death") OR SU.EXACT("Death")) OR (SU.EXACT("Years of potential life lost") OR SU.EXACT("Life expectancy") OR SU.EXACT("Health status"))) AND ab(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)) AND ti((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*)) Databases: Applied Social Sciences Index and Abstracts (ASSIA) |
| S50 | ((SU.EXACT("Maternal mortality") OR SU.EXACT("Infant mortality") OR SU.EXACT("Infant mortality rate") OR SU.EXACT("Mortality rate") OR SU.EXACT("Mortality") OR SU.EXACT("Premature mortality") OR SU.EXACT("Child mortality") OR SU.EXACT("Sudden death") OR SU.EXACT("Death")) OR (SU.EXACT("Years of potential life lost") OR SU.EXACT("Life expectancy") OR SU.EXACT("Health status"))) AND ab(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)) AND ti((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*)) Databases: Applied Social Sciences Index and Abstracts (ASSIA) |
| S49 | ((SU.EXACT("Maternal mortality") OR SU.EXACT("Infant mortality") OR SU.EXACT("Mortality rate") OR SU.EXACT("Mortality") OR SU.EXACT("Premature mortality") OR SU.EXACT("Child mortality") OR SU.EXACT("Sudden death") OR SU.EXACT("Death"))) OR (SU.EXACT("Years of potential life lost") OR SU.EXACT("Life expectancy")) OR SU.EXACT("Health status")) AND ti(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)) AND ab((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*)) Databases: Applied Social Sciences Index and Abstracts (ASSIA) |
| S48 | ((SU.EXACT("Maternal mortality") OR SU.EXACT("Infant mortality") OR SU.EXACT("Mortality rate") OR SU.EXACT("Mortality") OR SU.EXACT("Premature mortality") OR SU.EXACT("Child mortality") OR SU.EXACT("Sudden death") OR SU.EXACT("Death"))) OR (SU.EXACT("Years of potential life lost") OR SU.EXACT("Life expectancy")) OR SU.EXACT("Health status")) AND ti((indicator* OR statistic* OR data OR distribution OR probability OR "case control" OR trend*)) AND ab((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*)) Databases: Applied Social Sciences Index and Abstracts (ASSIA) |
| S47 | ((SU.EXACT("Maternal mortality") OR SU.EXACT("Infant mortality") OR SU.EXACT("Mortality rate") OR SU.EXACT("Mortality") OR SU.EXACT("Premature mortality") OR SU.EXACT("Child mortality") OR SU.EXACT("Sudden death") OR SU.EXACT("Life expectancy") OR SU.EXACT("Health status"))) AND ab(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)) AND ab((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*)) Databases: Applied Social Sciences Index and Abstracts (ASSIA) |
SU.EXACT("Death") OR (SU.EXACT("Years of potential life lost") OR SU.EXACT("Life expectancy") OR SU.EXACT("Health status")) AND ti((indicator* OR statistic* OR data OR distribution OR probability OR "case control" OR trend*))

Databases:
Applied Social Sciences Index and Abstracts (ASSIA)
<table>
<thead>
<tr>
<th>S43</th>
</tr>
</thead>
<tbody>
<tr>
<td>SU.EXACT(&quot;Death&quot;) OR (SU.EXACT(&quot;Years of potential life lost&quot;) OR SU.EXACT(&quot;Life expectancy&quot;) OR SU.EXACT(&quot;Health status&quot;)) AND ti((Excess* OR &quot;above expect*&quot; OR &quot;above average&quot; OR extreme OR premature OR inegalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR &quot;geographical patterning&quot; OR younger)) AND ab((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*)) Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S42</th>
</tr>
</thead>
<tbody>
<tr>
<td>((SU.EXACT(&quot;Maternal mortality&quot;) OR SU.EXACT(&quot;Infant mortality&quot;) OR SU.EXACT(&quot;Infant mortality rate&quot;) OR SU.EXACT(&quot;Mortality rate&quot;) OR SU.EXACT(&quot;Mortality&quot;) OR SU.EXACT(&quot;Premature mortality&quot;) OR SU.EXACT(&quot;Child mortality&quot;) OR SU.EXACT(&quot;Sudden death&quot;) OR SU.EXACT(&quot;Death&quot;)) OR (SU.EXACT(&quot;Years of potential life lost&quot;) OR SU.EXACT(&quot;Life expectancy&quot;) OR SU.EXACT(&quot;Health status&quot;))) AND ab((Excess* OR &quot;above expect*&quot; OR &quot;above average&quot; OR extreme OR premature OR inegalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR &quot;geographical patterning&quot; OR younger)) AND ab((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*))</td>
</tr>
</tbody>
</table>

Databases: Applied Social Sciences Index and Abstracts (ASSIA) |

<table>
<thead>
<tr>
<th>S41</th>
</tr>
</thead>
<tbody>
<tr>
<td>((SU.EXACT(&quot;Maternal mortality&quot;) OR SU.EXACT(&quot;Infant mortality&quot;) OR SU.EXACT(&quot;Infant mortality rate&quot;) OR SU.EXACT(&quot;Mortality rate&quot;) OR SU.EXACT(&quot;Mortality&quot;) OR SU.EXACT(&quot;Premature mortality&quot;) OR SU.EXACT(&quot;Child mortality&quot;) OR SU.EXACT(&quot;Sudden death&quot;) OR SU.EXACT(&quot;Death&quot;)) OR (SU.EXACT(&quot;Years of potential life lost&quot;) OR SU.EXACT(&quot;Life expectancy&quot;) OR SU.EXACT(&quot;Health status&quot;))) AND ab((Excess* OR &quot;above expect*&quot; OR &quot;above average&quot; OR extreme OR premature OR inegalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR &quot;geographical patterning&quot; OR younger))</td>
</tr>
</tbody>
</table>

Databases: Applied Social Sciences Index and Abstracts (ASSIA) |

3302° 4279° 306°
| S40 | ((SU.EXACT("Maternal mortality") OR SU.EXACT("Infant mortality") OR SU.EXACT("Infant mortality rate") OR SU.EXACT("Mortality rate") OR SU.EXACT("Mortality") OR SU.EXACT("Premature mortality") OR SU.EXACT("Child mortality") OR SU.EXACT("Sudden death") OR SU.EXACT("Death")) OR (SU.EXACT("Years of potential life lost") OR SU.EXACT("Life expectancy") OR SU.EXACT("Health status"))) AND (SU.EXACT("Geographic variations") OR SU.EXACT("Trends") OR SU.EXACT("Non-normal variations") OR SU.EXACT("Regional variations") OR SU.EXACT("Extremes") OR SU.EXACT("Inequalities") OR SU.EXACT("Data") OR SU.EXACT("Health indicators") OR SU.EXACT("Disparity") OR SU.EXACT("Probability") OR SU.EXACT("Case controlled studies") OR SU.EXACT("Incidence") OR SU.EXACT("Prevalence") OR SU.EXACT("Averages") OR SU.EXACT("Statistics") OR SU.EXACT("Indicators") OR SU.EXACT("Distribution"))
Databases:
Applied Social Sciences Index and Abstracts (ASSIA) |
| S39 | (ab((mortality* OR death* die OR dying OR "life expectancy" OR "expectation of life" OR "survival rate" OR fatal* OR "health outcome" OR "health status" OR "self-assessed health" OR "self-perceived health" OR "years of life lost") AND ti(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)) AND (Scotland or Scottish or Britain or UK or "United Kingdom" or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen)) OR (ti(mortality* OR death* die OR dying OR "life expectancy" OR "expectation of life" OR "survival rate" OR fatal* OR "health outcome" OR "health status" OR "self- | 701° |

Databases:
Applied Social Sciences Index and Abstracts (ASSIA) |

S39 | (ab((mortality* OR death* die OR dying OR "life expectancy" OR "expectation of life" OR "survival rate" OR fatal* OR "health outcome" OR "health status" OR "self-assessed health" OR "self-perceived health" OR "years of life lost") AND ti(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)) AND (Scotland or Scottish or Britain or UK or "United Kingdom" or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen)) OR (ti(mortality* OR death* die OR dying OR "life expectancy" OR "expectation of life" OR "survival rate" OR fatal* OR "health outcome" OR "health status" OR "self- | 1913° |
assessed health" OR "self-perceived health" OR "years of life lost") AND ab(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)) AND (Scotland or Scottish or Britain or UK or "United Kingdom" or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen)) OR (ti(mortality* OR death* die OR dying OR "life expectancy" OR "expectation of life" OR "survival rate" OR fatal* OR "health outcome" OR "health status" OR "self-assessed health" OR "self-perceived health" OR "years of life lost") AND ti((Excess* OR "above expect*" OR "above average" OR extreme OR premature OR inequalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR "geographical patterning" OR younger)) AND (Scotland or Scottish or Britain or UK or "United Kingdom" or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen)) OR ((ti((mortality* OR death* die OR dying OR "life expectancy" OR "expectation of life" OR "survival rate" OR fatal* OR "health outcome" OR "health status" OR "self-assessed health" OR "self-perceived health" OR "years of life lost") AND ab((Excess* OR "above expect*" OR "above average" OR extreme OR premature OR inequalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR "geographical patterning" OR younger)) AND (Scotland or Scottish or Britain or UK or "United Kingdom" or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen)) OR (ab((mortality* OR death* die OR dying OR "life expectancy" OR "expectation of life" OR "survival rate" OR fatal* OR "health outcome" OR "health status" OR "self-assessed health" OR "self-perceived health" OR "years of life lost") AND ti((Excess* OR "above expect*" OR "above average" OR extreme OR premature OR inequalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR "geographical patterning" OR younger)) AND (Scotland or Scottish or Britain or UK or "United Kingdom" or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen)) OR (ab((mortality* OR death* die OR dying OR "life expectancy" OR "expectation of life" OR "survival rate" OR fatal* OR "health outcome" OR "health status" OR "self-assessed health" OR "self-perceived health" OR "years of life lost"))) AND (SU.EXACT("Geographic variations") OR SU.EXACT("Trends") OR SU.EXACT("Non-normal variations") OR SU.EXACT("Regional variations") OR SU.EXACT("Extremes") OR SU.EXACT("Inequalities") OR SU.EXACT("Data") OR SU.EXACT("Health indicators") OR SU.EXACT("Disparity") OR SU.EXACT("Probability") OR SU.EXACT("Case controlled studies")) OR
SU.EXACT("Incidence") OR SU.EXACT("Prevalence") OR
SU.EXACT("Averages") OR SU.EXACT("Statistics") OR
SU.EXACT("Indicators") OR SU.EXACT("Distribution")
AND (Scotland or Scottish or Britain or UK or "United
Kingdom" or Caledonian or British or Glasgow or Clyde* or
Strathclyde or Edinburgh or Dundee or Aberdeen)) OR
((SU.EXACT("Maternal mortality") OR SU.EXACT("Infant
mortality") OR SU.EXACT("Infant mortality rate") OR
SU.EXACT("Mortality rate") OR SU.EXACT("Mortality") OR
SU.EXACT("Premature mortality") OR SU.EXACT("Child
mortality") OR SU.EXACT("Sudden death") OR
SU.EXACT("Death")) OR (SU.EXACT("Years of potential life
lost") OR SU.EXACT("Life expectancy") OR
SU.EXACT("Health status").)) AND ti(high* NEAR/3
(prevalence OR incidence OR amount* OR level* OR average*
rate*) AND (Scotland or Scottish or Britain or UK or
"United Kingdom" or Caledonian or British or Glasgow or
Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen))
OR (((SU.EXACT("Maternal mortality") OR
SU.EXACT("Infant mortality") OR SU.EXACT("Infant
mortality rate") OR SU.EXACT("Mortality rate") OR
SU.EXACT("Mortality") OR SU.EXACT("Premature
mortality") OR SU.EXACT("Child mortality") OR
SU.EXACT("Sudden death") OR SU.EXACT("Death")) OR
(SU.EXACT("Years of potential life lost") OR
SU.EXACT("Life expectancy") OR SU.EXACT("Health
status").)) AND ab(high* NEAR/3 (prevalence OR incidence OR
amount* OR level* OR average* OR rate*) AND (Scotland or
Scottish or Britain or UK or "United Kingdom" or Caledonian or
British or Glasgow or Clyde* or Strathclyde or Edinburgh or
Dundee or Aberdeen)) OR (((SU.EXACT("Maternal mortality")
OR SU.EXACT("Infant mortality") OR SU.EXACT("Infant
mortality rate") OR SU.EXACT("Mortality rate") OR
SU.EXACT("Mortality") OR SU.EXACT("Premature
mortality") OR SU.EXACT("Child mortality") OR
SU.EXACT("Sudden death") OR SU.EXACT("Death")) OR
(SU.EXACT("Years of potential life lost") OR
SU.EXACT("Life expectancy") OR SU.EXACT("Health
status").)) AND ti((Excess OR "above expect*" OR "above
average" OR extreme OR premature OR inequalit* OR diverg*
OR variation OR inordinate OR differen* OR disparit* OR
"geographical patterning" OR younger) AND (Scotland or
Scottish or Britain or UK or "United Kingdom" or Caledonian or
British or Glasgow or Clyde* or Strathclyde or Edinburgh or
Dundee or Aberdeen)) OR (((SU.EXACT("Maternal mortality")
OR SU.EXACT("Infant mortality") OR SU.EXACT("Infant
mortality rate") OR SU.EXACT("Mortality rate") OR SU.EXACT("Mortality") OR SU.EXACT("Premature mortality") OR SU.EXACT("Child mortality") OR SU.EXACT("Sudden death") OR SU.EXACT("Death") OR (SU.EXACT("Years of potential life lost") OR SU.EXACT("Life expectancy") OR SU.EXACT("Health status")) AND (SU.EXACT("Geographic variations") OR SU.EXACT("Trends") OR SU.EXACT("Non-normal variations") OR SU.EXACT("Regional variations") OR SU.EXACT("Extremes") OR SU.EXACT("Inequalities") OR SU.EXACT("Data") OR SU.EXACT("Health indicators") OR SU.EXACT("Disparity") OR SU.EXACT("Probability") OR SU.EXACT("Case controlled studies") OR SU.EXACT("Incidence") OR SU.EXACT("Prevalence") OR SU.EXACT("Statistics") OR SU.EXACT("Indicators") OR SU.EXACT("Distribution")) AND (Scotland or Scottish or Britain or UK or "United Kingdom" or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen)) OR ("Scottish effect" or "Glasgow effect" or "Scotland effect")

Databases:
Applied Social Sciences Index and Abstracts (ASSIA)
<table>
<thead>
<tr>
<th>Page</th>
<th>Query</th>
<th>Databases</th>
</tr>
</thead>
<tbody>
<tr>
<td>S36</td>
<td><code>ab((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ab(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)) AND (Scotland or Scottish or Britain or UK or &quot;United Kingdom&quot; or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen) Databases: Applied Social Sciences Index and Abstracts (ASSIA)</code></td>
<td>779°</td>
</tr>
<tr>
<td>S35</td>
<td><code>ti((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ti((Excess* OR &quot;above expect*&quot; OR &quot;above average&quot; OR extreme OR premature OR inequalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR &quot;geographical patterning&quot; OR younger)) AND (Scotland or Scottish or Britain or UK or &quot;United Kingdom&quot; or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen) Databases: Applied Social Sciences Index and Abstracts (ASSIA)</code></td>
<td>198°</td>
</tr>
<tr>
<td>S34</td>
<td><code>(ti((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ab((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ti((Excess* OR &quot;above expect*&quot; OR &quot;above average&quot; OR extreme OR premature OR inequalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR &quot;geographical patterning&quot; OR younger)) AND (Scotland or Scottish or Britain or UK or &quot;United Kingdom&quot; or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen)) OR (ab((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ti((Excess* OR &quot;above expect*&quot; OR &quot;above average&quot; OR extreme OR premature OR inequalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR &quot;geographical patterning&quot; OR younger)) AND (Scotland or Scottish or Britain or UK or &quot;United Kingdom&quot; or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen))</code></td>
<td>1118°</td>
</tr>
<tr>
<td>S33</td>
<td>ab((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ti((Excess* OR &quot;above expect*&quot; OR &quot;above average&quot; OR extreme OR premature OR inequalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR &quot;geographical patterning&quot; OR younger)) AND (Scotland or Scottish or Britain or UK or &quot;United Kingdom&quot; or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen)</td>
<td>Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
</tr>
<tr>
<td>S32</td>
<td>ti((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ab((Excess* OR &quot;above expect*&quot; OR &quot;above average&quot; OR extreme OR premature OR inequalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR &quot;geographical patterning&quot; OR younger)) AND (Scotland or Scottish or Britain or UK or &quot;United Kingdom&quot; or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen)</td>
<td>Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
</tr>
<tr>
<td>S31</td>
<td>ab((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) AND ab((Excess* OR &quot;above expect*&quot; OR &quot;above average&quot; OR extreme OR premature OR inequalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR &quot;geographical patterning&quot; OR younger)) AND (Scotland or Scottish or Britain or UK or &quot;United Kingdom&quot; or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen)</td>
<td>Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
</tr>
<tr>
<td>S30</td>
<td>(mortality* or death* die or dying or &quot;life expectancy&quot; or &quot;expectation of life&quot; or &quot;survival rate&quot; or fatal* or &quot;health</td>
<td>Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
</tr>
</tbody>
</table>
outcome" or "health status" or "self-assessed health" or "self-perceived health" or "years of life lost") AND ab((Excess* OR "above expect*" OR "above average" OR extreme OR premature OR inequalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR "geographical patterning" OR younger)) AND (Scotland or Scottish or Britain or UK or "United Kingdom" or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen)

Databases:
Applied Social Sciences Index and Abstracts (ASSIA)

S29

ab((mortality* OR death* die OR dying OR "life expectancy" OR "expectation of life" OR "survival rate" OR fatal* OR "health outcome" OR "health status" OR "self-assessed health" OR "self-perceived health" OR "years of life lost")) AND (SU.EXACT("Geographic variations") OR SU.EXACT("Trends") OR SU.EXACT("Non-normal variations") OR SU.EXACT("Regional variations") OR SU.EXACT("Extremes") OR SU.EXACT("Inequalities") OR SU.EXACT("Data") OR SU.EXACT("Health indicators") OR SU.EXACT("Disparity") OR SU.EXACT("Probability") OR SU.EXACT("Case controlled studies") OR SU.EXACT("Incidence") OR SU.EXACT("Prevalence") OR SU.EXACT("Averages") OR SU.EXACT("Statistics") OR SU.EXACT("Indicators") OR SU.EXACT("Distribution")) AND (Scotland or Scottish or Britain or UK or "United Kingdom" or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen)

Databases:
Applied Social Sciences Index and Abstracts (ASSIA)

S28

(mortality* or death* die or dying or "life expectancy" or "expectation of life" or "survival rate" or fatal* or "health outcome" or "health status" or "self-assessed health" or "self-perceived health" or "years of life lost") AND (SU.EXACT("Geographic variations") OR SU.EXACT("Trends") OR SU.EXACT("Non-normal variations") OR SU.EXACT("Regional variations") OR SU.EXACT("Extremes") OR SU.EXACT("Inequalities") OR SU.EXACT("Data") OR SU.EXACT("Health indicators") OR SU.EXACT("Disparity") OR SU.EXACT("Probability") OR SU.EXACT("Case controlled studies") OR SU.EXACT("Incidence") OR SU.EXACT("Prevalence") OR SU.EXACT("Averages") OR SU.EXACT("Statistics") OR SU.EXACT("Indicators") OR SU.EXACT("Distribution")) AND (Scotland or Scottish or Britain or UK or "United Kingdom" or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen)

Databases:
Applied Social Sciences Index and Abstracts (ASSIA)
<table>
<thead>
<tr>
<th>S27</th>
<th>Kingdom* or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen) Databases: Applied Social Sciences Index and Abstracts (ASSIA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S26</td>
<td>((SU.EXACT(&quot;Maternal mortality&quot;) OR SU.EXACT(&quot;Infant mortality&quot;) OR SU.EXACT(&quot;Infant mortality rate&quot;) OR SU.EXACT(&quot;Mortality rate&quot;) OR SU.EXACT(&quot;Mortality&quot;) OR SU.EXACT(&quot;Premature mortality&quot;) OR SU.EXACT(&quot;Child mortality&quot;) OR SU.EXACT(&quot;Sudden death&quot;) OR SU.EXACT(&quot;Death&quot;)] OR (SU.EXACT(&quot;Years of potential life lost&quot;) OR SU.EXACT(&quot;Life expectancy&quot;) OR SU.EXACT(&quot;Health status&quot;)] AND ti(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)) AND (Scotland or Scottish or Britain or UK or &quot;United Kingdom&quot; or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen) Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
</tr>
<tr>
<td>S25</td>
<td>((SU.EXACT(&quot;Maternal mortality&quot;) OR SU.EXACT(&quot;Infant mortality&quot;) OR SU.EXACT(&quot;Infant mortality rate&quot;) OR SU.EXACT(&quot;Mortality rate&quot;) OR SU.EXACT(&quot;Mortality&quot;) OR SU.EXACT(&quot;Premature mortality&quot;) OR SU.EXACT(&quot;Child mortality&quot;) OR SU.EXACT(&quot;Sudden death&quot;) OR SU.EXACT(&quot;Death&quot;)] OR (SU.EXACT(&quot;Years of potential life lost&quot;) OR SU.EXACT(&quot;Life expectancy&quot;) OR SU.EXACT(&quot;Health status&quot;)])) AND ti((Excess* OR &quot;above expect*&quot; OR &quot;above average&quot; OR extreme OR premature OR inegalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR &quot;geographical patterning&quot; OR younger)) AND (Scotland or Scottish or Britain or UK or &quot;United Kingdom&quot; or</td>
</tr>
</tbody>
</table>
Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen
Databases: Applied Social Sciences Index and Abstracts (ASSIA)

(SU.EXACT("Maternal mortality") OR SU.EXACT("Infant mortality") OR SU.EXACT("Infant mortality rate") OR SU.EXACT("Mortality rate") OR SU.EXACT("Mortality") OR SU.EXACT("Premature mortality") OR SU.EXACT("Child mortality") OR SU.EXACT("Sudden death") OR SU.EXACT("Death").) OR (SU.EXACT("Years of potential life lost") OR SU.EXACT("Life expectancy") OR SU.EXACT("Health status").) AND ab((Excess* OR "above expect*" OR "above average" OR extreme OR premature OR inequalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR "geographical patterning" OR younger) AND (Scotland or Scottish or Britain or UK or "United Kingdom" or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen)
Databases: Applied Social Sciences Index and Abstracts (ASSIA)

(SU.EXACT("Maternal mortality") OR SU.EXACT("Infant mortality") OR SU.EXACT("Infant mortality rate") OR SU.EXACT("Mortality rate") OR SU.EXACT("Mortality") OR SU.EXACT("Premature mortality") OR SU.EXACT("Child mortality") OR SU.EXACT("Sudden death") OR SU.EXACT("Death").) OR (SU.EXACT("Years of potential life lost") OR SU.EXACT("Life expectancy") OR SU.EXACT("Health status").) AND SU.EXACT("Geographic")
Databases: Applied Social Sciences Index and Abstracts (ASSIA)
<table>
<thead>
<tr>
<th>S21</th>
<th><code>ti((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*))</code></th>
<th>86795*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
<td></td>
</tr>
<tr>
<td>S20</td>
<td><code>ab((explanation* OR caus* OR compar* OR determinant OR origin OR reason OR effect OR relationship OR theory OR theories OR concept* OR hypothesis OR notion* OR factor*))</code></td>
<td>32094*</td>
</tr>
<tr>
<td></td>
<td>Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
<td></td>
</tr>
<tr>
<td>S19</td>
<td><code>(explanation* or caus* or compar* or determinant or origin or reason or effect or relationship or theory or theories or concept* or hypothesis or notion* or factor*)</code></td>
<td>377362*</td>
</tr>
<tr>
<td></td>
<td>Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
<td></td>
</tr>
<tr>
<td>S18</td>
<td><code>ti(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*))</code></td>
<td>519°</td>
</tr>
<tr>
<td></td>
<td>Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
<td></td>
</tr>
<tr>
<td>S17</td>
<td><code>ab(high* NEAR/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*))</code></td>
<td>32238*</td>
</tr>
<tr>
<td></td>
<td>Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
<td></td>
</tr>
<tr>
<td>S16</td>
<td><code>high* near/3 (prevalence OR incidence OR amount* OR level* OR average* OR rate*)</code></td>
<td>32762*</td>
</tr>
<tr>
<td></td>
<td>Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
<td></td>
</tr>
<tr>
<td>S14</td>
<td><code>ti((indicator* or statistic* or data or distribution or probability or or))</code></td>
<td>11407*</td>
</tr>
<tr>
<td></td>
<td>Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
<td></td>
</tr>
<tr>
<td>S13</td>
<td>&quot;case control&quot; or trend*)) Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>S12</td>
<td>ti((Excess* OR &quot;above expect&quot;* OR &quot;above average&quot; OR extreme OR premature OR inequalit* OR diverg* OR variation OR inordinate OR differen* OR disparit* OR &quot;geographical patterning&quot; OR younger)) Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
<td></td>
</tr>
<tr>
<td>S11</td>
<td>(Excess* or &quot;above expect&quot;* or &quot;above average&quot; or extreme or premature or inequalit* or diverg* or variation or inordinate or differen* or disparit* or &quot;geographical patterning&quot; or younger) Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
<td></td>
</tr>
<tr>
<td>S10</td>
<td>ti((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
<td></td>
</tr>
<tr>
<td>S9</td>
<td>ab((mortality* OR death* die OR dying OR &quot;life expectancy&quot; OR &quot;expectation of life&quot; OR &quot;survival rate&quot; OR fatal* OR &quot;health outcome&quot; OR &quot;health status&quot; OR &quot;self-assessed health&quot; OR &quot;self-perceived health&quot; OR &quot;years of life lost&quot;)) Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
<td></td>
</tr>
<tr>
<td>S8</td>
<td>(mortality* or death* die or dying or &quot;life expectancy&quot; or &quot;expectation of life&quot; or &quot;survival rate&quot; or fatal* or &quot;health outcome&quot; or &quot;health status&quot; or &quot;self-assessed health&quot; or &quot;self-perceived health&quot; or &quot;years of life lost&quot;) Databases: Applied Social Sciences Index and Abstracts (ASSIA)</td>
<td></td>
</tr>
<tr>
<td>S7</td>
<td>(Scotland or Scottish or Britain or UK or &quot;United Kingdom&quot; or Caledonian or British or Glasgow or Clyde* or Strathclyde or Edinburgh or Dundee or Aberdeen) Databases:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<p>| | |
|    |     |</p>
<table>
<thead>
<tr>
<th></th>
<th>Applied Social Sciences Index and Abstracts (ASSIA)</th>
</tr>
</thead>
</table>
| S6 | SU.EXACT("Theory") OR SU.EXACT("Effect size") OR SU.EXACT("Causes") OR SU.EXACT("Long term effects") OR SU.EXACT("Causal reasoning") OR SU.EXACT("Causality") OR SU.EXACT("Factor analysis") OR SU.EXACT("Determinants") OR SU.EXACT("Conceptual effects") OR SU.EXACT("Comparative studies") OR SU.EXACT("Concept formation") OR SU.EXACT("Explanations") OR SU.EXACT("Comparative research") OR SU.EXACT("Causal attributions") OR SU.EXACT("Mortality salience effects")  
Databases:  
Applied Social Sciences Index and Abstracts (ASSIA) | 6702* |
| S5 | SU.EXACT("Geographic variations") OR SU.EXACT("Trends") OR SU.EXACT("Non-normal variations") OR SU.EXACT("Regional variations") OR SU.EXACT("Extremes") OR SU.EXACT("Inequalities") OR SU.EXACT("Data") OR SU.EXACT("Health indicators") OR SU.EXACT("Disparity") OR SU.EXACT("Probability") OR SU.EXACT("Case controlled studies") OR SU.EXACT("Incidence") OR SU.EXACT("Prevalence") OR SU.EXACT("Averages") OR SU.EXACT("Statistics") OR SU.EXACT("Indicators") OR SU.EXACT("Distribution")  
Databases:  
Applied Social Sciences Index and Abstracts (ASSIA) | 12991* |
| S4 | "Scottish effect" or "Glasgow effect" or "Scotland effect"  
Databases:  
Applied Social Sciences Index and Abstracts (ASSIA) | 11° |
| S3 | (SU.EXACT("Maternal mortality") OR SU.EXACT("Infant mortality") OR SU.EXACT("Infant mortality rate") OR SU.EXACT("Mortality rate") OR SU.EXACT("Mortality") OR SU.EXACT("Premature mortality") OR SU.EXACT("Child mortality") OR SU.EXACT("Sudden death") OR SU.EXACT("Death").) OR SU.EXACT("Years of potential life lost") OR SU.EXACT("Life expectancy") OR SU.EXACT("Health status")  
Databases:  
Applied Social Sciences Index and Abstracts (ASSIA) | 11998* |
| S2 | SU.EXACT("Years of potential life lost") OR SU.EXACT("Life expectancy") OR SU.EXACT("Health status")  
Databases:  
Applied Social Sciences Index and Abstracts (ASSIA) | 4307* |
<table>
<thead>
<tr>
<th>Database</th>
<th>Date searched</th>
<th>Project 1</th>
<th>Project 2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medline</td>
<td>21/11/14</td>
<td>2217</td>
<td>5219</td>
<td>6920</td>
</tr>
<tr>
<td>Academic Search Complete</td>
<td>21/11/14</td>
<td>1223</td>
<td>1925</td>
<td>2294</td>
</tr>
<tr>
<td>Psychinfo</td>
<td>24/11/14</td>
<td>1765</td>
<td>5953</td>
<td>6366</td>
</tr>
<tr>
<td>Social Policy and Practice</td>
<td>24/11/14</td>
<td>1132</td>
<td>2108</td>
<td>2595</td>
</tr>
<tr>
<td>Web of Science</td>
<td>25/11/14</td>
<td>458</td>
<td>2792</td>
<td>3184</td>
</tr>
<tr>
<td>CINAHL</td>
<td>25/11/14</td>
<td>1028</td>
<td>2829</td>
<td>3730</td>
</tr>
<tr>
<td>ASSIA</td>
<td>26/11/14</td>
<td>1972</td>
<td>2334</td>
<td>3275</td>
</tr>
<tr>
<td>Embase</td>
<td>26/11/14</td>
<td>1664</td>
<td>2938</td>
<td>4008</td>
</tr>
</tbody>
</table>

SU.EXACT("Maternal mortality") OR SU.EXACT("Infant mortality") OR SU.EXACT("Infant mortality rate") OR SU.EXACT("Mortality rate") OR SU.EXACT("Mortality") OR SU.EXACT("Premature mortality") OR SU.EXACT("Child mortality") OR SU.EXACT("Sudden death") OR SU.EXACT("Death")

Databases:
Applied Social Sciences Index and Abstracts (ASSIA)
**Internet Sources Search.**

**Websites**
The World Health Organization website ([http://www.who.int/en/](http://www.who.int/en/)) was searched on 06/11/2014 using the on-site search engine with single search terms ‘Scotland’, ‘mortality’. The section of the website labelled ‘Health topics: Mortality’ was scanned in detail.


The Kings Fund website ([http://www.kingsfund.org.uk/](http://www.kingsfund.org.uk/)) was searched on 13/11/2014 using the on-site search engine with single search terms ‘Scotland’, ‘mortality’.

The OECD website ([http://www.oecd.org/health/](http://www.oecd.org/health/)) was searched on 17/11/14 using the on-site engine with single search terms ‘Scotland’, ‘mortality’. The section of the website labelled ‘Topics: Health’ was scanned in detail.

The Glasgow Centre for Population Health ([http://www.gcph.co.uk/](http://www.gcph.co.uk/)) was searched on 17/11/2014. The section of the website labelled ‘work themes: understanding Glasgow’s health’, ‘publications’ was scanned in detail.

The Scottish Public Health Observatory website ([http://www.scotpho.org.uk/](http://www.scotpho.org.uk/)) was searched on 19/11/2014 using the on-site engine with single search terms ‘mortality’, ‘excess mortality’ [Please note search engine only allowing access to page 1 of searches]. The sections on the website ‘comparative health: excess mortality in Scotland and Glasgow’ and ‘population dynamics: deaths’ were scanned in detail.

The MRC/CSO Social and Public Health Sciences Unit, University of Glasgow website ([http://www.sphsu.mrc.ac.uk/search/](http://www.sphsu.mrc.ac.uk/search/)) was searched on 19/11/2014 using the on-site search engine with single search term ‘mortality’.

The NHS Health Scotland website ([http://www.healthscotland.com/](http://www.healthscotland.com/)) was searched on 20/11/2014 using the on-site search engine with single term ‘mortality’. The section on the website ‘resources: publications’ was scanned in detail.

The Scottish Collaboration for Public Health Research and Policy website ([http://www.scphrp.ac.uk](http://www.scphrp.ac.uk)) was searched on 20/11/2014. The sections on the website ‘projects’ and ‘publications’ were scanned in detail.

The Office for National Statistics (http://www.ons.gov.uk/ons/index.html) website was searched on 24/11/2014 using the on-site search engine with single search terms ‘Scotland’, ‘mortality’. The section on the website ‘population’ was scanned in detail.

The Centre for Research on Environment, Society and Health (http://cresh.org.uk/) website was searched on 24/11/2014. The sections on the website ‘publications’ and ‘news/blog’ were scanned in detail.

The Scottish Government (http://www.scotland.gov.uk/Home) website was searched on 26.11.2014. The sections on the website ‘topic: health and social care’, and ‘topic: statistics’ were scanned in detail.

The Network of Public Health Observatories website (http://www.apho.org.uk/) – now part of and maintained Public Health England was searched on 26/11/2014 using the on-site search engine with single search terms ‘mortality’ and ‘mortality Scotland’.

**Search Engines.**
The Google search engine was searched on 24/11/2014, 26/11/2014 and 07/01/2015 with single search term ‘Glasgow effect.’

The Google Scholar search engine was searched on 26/11/2014 with single search term ‘Glasgow effect’.

The Google search engine was searched on 26/11/2014 with single search term “Scottish effect”.

The Google Scholar search engine was searched on 26/11/2014 with single search term ‘Scottish effect’.

The Google search engine was searched on 27/11/2014 with single search term ‘excess mortality’

The Google Scholar search engine was searched on 27/11/2014 with single search term ‘excess mortality’.

The Google Scholar search engine was searched on 01/12/2014 with single search term ‘excess mortality Scotland’.

The Google search engine was searched on 08/12/2014 and 11/12/2014 with single search term ‘excess mortality Scotland’.

**Current Media.**
Newspapers, radio, Twitter, conferences. Collected as identified.
## Appendix 2 Table of included studies – Project 1

<table>
<thead>
<tr>
<th>Study</th>
<th>Countries/ Area</th>
<th>Categories</th>
<th>Study design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anon (1976) Prevention and health: everybody’s business: a reassessment of public and personal health. London, HMSO.</td>
<td>Focus on Britain</td>
<td>Deprivation; health behaviours; health services supply and demand</td>
<td>Book</td>
</tr>
<tr>
<td>Ash, L. (2014). Why is Glasgow the UK’s sickest city? BBC News Magazine. <a href="http://www.bbc.co.uk/news/magazine-27309446">www.bbc.co.uk/news/magazine-27309446</a>, BBC.</td>
<td>Glasgow</td>
<td>Different culture of substance misuse; violence; drugs; deindustrialisation; loss of sense of control over life; industrialisation; housing/overcrowding; family, gender relations and parenting differences; social capital; climate (sun, rain); potential mechanisms (vitamin D); epigenetics</td>
<td>News report</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Year</td>
<td>Description</td>
</tr>
<tr>
<td>-----------</td>
<td>-------</td>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td>BBC News. Life expectancy in Scotland increases2014; 16 October: Available from:</td>
<td>Scotland/ Glasgow</td>
<td>Deprivation</td>
<td>BBC news online article</td>
</tr>
<tr>
<td>BBC News. GP explains life expectancy gap2008; 28 August Available from:</td>
<td></td>
<td>Deprivation; housing; social capital (community safety); gang and knife culture (individual values?); different culture of substance misuse</td>
<td>Newspaper article</td>
</tr>
<tr>
<td>BBC World Service. The Mystery of Glasgow's Health Problems. 2014 [cited 2014 26 November]: Available from:</td>
<td>Glasgow</td>
<td>Deprivation; health behaviours</td>
<td>BBC World Service audio article</td>
</tr>
<tr>
<td>Reference</td>
<td>Location</td>
<td>Health behaviour; individual values; quality of external environment</td>
<td>Type</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>---------------------------------</td>
<td>-----------------------------------------------------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Bhopal, R. S. (2011). “Response to: What we want to know is … is it true or false?” Public Health 125(4): 238-239.</td>
<td>Glasgow, Manchester, Liverpool</td>
<td>Control over one's destiny; sense of coherence; potential mechanisms (stress, parenting, life course effects)</td>
<td>Letter</td>
</tr>
<tr>
<td>Boyle, P., et al. (2004). “The role of population change in widening the mortality gap in Scotland.” Area 36 (2): 164-173</td>
<td>Least and most deprived areas of Scotland</td>
<td>Migration</td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>Reference</td>
<td>Scotland</td>
<td>Health behaviours (alcohol); deindustrialisation; scale of urban change; social capital; anomie; life course effects (early childhood experiences; stress hormones; neurological development); family and parenting differences</td>
<td>Commentary</td>
</tr>
<tr>
<td>-----------</td>
<td>----------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Burns H. (2015).</td>
<td>Scotland</td>
<td>Neoliberal political attack</td>
<td>Online article summarising 2011 synthesis</td>
</tr>
<tr>
<td>Campbell S. (2014).</td>
<td>Scotland</td>
<td>Deprivation, deprivation concentration?</td>
<td>Observational study</td>
</tr>
<tr>
<td>Carstairs et al (1995)</td>
<td>Various studies in the 'Northern health region', deprived and affluent areas of Scotland</td>
<td>Deprivation.</td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>Carstairs, V. and R. Morris (1989).</td>
<td>12 areas across Scotland</td>
<td>Deprivation; deprivation concentration</td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>Catford, J. C. and S. Ford (1984).</td>
<td>United Kingdom and Europe</td>
<td>Health behaviours; health Services supply and demand.</td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>Clemens, T., et al. (2009).</td>
<td>Scotland, England and Wales</td>
<td>Deprivation</td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>Reference</td>
<td>Country/Region</td>
<td>Type of Study</td>
<td>Notes</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Dobson, R. (2007). "Wales and Scotland have highest UK cancer rates."
*BMJ (Clinical Research Ed.)* 335(7613): 227. | Wales, Scotland, UK | Health behaviours | News report                                                            |
| Donnelly, P. D. (2010). "Explaining the Glasgow effect: could adverse childhood experiences play a role?"
*Public Health* 124(9): 498-499. | Excess deaths in Glasgow | Life course effects/ adverse childhood experiences; anomie; new (Calvinism (religion/ culture?)), health behaviours; political attack; potential mechanisms (stress hormones; neurological development) | Commentary re. "It's not just deprivation"                              |


<table>
<thead>
<tr>
<th>Authors</th>
<th>Title</th>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freeman, Tom, 2013</td>
<td>No mean city (the mystery of Scotland's poor health), IN Holyrood 307: 48-50.</td>
<td>Scotland, specifically Clydeside</td>
<td></td>
</tr>
<tr>
<td>Freeman, Tom, 2014</td>
<td>The Starting line (increasing physical activity levels) IN Holyrood 21 (23) 54-56.</td>
<td>Scotland</td>
<td></td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Location(s)</td>
<td>Other Artefacts (Age, Ethnicity)</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>-------------------------------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>Gordon, D. S. (2010).</td>
<td>&quot;We need to look to broad horizons to understand (and change) health.&quot; Public Health 124(12): 716-717.</td>
<td>Glasgow</td>
<td>Deprivation; housing</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Location</td>
<td>Comparison</td>
</tr>
<tr>
<td>-----------</td>
<td>-------</td>
<td>----------</td>
<td>------------</td>
</tr>
<tr>
<td>Graham, P., D. Walsh and G. McCartney (2012).</td>
<td>&quot;Shipyards and sectarianism: how do mortality and deprivation compare in Glasgow and Belfast?&quot;</td>
<td>Glasgow and Belfast</td>
<td>Deprivation; sectarianism</td>
</tr>
<tr>
<td>Granados, J. A. T. (2013).</td>
<td>&quot;Health at advanced age: social inequality and other factors potentially impacting longevity in nine high-income countries.&quot;</td>
<td>UK, US, Canada, Denmark, France, Japan, Spain, Sweden and Switzerland.</td>
<td>Deprivation; health behaviours; health service supply and demand</td>
</tr>
<tr>
<td>Gray, L. (2007).</td>
<td>Comparisons of health-related behaviours and health measures between Glasgow and the rest of Scotland.</td>
<td>For the survey based work, chapters 1 to 10, comparisons are made between Greater Glasgow and the rest of Scotland, with a subset of analyses also comparing Glasgow City and West Central Scotland to the rest of the country. Comparisons are also made within Greater Glasgow, between the most deprived areas and the others.</td>
<td>Deprivation; health behaviours; different culture of substance misuse; deprivation concentration</td>
</tr>
<tr>
<td>Gray, L. and A. H. Leyland (2009).</td>
<td>&quot;Is the &quot;Glasgow effect&quot; of cigarette smoking explained by socio-economic status?: a multilevel analysis.&quot;</td>
<td>Greater Glasgow, the rest of Scotland</td>
<td>Deprivation; health behaviours</td>
</tr>
<tr>
<td>Study</td>
<td>Setting</td>
<td>Study Design</td>
<td>Type of Study</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------------------------</td>
<td>------------------------------</td>
<td>-------------------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Valencia, Seville, Bilbao, Rhine-Ruhr, Aachen, Liege, Maastricht, Bielefeld, Berlin, Hamburg, Frankfurt, Rhine Main Area, Half of Rhine Neckar Area, Munich, Nuremberg, Halle-Leipzig, Chemnitz-Wickau, Dresden, Bremen, Hanover</td>
<td>Scottish hospitals</td>
<td>Health behaviours</td>
<td>Retrospective cohort study</td>
</tr>
<tr>
<td>Hanlon, P., et al. (2001). Chasing the Scottish Effect: Why Scotland needs a step-change in health if it is to catch up with the rest of Europe. Glasgow, Public Health Institute of Scotland.</td>
<td>Scotland, England &amp; Wales</td>
<td>Deprivation; migration; genetics (but thought implausible); health behaviours; different culture of substance misuse; deindustrialisation</td>
<td>Cross-sectional analysis using population and mortality data.</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Citation</td>
<td>Location(s)</td>
<td>Political attack: potential mechanisms (new: response of local governors; welfare regime; middle class disaffiliation).</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Hastings A.</td>
<td>The Scottish Effect: some comments (2011)</td>
<td>Scotland and Glasgow</td>
<td></td>
</tr>
<tr>
<td>Hetherington P.</td>
<td>Harry Burns: 'We need compassion, not judgements about poor people'. The Guardian [serial on the Internet]. 2014; 12 March: Available from: <a href="http://www.theguardian.com/society/2014/mar/12/harry-burns-scotland-chief-medical-officer-health">http://www.theguardian.com/society/2014/mar/12/harry-burns-scotland-chief-medical-officer-health</a>.</td>
<td>Scotland</td>
<td>Social capital; deprivation/unemployment; deindustrialisation; scale of urban change; anomie; sense of coherence</td>
</tr>
<tr>
<td>Reference</td>
<td>Location/Details</td>
<td>Methodology</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Kemmer D. Investigating infant mortality in early twentieth century Scotland using civil registers: Aberdeen and Dundee compared. Scottish Economic and Social History. 1997;17(1): -19.</td>
<td>Aberdeen vs Dundee</td>
<td>Deprivation/ unemployment; family, gender or parenting differences</td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>Reference</td>
<td>Title</td>
<td>Study Population</td>
<td>Study Design</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Leadbetter, R. (2012)</td>
<td>‘Skintland’ magazine has another go at offending readers north of Border. The Herald 2 September,</td>
<td>Glasgow</td>
<td>In comments: deprivation</td>
</tr>
<tr>
<td>Lejeune, C., et al. (2010).</td>
<td>&quot;Socio-economic disparities in access to treatment and their impact on colorectal cancer survival.&quot; International Journal Of Epidemiology</td>
<td>UK only but compares areas by deprivation</td>
<td>Deprivation; health service supply &amp; demand</td>
</tr>
<tr>
<td>Reference</td>
<td>Title</td>
<td>Scotland, England/Wales &amp; 12 other western European countries</td>
<td>Health behaviour; new (hep C epidemic)</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>------------------------------------------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>Leonard S. Health is where your home is. Scotland on Sunday. 1996;11 February:8-9.</td>
<td></td>
<td>Compares various places in Scotland</td>
<td>Deprivation (unemployment, car ownership); housing; health behaviours;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Publication Details</td>
<td>Summary</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>---------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Reference</td>
<td>Title</td>
<td>Countries/Europe Regions</td>
<td>Study Objectives</td>
</tr>
<tr>
<td>-----------</td>
<td>-------</td>
<td>--------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Maiden, N., et al. (1999).</td>
<td>&quot;Does social disadvantage contribute to the excess mortality in rheumatoid arthritis patients?&quot; Annals Of The Rheumatic Diseases 58(9): 525-529.</td>
<td>deindustrialised cities in Europe</td>
<td>Data used from patients were attending one of two specialised rheumatology units, &amp; drawn from the population in the West of Scotland. Subjects were categorised into groups with deprivation scores ranging from 1 (most affluent) to 7 (most deprived).</td>
</tr>
<tr>
<td>Malvezzi, M., et al. (2013).</td>
<td>&quot;Lung cancer mortality in European men: Trends and predictions.&quot; Lung Cancer (01695002) 80(2): 138-145.</td>
<td>33 European countries (plus England and Wales, Northern Ireland &amp; Scotland separately) and the EU as a whole</td>
<td>Health behaviours; new (policy implementation: the control of asbestos &amp; other industrial carcinogens); quality of the external physical environment</td>
</tr>
<tr>
<td>McCartney, G., Collins, C., Walsh, D. and Batty, D. (2011).</td>
<td>&quot;Accounting for Scotland's excess mortality: towards a synthesis.&quot; Glasgow: Glasgow Centre for Population Health</td>
<td>Scotland (synthesis of potential explanations for excess mortality in Scotland</td>
<td>Deprivation; migration; genetic differences; health behaviours; individual values; different culture of substance misuse; culture of boundlessness and alienation; family, gender relations and parenting differences; lower &quot;social capital; sectarianism; culture of limited social</td>
</tr>
<tr>
<td>Title</td>
<td>Scotland &amp; all countries in the Human Mortality Database after 1850 (1855 for Scotland)</td>
<td>Political attack/effects</td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>---------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>McColl, P. (2011) Reasons to be cheerful: the 'count your assets' approach to public health. Perspectives: magazine of Scotland's Democratic Left November</td>
<td>Scotland</td>
<td>New (culture of dependency); culture of boundlessness and alienation (anomie); neoliberal political attack; sense of coherence; mental health; life course effects; external physical environment</td>
<td>Online magazine article</td>
</tr>
<tr>
<td>McIntosh L. More workless homes than any other city — new statistics underline the 'Glasgow effect'. The Times. 2013 5 September</td>
<td>Glasgow</td>
<td>Deprivation/ unemployment</td>
<td>Newspaper article</td>
</tr>
<tr>
<td>McKenna, K. (2013). Glasgow is a great city shamefully ill-used. The Observer. 8 September</td>
<td>Glasgow</td>
<td>Overcrowding; poor housing; industrialisation; poor external environment/ urban planning;</td>
<td>Newspaper article</td>
</tr>
<tr>
<td>McKenna, K. (2015). In the poor heart of Glasgow, political loyalties melt away. The Observer. 8 February</td>
<td>Glasgow</td>
<td>Deprivation artefacts; educational attainment; deprivation/unemployment; deindustrialisation; life course effects; family and gender and parenting differences;</td>
<td>Newspaper article</td>
</tr>
<tr>
<td>Mackintosh K. Facing up to the challenge (health inequalities). Holyrood. 2010;238:46-7.</td>
<td>Scotland</td>
<td>Lower social capital</td>
<td>Newspaper article</td>
</tr>
<tr>
<td>Reference</td>
<td>Setting</td>
<td>Topic</td>
<td>Methodology</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>McWilliams C. Towards a critical understanding of the politics of ill-health in contemporary Glasgow (2011) In: Accounting for Scotland's excess mortality: towards a synthesis commentaries. Glasgow, Glasgow Centre for Population Health.</td>
<td>Glasgow</td>
<td>Deindustrialisation; scale of urban change historically; unemployment/deprivation; housing; neo-liberal political attack</td>
<td>Invited commentary (compiled by GCPH) on 2011 synthesis</td>
</tr>
<tr>
<td>Mitchell, R., et al. (2000). &quot;Do attitude and area influence health? A multilevel approach to health inequalities.&quot; Health &amp; Place 6(2): 67-79;</td>
<td>Compares areas of the UK</td>
<td>Deprivation (age, gender, social class &amp; employment); Quality of external physical environment: New (social environment; local culture)</td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>Mok, P. L. H., et al. (2013). &quot;Why does Scotland have a higher suicide rate than England? An area-level investigation of health and social factors.&quot; Journal Of Epidemiology And Community Health 67(1): 63-70.</td>
<td>Scotland and England</td>
<td>New (Levels of mental ill health (used proxy indicator of psychotropic medication prescribing patterns); health behaviours; different culture of substance misuse; deprivation; culture of boundlessness &amp; alienation/anomie</td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>Morrison, C., et al. (1997). &quot;Effect of socioeconomic group on incidence of, management of, and survival after myocardial infarction and coronary death: analysis of community coronary event register.&quot; British Medical Journal 318(7183): 567-568.</td>
<td>Glasgow (by deprivation)</td>
<td>New (poorer symptom awareness; number of concomitant illnesses; deprivation (social class gradient in the ability to heal or ward off insults to organs); new (lower potential for resuscitation)</td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>Muriel, A. (2012). Mystery of Glasgow's health problems. The Guardian. London, The Guardian. 6 November</td>
<td>Scotland/ Glasgow</td>
<td>Deprivation; climate; deprivation artefacts; individual values; sectarianism; culture of boundlessness and alienation/ anomie; political attack; potential mechanisms (stress, cortisol, inflammation, vitamin D); epigenetics (life course effects; genetics); poor housing; external physical environment (air pollution); culture of limited social mobility (Calvinism)</td>
<td>Newspaper article plus comments</td>
</tr>
<tr>
<td>MVA Consultancy. Impact of the road network on Scotland's accident rates: summary (Development department research programme research findings no 36). Edinburgh: Scottish Office General Research Unit1997.</td>
<td>Scotland</td>
<td>Quality of external physical environment</td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Publication Date</td>
<td>Region</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>------------------</td>
<td>--------</td>
</tr>
<tr>
<td>National Records of Scotland</td>
<td>Winter mortality in Scotland 2011/12</td>
<td>2012</td>
<td>Scotland</td>
</tr>
<tr>
<td>NHS Health Scotland</td>
<td><em>Bridging the Gap: a health inequalities learning resource: the 'Glasgow Effect'</em></td>
<td>2011</td>
<td>Glasgow</td>
</tr>
<tr>
<td>NHS Scotland</td>
<td>Health in Scotland: time for change</td>
<td>2010</td>
<td>Scotland</td>
</tr>
<tr>
<td>NHS Scotland</td>
<td>Health in Scotland 2008: shedding light on hidden epidemics</td>
<td>2009</td>
<td>Scotland as a whole</td>
</tr>
<tr>
<td>Norman, P., P. Boyle, D. Exeter, Z. Feng and F. Popham</td>
<td>&quot;Rising premature mortality in the U.K.'s persistently deprived areas: only a Scottish phenomenon?&quot;</td>
<td>2011</td>
<td>Scotland vs rest of UK</td>
</tr>
<tr>
<td>Office of the Chief Researcher and Office of the Chief Economic Adviser</td>
<td>Demographic change in Scotland</td>
<td>2010</td>
<td>Scotland wide</td>
</tr>
<tr>
<td>Peakin, William</td>
<td>Side by Side</td>
<td>2014</td>
<td>Scotland</td>
</tr>
<tr>
<td>Physical Activity Task, F.</td>
<td>Let's make Scotland more active: a strategy for physical activity</td>
<td>2003</td>
<td>Scotland as a whole</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Location</td>
<td>Methodology</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>Popham, F., C. Dibben and C. Bambra (2013).</td>
<td>&quot;Are health inequalities really not the smallest in the Nordic welfare states? A comparison of mortality inequality in 37 countries.&quot; Journal Of Epidemiology And Community Health 67(5): 412-418.</td>
<td>37 countries divided into: Nordic, Bismarckian, Southern European, Anglo Saxon, Confucian, Eastern European and ex-Soviet. Australia, Austria, Belgium, Bulgaria, Belarus, Canada, Switzerland, Czech Republic, Germany, Denmark, England &amp; Wales, Spain, Estonia, Finland, France, Hungary, Ireland, Iceland, Israel, Italy, Japan, Lithuania, Luxembourg, Lativa, Northern Ireland, Norway, Poland, Portugal, Russia, Scotland, Slovakia, Slovenia, Sweden, Taiwan, Ukraine, USA.</td>
<td>Retrospective Observational Study</td>
</tr>
<tr>
<td>Popham, F., K. Skivington and M. Benzeval (2013).</td>
<td>&quot;Why do those out of work because of sickness or disability have a high mortality risk? Evidence from a Scottish cohort.&quot; European Journal Of Public Health 23(4): 629-635.</td>
<td>Scotland - population based study. However some comparison with UK and Scandinavian studies in the discussion.</td>
<td>Retrospective Observational Study</td>
</tr>
<tr>
<td>Popham, F., P. Boyle, D. O'Reilly and A. H. Leyland (2010).</td>
<td>Exploring the impact of selective migration on the deprivation-mortality gap within Greater Glasgow, Glasgow Centre for Population Health.</td>
<td>11 local authority areas in West of Scotland.</td>
<td>Prospective cohort study with routinely collected data</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Country(ies)</td>
<td>Methodology</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Popham, F., P. J. Boyle and P. Norman (2010).</td>
<td>&quot;The Scottish excess in mortality compared to the English and Welsh. Is it a country of residence or country of birth excess?&quot;</td>
<td>Scotland, England &amp; Wales</td>
<td>Life course approach; new (country of birth/country of residence)</td>
</tr>
<tr>
<td>Preston, S. H. (1970).</td>
<td>&quot;An international comparison of excessive adult mortality.&quot;</td>
<td>Norway, Sweden, Belgium, USA, Scotland, England &amp; Wales, Australia, New Zealand, Canada, Denmark, Netherlands, France, Austria, Germany, Portugal, Spain, Italy.</td>
<td>Health behaviour</td>
</tr>
<tr>
<td>Puttick H.</td>
<td>Blame 'Glasgow effect' for city's chronic ill health – not deprivation.</td>
<td>Glasgow</td>
<td>Potential mechanisms (stress)</td>
</tr>
<tr>
<td>Quaglia, A., R. Capocaccia, A. Michell, E. Carrani and M. Vercelli (2007).</td>
<td>&quot;A wide difference in cancer survival between middle aged and elderly patients in Europe.&quot;</td>
<td>22 European nations: namely Denmark, Estonia, Finland, Iceland, Malta, Norway, Slovakia, Slovenia, Scotland, Sweden and Wales whose populations were covered completely by national registries; Austria, Czech Republic, England, France, Germany, Italy, Poland, Portugal, Spain, Switzerland and The Netherlands</td>
<td>New (age)</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Year</td>
<td>Title</td>
<td>Region(s)</td>
</tr>
<tr>
<td>-----------</td>
<td>-------</td>
<td>-------</td>
<td>-----------</td>
</tr>
<tr>
<td>Reddit. Glasgow Effect. 2014 [cited 2014 26 November]; Available from: <a href="http://www.reddit.com/r/Scotland/comments/2gnlzb/glasgow_effect/">http://www.reddit.com/r/Scotland/comments/2gnlzb/glasgow_effect/</a>.</td>
<td>2014</td>
<td>Potential mechanisms (alcohol, stress); external physical environment (incinerators near residential areas); lack of empowerment/ control; genetic factors;</td>
<td>Glasgow</td>
</tr>
<tr>
<td>Reid, M. (2011).</td>
<td>2011</td>
<td>Behind the &quot;Glasgow effect&quot;. Bulletin Of The World Health Organization 89(10): 706-707.</td>
<td>Article focus on Glasgow.</td>
</tr>
<tr>
<td>Author</td>
<td>Title</td>
<td>Region(s)</td>
<td>Topic(s)</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Rightproperty.com</td>
<td>Health Inequalities and The Glasgow Effect 2011 [cited 2014 26 November]; Available from: <a href="https://www.youtube.com/watch?v=r0cJ7CX1tCA">https://www.youtube.com/watch?v=r0cJ7CX1tCA</a></td>
<td>Glasgow</td>
<td>Health behaviours; deprivation; life course effects (height); housing;</td>
</tr>
<tr>
<td>Reference</td>
<td>Topic</td>
<td>Method</td>
<td>Source</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Seaman, P. and Edgar, F. (2015) Communities dealing with change. An exploration of socio-cultural explanations of Glasgow’s ’excess’ mortality in comparison with Liverpool and Manchester. Glasgow, Glasgow Centre for Population Research.</td>
<td>Glasgow, Manchester and Liverpool</td>
<td>Social capital; culture of boundlessness and alienation/ anomie; new? (increased individualisation); lack of social mobility</td>
<td>Qualitative interviews with key informants</td>
</tr>
<tr>
<td>Authors</td>
<td>Title</td>
<td>Year</td>
<td>Countries</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>------</td>
<td>------------</td>
</tr>
<tr>
<td>Taulbut, M. and D. Walsh (2011).</td>
<td>Case study - Health and its determinants in West Central Scotland compared to Silesia in Poland. Glasgow, Glasgow Centre for Population Health.</td>
<td></td>
<td>Silesia - Poland and West Central Scotland (WCS)</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Reference</th>
<th>Study Title and Details</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>West Central Scotland &amp; 9 post-industrial regions in Europe</td>
</tr>
<tr>
<td></td>
<td>Deindustrialisation, lower social capital, income inequalities, health behaviours, quality of external physical environment, migration</td>
</tr>
<tr>
<td></td>
<td>Cross-sectional observational study</td>
</tr>
<tr>
<td></td>
<td>West Central Scotland (WCS) &amp; other regions of post-industrial Europe</td>
</tr>
<tr>
<td></td>
<td>Deindustrialisation; political effects</td>
</tr>
<tr>
<td></td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td></td>
<td>Twelve post-industrial regions - four in UK, four in western mainland Europe and four in eastern mainland Europe. See also the accompanying 4 case studies.</td>
</tr>
<tr>
<td></td>
<td>Deprivation; health behaviours; lower social capital; income inequalities; political attack/effects; deindustrialisation</td>
</tr>
<tr>
<td></td>
<td>Retrospective observational study &amp; case studies</td>
</tr>
<tr>
<td></td>
<td>Nord-Pas-De-Calais - France and West Central Scotland (WCS)</td>
</tr>
<tr>
<td></td>
<td>Deprivation; deindustrialisation; other factors</td>
</tr>
<tr>
<td></td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>Teckle, P., P. Hannaford and M. Sutton (2012).</td>
<td>&quot;Is the health of people living in rural areas different from those in cities? Evidence from routine data linked with the Scottish Health Survey.&quot; BMC Health Services Research <strong>12</strong>: 43-43.</td>
</tr>
<tr>
<td></td>
<td>Cities vs rural locations</td>
</tr>
<tr>
<td></td>
<td>Deprivation</td>
</tr>
<tr>
<td></td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td></td>
<td>Glasgow</td>
</tr>
<tr>
<td></td>
<td>Different culture of substance misuse; industrialisation; urbanisation; housing; deindustrialisation; individual values; income inequality; political attack; family breakdown; potential mechanisms (stress). FROM COMMENTS: anger; vitamin D deficiency; diet (deep fried pizza etc.); migration; climate (rain, lack of sun); new (contaminated water supply near the Clyde, (4 comments: 1 comment based only on historical typhoid, John Snow epidemic!, two on toxins in ground and water from heavy industry); vitamin A; fish oil; hate; artefact (time lag bias; area effects); epigenetic patterns; mental health; industrialisation; culture of hopelessness; industrialisation; deindustrialisation; unemployment/deprivation; lack of social mobility; violence; sectarianism; aggression;</td>
</tr>
<tr>
<td></td>
<td>Newspaper article and comments</td>
</tr>
<tr>
<td>Reference</td>
<td>Area(s)</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Study Title</td>
<td>Study Details</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Walsh, D. (2014). An analysis of the extent to which socio-economic deprivation explains higher mortality in Glasgow in comparison with other post-industrial UK cities, and an investigation of other possible explanations. [Great Britain], University of Glasgow.</td>
<td>Scotland - Glasgow, England - Manchester and Liverpool</td>
</tr>
<tr>
<td>WALSH, D., BENDEL, N., JONES, R. &amp; HANLON, P. 2010. Investigating a 'Glasgow Effect': why do equally deprived UK cities experience different health outcomes. Glasgow: Glasgow Centre for Population Health.</td>
<td>Glasgow, Manchester, Liverpool</td>
</tr>
<tr>
<td>Walsh, D., et al. (2010). &quot;It's not 'just deprivation': why do equally deprived UK cities experience different health outcomes?&quot; Public Health 124(9): 487-495.</td>
<td>Glasgow, Liverpool, Manchester</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Weller, R. (2012). &quot;Could the sun be good for your heart?&quot;. from <a href="http://www.ted.com/talks/richard_weller_could_the_sun_be_good_for_your_heart">http://www.ted.com/talks/richard_weller_could_the_sun_be_good_for_your_heart</a>.</td>
<td>Scotland vs e.g. Australia</td>
</tr>
<tr>
<td>Reference</td>
<td>Location</td>
</tr>
<tr>
<td>-----------</td>
<td>----------</td>
</tr>
<tr>
<td>Whyte, B. and T. Ajetunmobi (2012). &quot;Still 'the sick man of Europe'? Scottish mortality in a European context 1950-2010: an analysis of comparative mortality trends.&quot; Glasgow, Glasgow Centre for Population Health.</td>
<td>Scotland and Western Europe</td>
</tr>
<tr>
<td>Wikipedia. (2014). &quot;Glasgow Effect.&quot; Scotland, 26/11/2014.</td>
<td>Glasgow</td>
</tr>
<tr>
<td>Reference</td>
<td>Setting</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>Study</td>
<td>Countries/ Area</td>
</tr>
<tr>
<td>-------</td>
<td>----------------</td>
</tr>
<tr>
<td>Autier, P. et al. (2011). &quot;Breast cancer mortality in neighbouring European countries with different levels of screening but similar access to treatment: Trend analysis of WHO mortality database.&quot; BMJ 343(7818): 1-10.</td>
<td>Northern Ireland, Republic of Ireland, Netherlands, Belgium, Sweden, Norway</td>
</tr>
<tr>
<td>Reference</td>
<td>Summary</td>
</tr>
<tr>
<td>-----------</td>
<td>---------</td>
</tr>
<tr>
<td>Avendano, M. et al. (2004).</td>
<td>&quot;Educational level and stroke mortality - A comparison of 10 European populations during the 1990s.&quot; Stroke 35(2): 432-437.</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
</tr>
<tr>
<td>Barker, D. J. (1991).</td>
<td>&quot;The foetal and infant origins of inequalities in health in Britain.&quot;</td>
</tr>
<tr>
<td>Barnard, L. F. T., et al. (2008).</td>
<td>&quot;Excess winter morbidity and mortality: do housing and socio-economic status have an effect?&quot;</td>
</tr>
<tr>
<td>Barzi, F., et al. (2008).</td>
<td>&quot;Association of smoking and smoking cessation with major causes of mortality in the Asia Pacific Region: The Asia Pacific Cohort Studies Collaboration.&quot;</td>
</tr>
<tr>
<td>Beaglehole, R., et al. (1989).</td>
<td>&quot;CHD in Australia and New Zealand.&quot;</td>
</tr>
<tr>
<td>Bejot, Y., et al. (2007).</td>
<td>&quot;Epidemiology of stroke in Europe: Geographic and environmental differences.&quot;</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Year</td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
</tr>
<tr>
<td>Bhalla, A., et al.</td>
<td>2004</td>
</tr>
<tr>
<td>Bhalla, K., et al.</td>
<td>2010</td>
</tr>
<tr>
<td>Bilas, V., et al.</td>
<td>2014</td>
</tr>
<tr>
<td>Bishai, D., et al.</td>
<td>2007</td>
</tr>
<tr>
<td>Blakely, T. and A. Woodward</td>
<td>2000</td>
</tr>
<tr>
<td>Reference</td>
<td>Topic</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Borrell, C., et al. (2005). &quot;Education level inequalities and transportation injury mortality in the middle aged and elderly in European settings.&quot; Injury Prevention: Journal Of The International Society For Child And Adolescent Injury Prevention 11(3): 138-142.</td>
<td>Austria, Belgium, Denmark, Finland, Norway, Switzerland, Madrid (Spain), Turin (Italy), Barcelona (Spain).</td>
</tr>
<tr>
<td>Reference</td>
<td>Study Design</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------</td>
</tr>
<tr>
<td>Christensen, M. C., M. Parr, B. J. Tortella, J. Malmgren, S. Morris, T. Rice and J. B. Holcomb (2010). “Global differences in causes, management, and survival after severe trauma: the recombinant activated factor VII phase 3 trauma trial.” The Journal Of Trauma 69(2): 344-352.</td>
<td>Health services supply and demand</td>
</tr>
</tbody>
</table>

* observations study

---

134
<table>
<thead>
<tr>
<th>Title</th>
<th>Countries/Dimensions</th>
<th>Methods</th>
<th>Key Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>d’Albis, H. et al. (2014). &quot;Persistent Differences in Mortality Patterns across Industrialized Countries.&quot; Plos One 9(9): 1-5.</td>
<td>31 industrialised countries</td>
<td>Other artefacts: age - young adults</td>
<td>Observational study (cluster/convergence)</td>
</tr>
<tr>
<td>Dalstra, J., et al. (2006). &quot;A comparative appraisal of the relationship of education, income and housing tenure with less than good health among the elderly in Europe.&quot; Social Science and Medicine 62(8): 2046-2060</td>
<td>10 European countries</td>
<td>Deprivation; educational attainment; housing tenure</td>
<td>Observational study</td>
</tr>
<tr>
<td>Daly, C. A. et al. (2008). &quot;Differences in presentation and management of Stable Angina from East to West in Europe: A comparison between Poland and the UK.&quot; International Journal of Cardiology 125(3): 311-318.</td>
<td>UK versus Poland</td>
<td>Health services supply and demand</td>
<td>Cohort study</td>
</tr>
<tr>
<td>Daniels, G. A. (2014). Underlying influences on health and mortality trends in post-industrial regions of Europe, University of Glasgow. PhD.</td>
<td>Post-industrial change is discussed at three levels. These are (i) International regions – Eastern Europe and Western Europe (ii) Countries – Scotland within the UK is compared with two Eastern European (Poland and the Czech Republic) and two Western European (France and Germany) countries. (iii) Regions within countries that have been subject to deindustrialisation. Five post-industrial regions are investigated (West Central Scotland, The Ruhr, Germany, Nord Pas-de-Calais, France, Katowice, Poland and Northern Moravia, Czech Republic).</td>
<td>Deprivation; deindustrialisation; political attack/effects (including process and response to deindustrialisation; social protection)</td>
<td>A narrative literature review. Case studies</td>
</tr>
<tr>
<td>Darcin, M. and E. S. Darcin (2007). &quot;Relationship between quality of life and child traffic fatalities.&quot; Accident; analysis and prevention 39(4): 826-832.</td>
<td>19 countries: Austria, Belgium, Czech Republic, Denmark, United States, Finland, France, Germany, Hungary, Ireland, Italy, Turkey,</td>
<td>Deprivation/ income; &quot;Quality of life&quot;</td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>Reference</td>
<td>Year</td>
<td>Country(ies)</td>
<td>Methodology</td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Davey Smith et al. (1990). &quot;The Black report on socioeconomic inequalities in health 10 years on.&quot; BMJ (Clinical Research Ed.) 301(6748): 373-377.</td>
<td>1990</td>
<td>Norway, Poland, Portugal, Spain, Sweden, Netherlands, and United Kingdom</td>
<td>Editorial piece with studies from Hungary, Finland, England and Wales, Switzerland, Australia, New Zealand and Japan</td>
</tr>
<tr>
<td>Davis, P. A. and T. Sano (2001). &quot;The difference in gastric cancer between Japan, USA and Europe: what are the facts? what are the suggestions?&quot; Critical Reviews In Oncology/Hematology 40(1): 77-94.</td>
<td>2001</td>
<td>Japan, USA and Europe</td>
<td>Genetic differences; health services supply and demand</td>
</tr>
<tr>
<td>Day, L. H. (1984). &quot;Death from non-war violence: An international comparison.&quot; Social Science &amp; Medicine 19(9): 917-927.</td>
<td>1984</td>
<td>48 countries with &quot;virtually complete” death records</td>
<td>Other artefacts (age/ physiology); genetic factors; anomie; new (social disorganisation; roles)</td>
</tr>
<tr>
<td>de Groot, L et al. (2004). &quot;Lifestyle, nutritional status, health and mortality in elderly people across Europe.&quot; Journals of Gerontology: Series A, Biological Sciences and Medical</td>
<td>2004</td>
<td>Belgium, Denmark, France, Italy, Portugal, Spain, Switzerland, Netherlands</td>
<td>Health behaviours</td>
</tr>
<tr>
<td>Study</td>
<td>Countries/locations</td>
<td>Topic</td>
<td>Study Type</td>
</tr>
<tr>
<td>------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>de Jonge, A. et al. (2013).</td>
<td>Netherlands compared to 28 other countries</td>
<td>Health services supply and demand</td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>De Vogli, R. (2005).</td>
<td>Global</td>
<td>Income inequality; deprivation; political effects; potential mechanism (stress)</td>
<td>Literature review</td>
</tr>
<tr>
<td>De Vogli, R. (2011).</td>
<td>International</td>
<td>Neoliberal political attack; income inequality; deprivation</td>
<td>Evidence review</td>
</tr>
<tr>
<td>De Vogli, R., D. Gimeno and R. Mistry (2009).</td>
<td>Global</td>
<td>Deprivation; potential mechanisms (psychosocial stress); new (public policies- inequality feedback)</td>
<td>Literature review and conceptual</td>
</tr>
<tr>
<td>De Vries, E. et al. (2006).</td>
<td>Children and adolescents in European regions (via the Automated Childhood Cancer Information System project)</td>
<td>Health services supply and demand; Genetic differences; Climate (sun exposure)</td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>Deckert, A. et al. (2010).</td>
<td>Russia and Germany</td>
<td>Migration</td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>Degenhardt, L. et al. (2014).</td>
<td>187 countries</td>
<td>Health behaviours; different culture of substance misuse</td>
<td>Meta-regression</td>
</tr>
<tr>
<td>Delavande, A. and S. Rohwedder (2011).</td>
<td>England, USA, Austria, Germany, Sweden, Netherlands, Spain, Italy, France, Denmark, Belgium</td>
<td>Deprivation; income inequality; new (policy; institutional settings; cultural and social issues)</td>
<td>Modelling study</td>
</tr>
<tr>
<td>Authors</td>
<td>Year</td>
<td>Title</td>
<td>Countries/Issues</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>-------</td>
<td>------------------</td>
</tr>
<tr>
<td>Della Bella, S., et al.</td>
<td>2011</td>
<td>&quot;A Comparative Analysis of Inequality in Health Across Europe.&quot;</td>
<td>European countries</td>
</tr>
<tr>
<td>Desesquelles, A. et al.</td>
<td>2014</td>
<td>&quot;Mortality from Alzheimer’s disease, Parkinson’s disease, and dementias in France and Italy: A comparison using the multiple cause-of-death approach.&quot;</td>
<td>France and Italy</td>
</tr>
<tr>
<td>Desesquelles, A. F. et al.</td>
<td>2009</td>
<td>&quot;Why do Italian people rate their health worse than French people do? An exploration of cross-country differentials of self-rated health.&quot;</td>
<td>France and Italy</td>
</tr>
<tr>
<td>Dhawan, J. et al.</td>
<td>1994</td>
<td>&quot;INSULIN-RESISTANCE, HIGH PREVALENCE OF DIABETES, AND CARDIOVASCULAR RISK IN IMMIGRANT ASIANS - GENETIC OR ENVIRONMENTAL-EFFECT.&quot;</td>
<td>England and India</td>
</tr>
<tr>
<td>Di Cesare, M. et al.</td>
<td>2013</td>
<td>&quot;The contributions of risk factor trends to cardiometabolic mortality decline in 26 industrialized countries.&quot;</td>
<td>26 industrialised countries: Switzerland, Finland, New Zealand, France, Belgium, Canada, Sweden, Austria, USA, Netherlands, Luxembourg, Italy, Australia, Norway, Israel, Germany, Denmark, UK, Greece, Spain, Argentina, Ireland, Japan, Portugal, Mexico, Chile</td>
</tr>
<tr>
<td>Diandini, R. et al.</td>
<td>2013</td>
<td>&quot;Potential years of life lost (PYLL) caused by asbestos-related diseases in the world.&quot;</td>
<td>Global</td>
</tr>
<tr>
<td>Diekstra, R. F.</td>
<td>1989</td>
<td>&quot;Suicidal behavior and depressive disorders in adolescents and young adults.&quot;</td>
<td>Global</td>
</tr>
<tr>
<td>Diekstra, R. F. and N. Garmeyski</td>
<td>1995</td>
<td>&quot;On the nature, magnitude, and causality of suicidal behaviors: An international perspective.&quot;</td>
<td>North America and Europe</td>
</tr>
<tr>
<td>Dillner, L.</td>
<td>1995</td>
<td>&quot;INEQUALITIES CAUSE REPRODUCTIVE DEATHS.&quot;</td>
<td>118 countries</td>
</tr>
<tr>
<td>Dobilhammer, G.</td>
<td>2000</td>
<td>&quot;Reproductive history and mortality later in life: a comparative study of England and Wales and Austria.&quot;</td>
<td>England &amp; Wales, Austria</td>
</tr>
<tr>
<td>Reference</td>
<td>Comparison</td>
<td>Description of Study</td>
<td>Country Comparisons</td>
</tr>
<tr>
<td>-----------</td>
<td>------------</td>
<td>----------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Doborobantu, M. et al. (2009).</td>
<td>Poland vs. Romania</td>
<td>Health services supply and demand</td>
<td>Survey/observational study</td>
</tr>
<tr>
<td>Domino, G. et al. (2001).</td>
<td>USA and rural China</td>
<td>Social capital; individual values; Anomie</td>
<td>Qualitative study</td>
</tr>
<tr>
<td>Donatas, A. S. et al. (1998).</td>
<td>Italy and Greece</td>
<td>Genetics; health behaviours (diet)</td>
<td>Prospective cohort study (seven countries study)</td>
</tr>
<tr>
<td>Dorling, D. (2013).</td>
<td>Britain vs. various other countries</td>
<td>Income inequality (but does not explain all of the gap)</td>
<td>Evidence-based commentary</td>
</tr>
<tr>
<td>Downing, A., Q. Y. Xue, J. Newton-Bishop and D. Forman (2008).</td>
<td>UK, Australia</td>
<td>Climate (sun exposure); deprivation/ income inequality (richer in UK having more access to sunshine holidays); health services supply and demand (better prevention/earlier diagnosis)</td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>Draper, E. S., J. Zeitlin, D. J. Field, B. N. Manktelow and P. Truffert (2007).</td>
<td>France and England</td>
<td>Other artefacts: how mortality is measured and reported</td>
<td>Prospective cohort study</td>
</tr>
<tr>
<td>Drevenstedt, G. L., E. M. Crimmins, S. Vasunilashom and C. E. Finch (2008).</td>
<td>Sweden, Norway, Finland, Belgium, France, Netherlands, Spain, Japan, Denmark, Italy, Australia, USA, England/Wales, Switzerland, Canada</td>
<td>Other artefacts (sex); health services supply and demand (improved obstetric practices and neonatal care)</td>
<td>Secondary statistics analysis</td>
</tr>
<tr>
<td>1-antitrypsin in children exposed to high levels of air pollution.</td>
<td>Southampton</td>
<td>observational study</td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>-------------</td>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td>Eikemo, T. A. and J. P. Mackenbach (2012). EURO-GBD-SE. The potential for the reduction of health inequalities in Europe: final report. Rotterdam, Erasmus Medical Centre.</td>
<td>20 European countries</td>
<td>Health behaviours; educational attainment; unemployment; deprivation; social capital</td>
<td>Modelling based on national statistics</td>
</tr>
<tr>
<td>Eikemo, T. A., A. E. Kunst, K. Judge and J. P. Mackenbach (2008). &quot;Class-related health inequalities are not larger in the East: a comparison of four European regions using the new European socioeconomic classification.&quot; Journal of Epidemiology &amp; Community Health 62(12): 1072-1078.</td>
<td>23 European countries, divided into 4 regions: Eastern Europe; West Europe (North); West Europe (Central); West Europe (South)</td>
<td>Deprivation; educational attainment</td>
<td>Observational study (European Social Survey)</td>
</tr>
<tr>
<td>Ekslera, V., S. Lassarre and I. Thomas (2008). &quot;Regional analysis of road mortality in Europe.&quot; Public Health (Elsevier) 122(9): 826-837.</td>
<td>25 EU member states</td>
<td>Health behaviours: deprivation/ income (access to good quality vehicles); scale of urban change/ urbanisation or new (infrastructure)</td>
<td>Observational study (retrospective)</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Country(s)</td>
<td>Methodology</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Epstein, F. H. (1989).</td>
<td>&quot;The relationship of lifestyle to international trends in CHD.&quot;</td>
<td>27 countries: Scotland, N Ireland, Finland, Czechoslovakia, Ireland, Hungary, England/Wales, New Zealand, Norway, Denmark, Poland, Australia, USA, Sweden, Canada, Netherlands, Germany, Austria, Israel, Belgium, Yugoslavia, Italy, Switzerland, Portugal, Spain</td>
<td></td>
</tr>
<tr>
<td>European Commission (2010).</td>
<td>Reducing health inequalities in the European Union.</td>
<td>EU (more than 20 countries)</td>
<td></td>
</tr>
<tr>
<td>European Commission (2011).</td>
<td>The state of men's health in Europe.</td>
<td>27 Member States of the European Union, the 4 states of the European Free Trade Association (Norway, Iceland, Switzerland and Lichtenstein) and the 3 candidate countries (Croatia, Turkey, Former Yugoslav Republic of Macedonia)</td>
<td></td>
</tr>
<tr>
<td>European Public Health Alliance (2010).</td>
<td>2010 EPHA briefing on health inequalities.</td>
<td>EU</td>
<td></td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Countries</td>
<td>Type of Study</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>-----------</td>
<td>---------------</td>
</tr>
<tr>
<td>Evans, L. (2014)</td>
<td>&quot;Traffic fatality reductions: United States compared with 25 other countries.&quot;</td>
<td>USA and 25 other countries</td>
<td>New (policy road safety)</td>
</tr>
<tr>
<td>Evstifeeva, T. V., G. J. MacFarlane and C. Robertson (1997)</td>
<td>&quot;Trends in cancer mortality in central European countries - The effect of age, birth cohort and time-period.&quot;</td>
<td>6 central European countries, considered as a Western group of countries (Germany (the former FRG), Switzerland and Austria) and an Eastern group of countries (Poland, Czechoslovakia and Hungary)</td>
<td>Health behaviours (tobacco, alcohol)</td>
</tr>
<tr>
<td>Ewbank, D. C. (2004)</td>
<td>&quot;The APOE gene and differences in life expectancy in Europe.&quot;</td>
<td>six countries (Denmark, Finland, France, Italy, the Netherlands, and Sweden)</td>
<td>Genetics (APOE)</td>
</tr>
<tr>
<td>Ewbank, D. C. (2007)</td>
<td>&quot;Differences in the association between apolipoprotein E genotype and mortality across populations.&quot;</td>
<td>Unclear</td>
<td>Genetics (APOE)</td>
</tr>
<tr>
<td>Faergeman, O., J. Jekshus, T. Cook, K. Pyörälä, L. Wilhelmsson, G. Thorgerisson and T. R. Pedersen (1998)</td>
<td>&quot;Differences in the treatment of coronary heart disease between countries as revealed in the Scandinavian Simvastatin Survival Study (4S).&quot;</td>
<td>Denmark, Finland, Iceland, Norway, Sweden</td>
<td>Health services supply and demand; health behaviour (smoking)</td>
</tr>
<tr>
<td>Fang, R. and J. S. Millar (2009)</td>
<td>&quot;Canada's global position in life expectancy: a longitudinal comparison with the healthiest countries in the world.&quot;</td>
<td>Canada, Switzerland, Japan, France, Austria, Italy, Netherlands, Sweden, Australia, Norway, Spain, Germany, Finland, Greece</td>
<td>Health services supply and demand; health behaviours (diet, smoking) and their determinants</td>
</tr>
<tr>
<td>Fawcett, J., T. Blakely and A. Kunst (2005)</td>
<td>&quot;Are mortality differences and trends by education any better or worse in New Zealand? A comparison study with Norway, Denmark and Finland, 1980-1990s.&quot;</td>
<td>New Zealand, Norway, Denmark and Finland</td>
<td>Educational attainment; genetics? Or deprivation? (ethnic minority groups); new? (rapid social and economic change)</td>
</tr>
<tr>
<td>Feinleib, M., P. M. Lambert, T. Zeinerhenriksen, E. Rogot, B. M. Hunt and L. Ingstermoore (1982)</td>
<td>&quot;THE BRITISH-NORWEGIAN MIGRANT STUDY - ANALYSIS OF PARAMETERS OF MORTALITY DIFFERENTIALS ASSOCIATED WITH ANGINA.&quot;</td>
<td>USA, Great Britain and Norway (British and Norwegian migrants to the USA vs. non-migrants who resided in Great Britain or Norway)</td>
<td>Migration</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Year of Publication</td>
<td>Title</td>
<td>Sample Size</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------------</td>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>Last Name, First Name, Middle Name</td>
<td>Title of Work</td>
<td>Location</td>
<td>Keywords</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Fleming, P., T. Clarke and S. M. Gormally (2009).</td>
<td>&quot;Irish neonatal mortality statistics for 2004 and over the past 17 years: how do we compare internationally?&quot; Irish Medical Journal 102(4): 111-113.</td>
<td>Ireland, compared to Norway, France, Spain, Greece, Germany, Australia, Austria, Switzerland, Netherlands, UK, USA, Poland</td>
<td>Deprivation; health services supply and demand; other artefacts (terminations of pregnancy)</td>
</tr>
<tr>
<td>Fogelholm, R. (2003).</td>
<td>&quot;Editorial comment--Explanations for international trends in stroke mortality.&quot; Stroke; A Journal Of Cerebral Circulation 34(8): 1840-1841.</td>
<td>China, Denmark, Finland, Italy, Lithuania, Poland, Russia, Sweden, Yugoslavia</td>
<td>Health services supply and demand; other artefact (death certification)</td>
</tr>
<tr>
<td>Reference</td>
<td>Countries</td>
<td>Health Behaviours</td>
<td>Methodology</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------</td>
<td>------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Fritzell, J. (2012). &quot;Cross-temporal and cross-national poverty and mortality rates among developed countries (Discussion paper no 64).&quot;</td>
<td>26 countries</td>
<td>Deprivation; new (policy: welfare regime)</td>
<td>Pooled cross-sectional time series analysis</td>
</tr>
<tr>
<td>Gaygısız, E. (2009). &quot;Economic and cultural correlates of road-traffic accident fatality rates in OECD countries.&quot; Perceptual And Motor Skills 109(2): 531-545.</td>
<td>30 member countries and 5 accession countries</td>
<td>Deprivation; income inequality</td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>Gaygısız, E. (2010). &quot;Cultural values and governance quality as correlates of road traffic fatalities: A nation level analysis.&quot; Accident Analysis and Prevention 42(6): 1894-1901.</td>
<td>46 countries</td>
<td>Deprivation; income inequality</td>
<td>Retrospective observational study (ecological)</td>
</tr>
<tr>
<td><strong>Reference</strong></td>
<td><strong>Study Countries</strong></td>
<td><strong>Study Focus</strong></td>
<td><strong>Study Design</strong></td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------</td>
<td>----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Grant, W. B. (2010). &quot;Prevalence of apolipoprotein e epsilon4 allele may explain the geographical variation of coronary heart disease mortality rates in Western Europe.&quot; European Journal of Epidemiology 25(9): 667.</td>
<td>Western Europe, Greece, Finland, Northern Europe, Southern Europe</td>
<td>Health behaviours; climatic differences; possible mechanisms; new (Solar radiation)</td>
<td>Commentary/Editorial/Letter/Book</td>
</tr>
<tr>
<td>Location</td>
<td>Topic</td>
<td>Study Type</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>West Germany, Greece, Hong Kong, Hungary, Ireland, Israel, Italy, Jamaica, Japan, Netherlands, New Zealand, Nigeria, Norway, Philippines, Poland, Puerto Rico, Romania, Sweden, Switzerland, Taiwan, UK, US, Yugoslavia</td>
<td>Significant variation in mortality and functional outcome after acute ischaemic stroke between Western countries: data from the tinzaparin in acute ischaemic stroke trial (TAIST).</td>
<td>Journal Of Neurology, Neurosurgery, And Psychiatry 77(3): 327-333.</td>
<td></td>
</tr>
<tr>
<td>Ireland, UK, Belgium, France, Canada, Germany, Netherlands, Denmark, Finland, Norway, Sweden.</td>
<td>Health service supply and demand</td>
<td>Prospective cohort study</td>
<td></td>
</tr>
<tr>
<td>Belarus, Russia and France</td>
<td>Health behaviour; political attack/effect</td>
<td>Retrospective observational study</td>
<td></td>
</tr>
<tr>
<td>Estonia, Latvia, Ukraine, Kazakhstan and Russia</td>
<td>Deprivation; migration; health behaviours</td>
<td>Retrospective observational study</td>
<td></td>
</tr>
<tr>
<td>Russia and Kyrgyzstan</td>
<td>Deprivation; health behaviours; different culture of substance misuse; political attack/effect</td>
<td>Retrospective observational study</td>
<td></td>
</tr>
<tr>
<td>306 communities from 12 countries: Australia, Brazil, China, Korea, Japan, Italy, Spain, UK, USA, Canada.</td>
<td>Climatic differences; housing.</td>
<td>Retrospective observational study</td>
<td></td>
</tr>
<tr>
<td>Missouri USA and Ontario Canada.</td>
<td>Individual values; political attack effect</td>
<td>Retrospective observational study</td>
<td></td>
</tr>
<tr>
<td>Korea, Japan, US</td>
<td>Health service supply and demand; possible mechanisms; new (fitter elderly population)</td>
<td>Retrospective observational study</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hall, W., M. Lynskey and L. Degenhardt (2000). &quot;Trends in drug and alcohol dependence over the last 40 years.&quot; Drug and Alcohol Dependence 57(3): 247-254.</td>
<td>UK and Australia</td>
<td>Health service supply and demand; urbanisation; new access to alcohol or other drugs</td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>Healy, J. D. (2003). &quot;Excess winter mortality in Europe: a cross country analysis identifying key risk factors.&quot; Journal Of Epidemiology And Community Health 57(10): 784-789.</td>
<td>Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, UK</td>
<td>Climatic difference</td>
<td>Retrospective observational study</td>
</tr>
<tr>
<td>Healy, J. D. (2004). Housing, fuel poverty and health: a pan-European analysis. Aidershot, Ashgate Publishing.</td>
<td>UK, Germany, Denmark, Netherlands, Belgium, Luxembourg, France, Ireland, Italy, Greece, Spain, Portugal, Austria, Finland</td>
<td>Deprivation; housing</td>
<td>Commentary/Editorial/Letter/Book</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Countries</td>
<td>Other Information</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Heuveline, P. (2002).</td>
<td>&quot;An international comparison of adolescent and young adult mortality.&quot;</td>
<td>Japan, Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, UK, Chile, Mexico, Venezuela, Canada, US, Australia, New Zealand</td>
<td>New (transition from childhood to adolescence)</td>
</tr>
<tr>
<td>Hoffmann, B., C. R. Gross, K. H. Jockel and K. Kroger (2010).</td>
<td>&quot;Trends in mortality of pulmonary embolism - an international comparison.&quot;</td>
<td>Central Europe (Germany, divided in East and West Germany before 1989 and combined since 1990, Austria, The Netherlands), Western Europe (France and Spain), Scandinavia (Sweden, Norway) Eastern Europe (Poland) and North America (United States of America)</td>
<td>Healthcare supply and demand; other artefacts</td>
</tr>
</tbody>
</table>

149
<table>
<thead>
<tr>
<th>Reference</th>
<th>Study Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>---</td>
<td></td>
</tr>
<tr>
<td>15 EU countries admitted prior to 2004 &amp; 12 EU members admitted since 2004</td>
<td></td>
</tr>
<tr>
<td>Migration; urbanisation; health service supply &amp; demand; deprivation (GNP); new (political transition); social capital; new (faster pace of urban life); health behaviour</td>
<td></td>
</tr>
<tr>
<td>Retrospective observational (Ecological) study</td>
<td></td>
</tr>
<tr>
<td>20 European countries</td>
<td></td>
</tr>
<tr>
<td>New (differences in geographical structure) (regions unequally populated)</td>
<td></td>
</tr>
<tr>
<td>Retrospective observational study</td>
<td></td>
</tr>
<tr>
<td>Women in Sweden, Norway &amp; Denmark</td>
<td></td>
</tr>
<tr>
<td>Health behaviours</td>
<td></td>
</tr>
<tr>
<td>Prospective age-period-cohort study</td>
<td></td>
</tr>
<tr>
<td>25 countries in the EU</td>
<td></td>
</tr>
<tr>
<td>Deprivation; Health service supply &amp; demand</td>
<td></td>
</tr>
<tr>
<td>Retrospective observational study</td>
<td></td>
</tr>
<tr>
<td>13 EU countries</td>
<td></td>
</tr>
<tr>
<td>Deprivation; health behaviours; quality of the external physical environment; health care supply &amp; demand; new (living in mountainous regions)</td>
<td></td>
</tr>
<tr>
<td>Retrospective observational study</td>
<td></td>
</tr>
<tr>
<td>England &amp; Wales, Denmark, Finland, Netherlands, Norway &amp; Sweden</td>
<td></td>
</tr>
<tr>
<td>Other artefact</td>
<td></td>
</tr>
<tr>
<td>Retrospective observational study</td>
<td></td>
</tr>
<tr>
<td>Denmark, England &amp; Wales; Finland; Netherlands, Norway &amp; Sweden</td>
<td></td>
</tr>
<tr>
<td>Deprivation (GDP); health behaviour</td>
<td></td>
</tr>
<tr>
<td>Retrospective observational study</td>
<td></td>
</tr>
<tr>
<td>7 European countries</td>
<td></td>
</tr>
<tr>
<td>Health behaviour; social capital/social support; health service supply &amp; demand; housing; quality of the external environment</td>
<td></td>
</tr>
<tr>
<td>Retrospective observational study</td>
<td></td>
</tr>
<tr>
<td>Estonia, Latvia &amp; Lithuania</td>
<td></td>
</tr>
<tr>
<td>Health service supply and demand; new (health policy measures)</td>
<td></td>
</tr>
<tr>
<td>Discussion</td>
<td></td>
</tr>
<tr>
<td>Estonia &amp; Sweden</td>
<td></td>
</tr>
<tr>
<td>Health behaviours; new (economic &amp; political reconstruction); income inequality;</td>
<td></td>
</tr>
<tr>
<td>Retrospective observational study</td>
<td></td>
</tr>
<tr>
<td>Deprivation (class, occupation); health behaviours</td>
<td></td>
</tr>
<tr>
<td>Retrospective</td>
<td></td>
</tr>
<tr>
<td>Study</td>
<td>Countries/Regions</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Differences in mortality between Japan and England and Wales.</td>
<td></td>
</tr>
<tr>
<td>Kanazawa, S. (2006). &quot;Mind the gap... in intelligence: re-examining</td>
<td>126 countries</td>
</tr>
<tr>
<td>the relationship between inequality and health.&quot; British Journal</td>
<td></td>
</tr>
<tr>
<td>the relationship between inequality and health. British journal</td>
<td></td>
</tr>
<tr>
<td>of health psychology. 11(4), 623-642.</td>
<td></td>
</tr>
<tr>
<td>Kangas, O. (2010). &quot;One hundred years of money, welfare and death:</td>
<td>Australia, Austria, Belgium, Canada,</td>
</tr>
<tr>
<td>mortality, economic growth and the development of the welfare state</td>
<td>Denmark, Finland, France, Germany, Italy,</td>
</tr>
<tr>
<td>in 17 OECD countries 1900-2000.&quot; International Journal of Social</td>
<td>Japan, The Netherlands, New Zealand,</td>
</tr>
<tr>
<td>Welfare 19(Supplement 1): s42-s59</td>
<td>Norway, Sweden, Switzerland, the United</td>
</tr>
<tr>
<td>States</td>
<td></td>
</tr>
<tr>
<td>Karanikolos, M., et al. (2012). &quot;Minding the gap: changes in life</td>
<td>Estonia, Latvia, Lithuania &amp; Finland</td>
</tr>
<tr>
<td>expectancy in the Baltic States compared with Finland.&quot; Journal</td>
<td></td>
</tr>
<tr>
<td>Keatinge, W. R., et al. (1997). &quot;Cold exposure and winter mortality</td>
<td>Finland, Germany, Netherlands, Italy &amp;</td>
</tr>
<tr>
<td>from ischaemic heart disease, cerebrovascular disease, respiratory</td>
<td>Greece</td>
</tr>
<tr>
<td>disease, and all causes in warm and cold regions of Europe.&quot;</td>
<td></td>
</tr>
<tr>
<td>Lancet 349(9062): 1341-1346.</td>
<td></td>
</tr>
<tr>
<td>Keatinge, W. R., et al. (2000). &quot;Heat related mortality in warm</td>
<td>Finland, Germany, Netherlands, Italy &amp;</td>
</tr>
<tr>
<td>and cold regions of Europe: observational study.&quot; British Medical</td>
<td>Greece</td>
</tr>
<tr>
<td>in death certification and coding practices in the European</td>
<td></td>
</tr>
<tr>
<td>Economic Community (EEC) on international cancer mortality</td>
<td></td>
</tr>
<tr>
<td>statistics.&quot; International Journal Of Epidemiology</td>
<td></td>
</tr>
<tr>
<td>16(3): 411-414.</td>
<td></td>
</tr>
<tr>
<td>certification and coding practices on observed differences in</td>
<td></td>
</tr>
<tr>
<td>respiratory disease mortality in 8 E.E.C. countries.&quot; Revue D'</td>
<td></td>
</tr>
<tr>
<td>épidémiologie Et De Santé Publique 31(4): 423-432.</td>
<td></td>
</tr>
<tr>
<td>comparison between Austria, Hungary and Switzerland.&quot; Acta</td>
<td></td>
</tr>
<tr>
<td>Cardiologica 54(6): 299-309.</td>
<td></td>
</tr>
<tr>
<td>between Denmark, Hungary and Japan.&quot; Acta Cardiologica 50(5):</td>
<td></td>
</tr>
<tr>
<td>343-367.</td>
<td></td>
</tr>
<tr>
<td>Author(s)</td>
<td>Year</td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
</tr>
<tr>
<td>Knudsen, L. B. and A. J. Bengt Källén</td>
<td>1997</td>
</tr>
<tr>
<td>Kohler, I. V., et al.</td>
<td>2008</td>
</tr>
<tr>
<td>Kossarova, L., et al.</td>
<td>2013</td>
</tr>
<tr>
<td>Kristenson, M., et al.</td>
<td>1998</td>
</tr>
<tr>
<td>Kristenson, M., et al.</td>
<td>1998</td>
</tr>
<tr>
<td>Kristenson, M., et al.</td>
<td>2001</td>
</tr>
<tr>
<td>Kristufkova, A., et al.</td>
<td>2013</td>
</tr>
<tr>
<td>Kruger, D. J. and R. M. Nesse</td>
<td>2007</td>
</tr>
<tr>
<td>Krus, D. J. and E. A. Nelson</td>
<td>1996</td>
</tr>
<tr>
<td>Kulhánová, I., et al.</td>
<td>2014</td>
</tr>
<tr>
<td>Kulhánová, I., et al.</td>
<td>2014</td>
</tr>
<tr>
<td>Reference</td>
<td>Countries</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td>Kunst, A. and G. Erasmus Universiteit Rotterdam. Instituut Maatschappelijke (1997). Cross-national comparisons of socio-economic differences in mortality =: Internationale vergelijkingen van sociaal-economische verschillen sterfte. Rotterdam, Department of Public Health, Erasmus University.</td>
<td>Europe and the US - different combinations of countries: Denmark, Norway, Sweden, the Netherlands, Switzerland, Italy, Spain, Portugal, England &amp; Wales, Ireland, France and US.</td>
</tr>
<tr>
<td>Laaksonen, M., et al. (2001). &quot;Do health behaviour and psychosocial risk factors explain the European East-West gap in health status?&quot; European Journal Of Public Health 11(1): 65-73.</td>
<td>6 areas representing east/west Europe: Russia, Poland, Hungary, Finland, Spain &amp; Germany</td>
</tr>
<tr>
<td>Reference</td>
<td>Countries/Groups</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>Lester, D. and S. V. Kondrichin (2002). &quot;Genetic risk factors and variation in European suicide rates.&quot; The British Journal of Psychiatry 180(3): 277-278.</td>
<td>Correspondence related to paper by Marusic &amp; Farmer (2001) related to variations in European suicide rates.</td>
</tr>
<tr>
<td>Source</td>
<td>Title</td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>LOPEZ, A. D., CASELLI, G. &amp; VALKONEN, T., Ed. (1995).</td>
<td>Adult mortality in developed countries : from description to explanation. Oxford Oxford University Press.</td>
</tr>
<tr>
<td>Lynch, J., et al. (2001).</td>
<td>&quot;Income inequality, the psychosocial environment, and health: comparisons of wealthy nations.&quot; Lancet 358(9277): 194-200.</td>
</tr>
<tr>
<td>Services 40(4): 577-588.</td>
<td>Country and Year</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Mackenbach, J. P. (2013). “Convergence and divergence of life expectancy in Europe: a centennial view.” European Journal Of Epidemiology 28(3): 229-240.</td>
<td>Countries of Europe</td>
</tr>
<tr>
<td>Reference</td>
<td>Title</td>
</tr>
<tr>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>Madge, N. (1999).</td>
<td>&quot;Youth suicide in an international context.&quot;</td>
</tr>
<tr>
<td>Mäki, N. E., et al. (2014).</td>
<td>&quot;Indicators of health and well-being in Iceland and Sweden: A comparative study of various indicators concerning standards of living and mortality.&quot;</td>
</tr>
<tr>
<td>Marmot Review Team (2011).</td>
<td>The health impacts of cold homes and fuel poverty.</td>
</tr>
<tr>
<td>Marmot, M. and M. Bobak (2000).</td>
<td>&quot;International comparators and poverty and health in Europe.&quot;</td>
</tr>
<tr>
<td>Marmot, M., et al. (2012).</td>
<td>&quot;WHO European review of social determinants of health and the health divide.&quot;</td>
</tr>
<tr>
<td>Marmot, M., (2013)</td>
<td>&quot;Review of social determinants and the health divide in the WHO European Region: final report.&quot;</td>
</tr>
<tr>
<td>Reference</td>
<td>Title</td>
</tr>
<tr>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>McLeod, C. B., et al. (2012).</td>
<td>&quot;Unemployment and mortality: a comparative study of Germany and the United States.&quot; American Journal Of Public Health 102(8): 1542-1550.</td>
</tr>
<tr>
<td>Menvielle, G., et al. (2008).</td>
<td>&quot;Educational differences in cancer mortality among women and men: a gender pattern that differs across Europe.&quot; British Journal Of Cancer 98(5): 1012-1019.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>12. Moniruzzaman, S., &amp; Andersson, R. (2008). Economic development as a determinant of injury mortality—A longitudinal approach. Social science &amp; medicine, 66(8), 1699-1708.</td>
<td>21 member countries of the OECD: high income countries with high levels of GDP per capita (higher high-income countries) ranging from $25,501 to $33,016: Australia, Austria, Ireland, Netherlands, Canada, Denmark, Switzerland, Norway, and the United States (category 1); high-</td>
</tr>
<tr>
<td>Authors</td>
<td>Title</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>Moore, M. A., et al. (1999).</td>
<td>&quot;Cross-country comparisons of colon and rectal cancer mortality suggest the existence of differences in risk factors in eastern and western Europe.&quot; European Journal Of Cancer Prevention: The Official Journal Of The European Cancer Prevention Organisation (ECP) 8(1): 67-71.</td>
</tr>
<tr>
<td>Nusselder, W. J., C. W. N. Looman, H. Van Oyen, J. M. Robine and C. Jagger (2010).</td>
<td>&quot;Gender differences in health of EU10 and EU15 populations: The double burden of EU10 men.&quot; European Journal Of Ageing 7(4): 219-227.</td>
</tr>
<tr>
<td>Reference</td>
<td>Countries</td>
</tr>
<tr>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>O'Brien, R. M. and J. Stockard (2002). &quot;Cohort Effects on Suicide Rates: International Variations.&quot; American Sociological Review 67(6): 854-872.</td>
<td>US and 13 other developed countries the Scandinavian countries of Denmark, Finland, Norway, and Sweden; Ireland and the United Kingdom from the British Isles; the northern and central European countries of the Netherlands, France, and Switzerland; the southern European country of Italy; and New Zealand, Australia, and Canada.</td>
</tr>
<tr>
<td>Oksuzyan, A., M. Shkolnikova, J. W. Vaupel, K. Christensen and V. M. Shkolnikov (2014). &quot;Sex differences in health and mortality in Moscow and Denmark.&quot; European Journal Of Epidemiology 29(4): 243-252.</td>
<td>Russia (Moscow) &amp; Denmark</td>
</tr>
<tr>
<td>Ondrusova, M., J. Muzik, R. Hrcka, L. Friedova and D. Ondrus (2011). &quot;Do we know the cause of the highest colorectal cancer incidence, the changes in the mortality trends and the clinical stages in the Slovak and Czech Republic, the representatives of the Central European region?&quot; Neoplasma 58(4): 283-290.</td>
<td>Slovak (SR) and Czech republic (CR)</td>
</tr>
<tr>
<td>Reference</td>
<td>Countries/Groups</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Pampel, F. C. and J. B. Williamson (2001). &quot;Age patterns of suicide and homicide mortality rates in high-income nations.&quot; Social Forces 80(1): 251-282.</td>
<td>High income nations Finland, Sweden, Norway, Denmark, the United Kingdom, Ireland, the Netherlands, Belgium, Germany, Austria, Switzerland, France, and Italy, the United States, Canada, Japan, Australia, and New Zealand.</td>
</tr>
<tr>
<td>Park, S., M. H. Ahn, A. Lee and J. P. Hong (2014). &quot;Associations between changes in the pattern of suicide methods and rates in Korea, the US, and Finland.&quot; International Journal of Mental Health Systems 8(2):1-7</td>
<td>Korea, USA, Finland</td>
</tr>
<tr>
<td>Pearson, T. A. and K. Pyorala (1989). &quot;Trends in CHD in selected countries - overview.&quot; International Journal Of Epidemiology 18((Supplement 1)): S99-S100.</td>
<td>9 countries: Australia/NZ, Finland, Poland, Soviet Union, Sweden, Italy, Germany, China, Japan</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title/Description</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Pickett, K. E. and R. G. Wilkinson (2007).</td>
<td>&quot;Child wellbeing and income inequality in rich societies: ecological cross sectional study.&quot; BMJ (Clinical Research Ed.) 335(7629): 1080-1080.</td>
</tr>
<tr>
<td>Plug, I., R. Hoffmann, B. Arthik, M. Bopp, C. Borrell, G. Costa, P. Deboosere, S. Esnaola, R. Kalediene, M. Leinsalu, O. Lundberg, P. Martikainen, E. Regidor, J. Rychtarikova, B. r. Heine Strand, B. Wojtyniak and J. P. Mackenbach (2012).</td>
<td>&quot;Socioeconomic inequalities in mortality from conditions amenable to medical interventions: do they reflect inequalities in access or quality of health care?&quot; BMC Public Health 12(1): 346-358.</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
</tr>
<tr>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>Poznyak, V. and D. Rekve (2014)</td>
<td>&quot;Global status report on alcohol and health 2014.&quot; Geneva, World Health organisation.</td>
</tr>
<tr>
<td>Source</td>
<td>Countries Compared</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Pritchard, C. and R. Williams &quot;Shock: violent deaths of children are going down!&quot; Every Child Journal pp24-29.</td>
<td>Developed countries</td>
</tr>
<tr>
<td>Pritchard, C. and R. Williams (2011). &quot;Poverty and child (0–14 years) mortality in the USA and other Western countries as an indicator of 'how well a country meets the needs of its children' (UNICEF).&quot; International Journal of Adolescent Medicine and Health 23(3): 251-255.</td>
<td>USA and 19 Western countries.</td>
</tr>
<tr>
<td>Probst, C., M. Roerecke, S. Behrendt and J. Rehm (2014). &quot;Socioeconomic differences in alcohol-attributable mortality compared with all-cause mortality: a systematic review and meta-analysis.&quot; International Journal Of Epidemiology 43(4): 1314-1327.</td>
<td>15 studies most were from Finland (n=6), the others from Sweden (n=2), Russia (n=2), Estonia (n=1), Poland (n=1), Switzerland (n=1) and Canada (n=1). One study reported data from seven countries and nine different cohorts and one reported two cohorts from the same country.</td>
</tr>
<tr>
<td>Quaglia, A., R. Lillini, E. Crocetti, C. Buzzoni and M. Vercelli (2013). &quot;Incidence and mortality trends for four major cancers in the elderly and middle-aged adults: an international comparison.&quot; Surgical Oncology 22(2): e31-e38.</td>
<td>Italy and USA</td>
</tr>
<tr>
<td>Ramstedt, M. (2002). &quot;Alcohol-related mortality in 15 European countries in the post-war period.&quot; European Journal of Population 18(4): 307-323.</td>
<td>All countries in European Union - minus Luxembourg, plus Norway. Northern Europe (Finland, Norway and Sweden), Central Europe and the British Isles (Austria, Belgium, Denmark, Ireland, the Netherlands, the UK and West Germany (whole Germany after 1990)), and Southern Europe (France, Greece, Italy, Portugal and Spain).</td>
</tr>
<tr>
<td>Reference</td>
<td>Title</td>
</tr>
<tr>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>Redmond, G. and C. Spooner (2009).</td>
<td>Alcohol and other drug related deaths among young people in CIS countries: Proximal and distal causes and implications for policy.</td>
</tr>
<tr>
<td>Regidor, E., D. Martínez, J. M. Santos, M. E. Calle, P. Ortega and P. Astasio (2012).</td>
<td>New findings do not support the neomaterialist theory of the relation between income inequality and infant mortality.</td>
</tr>
<tr>
<td>Richardson, E. A., J. Pearce, H. Tulali, R. Mitchell and N. K. Shortt (2013).</td>
<td>Particulate air pollution and health inequalities: a Europe-wide ecological analysis.</td>
</tr>
<tr>
<td>Study Title</td>
<td>Study Type</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Rosano, A.O. &quot;Infant mortality and congenital anomalies from 1950-1994: an international perspective.&quot; Journal of Epidemiology &amp; Community Health pp660-666.</td>
<td>36 countries from Europe, the Middle East, the Americas, Asia, and the South Pacific. Deprivation; health service supply and demand; other artefacts Retrospective observational study</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Sant, M., R. Capocaccia, A. Verdecchia, J. Estève, G. Gatta, A. Micheli, M. P. Coleman and F. Berrino (1998)</td>
<td>&quot;Survival of women with breast cancer in Europe: variation with age, year of diagnosis and country. The EUROCare Working Group.&quot; International Journal Of Cancer. Journal International Du Cancer 77(5): 679-683.</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Sekikawa, A., et al. (2013).</strong> &quot;Do Differences in Risk Factors Explain the Lower Rates of Coronary Heart Disease in Japanese Versus U.S. Women?&quot; Journal of Women's Health 1(14)</td>
<td>Japan and USA</td>
</tr>
<tr>
<td><strong>Sekikawa, A., K. Miura, B. Willcox, K. H. Masaki, R. P. Tracy, Y. Miyamoto, H. Ueshima and L. H. Kuller (2014).</strong> &quot;Recent trends in mortality from coronary heart disease mortality and its risk factors in selected developed countries.&quot; Circulation 129</td>
<td>Australia, Canada, France, Italy, Japan, Spain, Sweden, UK &amp; US.</td>
</tr>
<tr>
<td><strong>Sengoelge, M., B. Elling, L. Laflamme and M. Hasselberg (2013).</strong> &quot;Country-level economic disparity and child mortality related to housing and injuries: a study in 26 European countries.&quot; Injury Prevention 19(5): 311-315.</td>
<td>26 European countries (Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Iceland, Italy, Latvia, Lithuania, Luxembourg, The Netherlands, Norway (special status country), Poland, Portugal, Slovakia, Slovenia, Spain, Sweden and UK)</td>
</tr>
<tr>
<td><strong>Sengoelge, M., M. Hasselberg, D. Ormandy and L. Laflamme (2014).</strong> &quot;Housing, income inequality and child injury mortality in Europe: A cross-sectional study.&quot; Child: Care, Health And Development 40(2): 283-291.</td>
<td>28 European countries. [Austria, Belgium, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Norway (special status country), Italy, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, the UK]</td>
</tr>
<tr>
<td>Year</td>
<td>Author(s)</td>
</tr>
<tr>
<td>--------------</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2006</td>
<td>Sethi, D., et al.</td>
</tr>
<tr>
<td>2007</td>
<td>Sethi, D., F. Raciopp and R. Bertollini</td>
</tr>
<tr>
<td>2002</td>
<td>Shaw, M. E.</td>
</tr>
<tr>
<td>2000</td>
<td>Shaw, M., S. Orford, N. Brimblecombe and D. Dorling</td>
</tr>
<tr>
<td>2010</td>
<td>Siddiqi, A. and Q. C. Nguyen</td>
</tr>
<tr>
<td>2013</td>
<td>Siddiqi, A., I. J. Omelas, K. Quinn, D. Zuberi and Q. C. Nguyen</td>
</tr>
<tr>
<td>2013</td>
<td>Siddiqi, A., I. Kawachi, D. P. Keating and C. Hertzman</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sonnenberg, A. (2012). &quot;Effects of Birth Cohort on Long-Term Trends in Mortality From Colorectal Cancer.&quot; Clinical Gastroenterology and Hepatology 10(12): 1389-1394.</td>
<td>UK (England &amp; Wales), France, Italy, the Netherlands, Sweden and Switzerland. Health service supply and demand; possible mechanisms - H pylori Time Trend analysis</td>
</tr>
<tr>
<td>Stickley, A., M. Leila, A. E. Kind, M. Bopp, B. H. Strand, P. Martikainen, O. Lundberg, K. Kovács, B. Arntik, R. Kalediener, J. Rychtaříková, B. Wojyniak and J. P. Mackenbach (2012). &quot;Socioeconomic inequalities in homicide mortality: a population-based comparative study of 12 European countries.&quot; European Journal Of Epidemiology 27(11): 877-884.</td>
<td>Northern-western (Finland, Sweden, Norway, Denmark, Belgium and Switzerland) and the eastern part of the region (Slovenia, Hungary, the Czech Republic, Poland, Lithuania and Estonia) Deprivation; health behaviours; individual values; different culture of substance abuse; culture of boundlessness; lower 'social' capital; political attack/effects; educational attainment Retrospective observational study</td>
</tr>
<tr>
<td>Study Details</td>
<td>Populations</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Tausch, A. (2012). &quot;A globalization-oriented perspective on health, inequality and socio-economic development.&quot; The International Journal of Health Planning and Management 27(1): 2-33.</td>
<td>183 countries (115 with complete data)</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
</tr>
<tr>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>Tubeuf, S. and F. Jusot (2011)</td>
<td>&quot;Social health inequalities among older Europeans: the contribution of social and family background.&quot; The European Journal Of Health Economics: HEPAC: Health Economics In Prevention And Care 12(1): 61-77.</td>
</tr>
<tr>
<td>United Nations Children's Fund (2003).</td>
<td>A league table of child maltreatment deaths in rich nations. (Innocenti report card no 5). Florence, UNICEF Innocenti Research Centre.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Vallin, J. et al., Eds. (2001). Trends in mortality and differential mortality. Population Studies no 36. Strasbourg, Council of Europe Publishing.</td>
<td>11 European countries: Finland, Sweden, Denmark, Austria, Germany, France, Italy, Spain, Poland, Romania, Russia</td>
</tr>
<tr>
<td>Vandenheede, H., et al. (2014). &quot;Socioeconomic inequalities in all-cause mortality in the Czech Republic, Russia, Poland and Lithuania in the 2000s: findings from the HAPIEE Study.&quot; Journal Of Epidemiology And Community Health 68(4): 297-303.</td>
<td>Czech Republic, Russia, Poland and Lithuania</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
</tr>
<tr>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>Vaupel, J. W., Z. Zhang and A. A. van Raalte (2011).</td>
<td>&quot;Life expectancy and disparity: an international comparison of life table data.&quot; BMJ Open 1(1): e000128-e000128.</td>
</tr>
<tr>
<td>Verschuren, W. M. M. and D. R. Jacobs (1995).</td>
<td>&quot;Serum total cholesterol and long-term coronary heart disease mortality in different cultures.&quot; JAMA: Journal of the American Medical Association 274(2): 131.</td>
</tr>
<tr>
<td>Villadsen, S. F., et al. (2010).</td>
<td>&quot;Cross-country variation in stillbirth and neonatal mortality in offspring of Turkish migrants in northern Europe.&quot; European Journal Of Public Health 20(5): 530-535.</td>
</tr>
<tr>
<td>Viner, R. M., et al. (2014).</td>
<td>&quot;Deaths in young people aged 0-24 years in the UK compared with the EU15+countries, 1970-2008: analysis of the WHO Mortality Database.&quot; Lancet 384(9946): 880-892.</td>
</tr>
<tr>
<td>Vollset, S. E. (2010).</td>
<td>&quot;Does the southern European cardiovascular mortality advantage extend to total mortality? 50-year trends in death risks between 40 and 70 years of age in Western European men and women.&quot; Scandinavian Journal Of Public Health 38(Suppl 5): 127-134.</td>
</tr>
<tr>
<td>Reference</td>
<td>Title</td>
</tr>
<tr>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>Wanless, D. (2003).</td>
<td>Securing good health for the whole population: population health trends.</td>
</tr>
<tr>
<td>Wennemo, I. (1993).</td>
<td>&quot;Infant mortality, public policy and inequality -- a comparison of 18 industrialised countries 1950-85.&quot;</td>
</tr>
<tr>
<td>White, A. and K. Cash (2004).</td>
<td>&quot;The state of men's health in Western Europe.&quot;</td>
</tr>
<tr>
<td>Wild, P., et al. (2002).</td>
<td>&quot;A cohort mortality and nested case-control study of French and Austrian talc workers.&quot;</td>
</tr>
<tr>
<td>Reference</td>
<td>Country/Region</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Yu, X. Q., et al. (2004). &quot;Comparison of cancer survival in UK and Australia: rates are higher in Australia for three major sites.&quot; British Journal Of Cancer 91(9): 1663-1665.</td>
<td>Yorkshire, UK and NSW, Australia,</td>
</tr>
<tr>
<td>Zhang, J., et al. (2000). &quot;Fish consumption is inversely associated with male lung cancer mortality in countries with high levels of cigarette smoking or animal fat consumption.&quot; International Journal Of Epidemiology 29(4): 615-621.</td>
<td>36 countries, 6 American 24 European, 6 western pacific</td>
</tr>
</tbody>
</table>
Appendix 4  List of excluded studies

Excluded: no geographic comparison – 625.


Adler, N. (2006). "When one's main effect is another's error: material vs. psychosocial explanations of health disparities. A commentary on Macleod et al., "is subjective social status a more important determinant of health than objective


Anderson, O. W. Age-specific mortality differentials historically and currently: observations and implications.


Braubach, Matthias; Jacobs, David E; Ormandy, David, 2011, Environmental burden of disease associated with inadequate housing: methods for quantifying health impacts of selected housing risks in the WHO European region, WHO Regional Office for Europe,


Bromley, C. and S. Cunningham Burley (2010). Growing up in Scotland: health inequalities in the early years, Scottish Government, St Andrews House, Edinburgh EH1 3DG.


Cavanagh, J. T. O. Suicide and undetermined death in South East Scotland. A case-control study using the psychological autopsy method.


Charlton, J. and S. Great Britain. Office for National (1997). The health of adult Britain, 1841-1994 : volume 1, chapters 1-14; reviews broad trends in morality, life expectancy, use of health services and changes in factors which have influenced health, Stationery Office.


Deary, I. J., A. Weiss and G. D. Batty (2010). "Intelligence and personality as predictors of illness and death: How researchers in differential psychology and chronic disease epidemiology are collaborating to understand and address health inequalities." Psychological Science in the Public Interest 11(2): 53-79.


Department of Health: Committee on the Medical Effects of Air Pollutants, 1998, Quantification of the effects of air popullation on health in the United Kingdom, The Stationery Office


HYPERTENSION, AND DIABETES - COMPARISON BETWEEN HOSPITAL DISCHARGE AND MORTALITY DATA." British Journal Of Preventive & Social Medicine 25(2): 84-&.


Dowler, E. and N. Spencer (2007). Challenging health inequalities: from Acheson to 'choosing health', Policy Press, University of Bristol, Fourth Floor, Beacon House, Queens Road, Bristol, BS8 1QU.


Dunning, Jacqui, 1998, Closer focus on detailed issues sought as government prepares to set new casualty reduction targets, IN Local Transport Today, No 245 27 Aug 1998, pp8-9, Journal article


Ellaway, A. and S. Macintyre (1998). "Does housing tenure predict health in the UK because it exposes people to different levels of housing related hazards in the home or its surroundings?" Health & Place 4(2): 141-150.


European Public Health Alliance (EPHA), 2010, 2010 EPHA briefing of health inequalities, European Public Health Alliance (EPHA),


Ferguson, B. "Indications of public health in the English regions, 5: child health."


Glasgow City Council, C. E. s. D. (1999). "Health inequalities in Glasgow (Regeneration Unit: social strategy information no 1)." This paper is unobtainable – NHSHS emailed author - EXCLUDE – no geographical comparison


Great Britain, H. M. T. and P. Great Britain (2011). Treasury minutes on the third to the thirteenth reports from the Committee of Public Accounts session 2010-11 : 3rd report Tackling inequalities in life expectancy in areas with the worst health and deprivation (Department for Health); 4th report Progress with VFM savings and lessons for cost reduction programmes (HM Treasury); 5th report Increasing rail capacity (Department for Transport); 6th report Cafcass's response to increased demand for its services (Department for Education); 7th report Funding the development of renewable energy technologies (Department for Energy and Climate Change); 8th report Customer first programme: delivery of student finance (Department for Business, Innovation and Science); 9th report Financing PFI projects in the credit crisis and the Treasury's response (HM Treasury); 10th report Managing the Defence budget and estate (Ministry of Defence); 11th report Community care grant (Department for Work and Pensions); 12th report Central Government's use of consultants and interims (Cabinet Office); 13th report Bilateral support to primary education (Department for International Development). London, Stationery Office.


Hills, J. and K. Stewart (2005). A more equal society? New Labour, poverty, inequality and exclusion, Policy Press, University of Bristol, Fourth Floor, Beacon House, Queens Road, Bristol, BS8 1QU.


Kondo, N., G. Sembajwe, I. Kawachi, R. M. v. Dam, S. V. Subramanian and Z. Yamagata (2009). "Income inequality, mortality, and self rated health: meta-


Le Fanu, James, 1993, A phantom carnage: the myth that low income kills (Research Report No 17), The Social Affairs Unit


Lloyd, J. (2013). "Cold enough: excess winter deaths, winter fuel payments and the UKa[undefined](TM)s problem with the cold."


Lui, Silvia; Weale, Martin, 2012, Education and its effects on survival, income and health of those aged sixty-five or over in the United Kingdom (NIESr discussion paper no 393), National Institute of Economic and Social Research (NIESR), Report


Minet Kinge, Jones; Morris, Stephen, 2012, Socioeconomic variation in the relationship bewteen obesity and life expectancy (discussion paper 712), Statistics Norway, Report


Older Persons' Substance Misuse Working Group of the Royal College of, P. (2011). "Our invisible addicts (College report CR165)."


Parkes, Alison; Wright, Daniel, 2011, Growing up in Scotland: parenting and children's health, Scottish Government


Patterson, Lindsay; Bechhofer, Frank; McCrone, David, 2004, Living in Scotland: social and economic change since 1980, Edinburgh Univesity Press Ltd,


Pinoncely, Victoria; Hartkoom, Inge, 2014, Promoting healthy cities: why planning is critical to a health urban future (Planning horizons no 3), Roal Town Planning Institute (RTPI), Report


Scottish Executive Health Department, 2000, 1999 health in Scotland, The Stationery Office Bookshop


Seymour, J. "Poverty in plenty: a human development report for the UK."


Sidebottom, P. (2011). Serious and fatal child maltreatment: setting serious case review data in context with other data on violent and maltreatment-related deaths in 2009-10 (Research report DFE-RR167), Department for Education, Sanctuary Buildings, Great Smith Street, London SW1P 3BT.


Sloggett, A., et al. (1994). Women’s smoking and morality in Britain : linking smoking patterns, socio-economic factors and mortality, London School of Hygiene and Tropical Medicine, Centre for Population Studies.


Spencer, N. "The effect of income inequality and macro-level social policy on infant mortality and low birthweight in developed countries: a preliminary systematic review." Child: Care.


behaviour risk factors for deaths certified as asthma: A national case-control study." Thorax 57(12): 1034-1039.


Thorpe, Caroline, 2009, Life support (landlords supporting their tenants' health) IN Inside Housing, Dec 2008, pp22-25, Journal article


Waldron, I. and P. Int Union Sci Study (1992). "CONTRIBUTIONS OF GENETIC AND ENVIRONMENTAL-FACTORS TO CHANGING SEX-DIFFERENCES IN MORTALITY." Seminar on Premature Adult Mortality in Developed Countries: From Description to Explanation, Vols 1 and 2: B351-&.


Wang, Xia et al., 2014, Fruit and vegetable consumption and mortality from all causes, cardiovascular disease, and cancer: systematic review and dose-response meta-analysis of prospective cohort studies, IN BMJ, Vol 349 29 Jul 2014, pp1-4, Journal article


Excluded: no theory or explanation for excess mortality - 266


(2010). The Glasgow Effect: City's residents more likely than anyone else in Scotland to suffer from anxiety or heart attack The Daily Record.


Anonymous, 2005, Curing Scotland's 1 billion pound hangover, IN third force news, No 332 2 Feb 2005, pp6-7, Journal article


Audit Scotland, 2009, Drug and alcohol services in Scotland, Audit Scotland


Chief Medical Officer, 2011, Health in Scotland 2010: assets for health, Scottish Government


Cook, Roger, 2012, Social exclusion in Scotland, Scotland Institute, Report

Crawford, Fiona; Whyte, Bruce, 2013, Cycling is good for health and the economy Briefing paper 37), Glasgow Centre for Population Health (GCPH), Report


Department For, T. "Reported Road Casualties Great Britain: annual report 2011."


Elliot, Paul et al, 2001, Birth outcomes and selected cancers in populations living near landfill sites: report to the Department of Health, SAHSU

Emily R. Munro, Rebecca Brown, Joe Sempik and Harriet Ward* with Charlie Owen (2011). Scoping review to draw together data on child injury and safeguarding and to compare the position of England with that in other countries. London, Great Britain: Department for Education.


EURO-URHIS 2, 2012, Health profile: Glasgow, United Kingdom, European Urban Health Indicator System Part 2 (EURO-URHIS 2)


Glasgow Centre for Population Health, 2010, GoWell; syntesis of research findings 2006-2009, Glasgow Centre for Population Health

Goodman, Patrick et al, 2011, Fuel povert, older people and cold weather: an all-island analysis, Department of Health,


Hanlon, Phil; Walsh, David; Whyte, Bruce, 2006, Let Glasgow flourish; a comprehensive report on health and its determinants in Glasgow and West Central Scotland, Glasgow Centre for Population Health,


Ho, C. K. and E. University of (2010). Projecting extreme heat-related mortality in Europe under climate change, University of Exeter.


Lawlor, D. A., S. Ebrahim and G. D. Smith (2002). "Trends in sex differences in mortality from heart disease: sex is not same as gender, and theory was first proposed in 1950s, say authors." BMJ (Clinical Research Ed.) 324(7331): 237-238.


McCartney, Gerry et al, 2013, Making a bad situation worse? The impact of welfare reform and the economic recession on health and health inequalities in Scotland, NHS Health Scotland


Micklewright, John; Stewart, Kitty, 2000, The welfare of Europe’s children: are EU member states converging?, Policy Press, IDOX plc 2000


Morrison, Joana et al, Health inequalities in European cities: perceptions and beliefs among local policymakers, IN BMJ Open, 28 May 2014, Internet Article

Munro, Emily et al, 2011, Scoping review to draw together data on child injury and safeguarding and to compare the position of England with that in other countries (Research report DFE-RR083), Department for Education


National Records of Scotland, 2014, Drug-related deaths in scotland in 2013: statistics of drug-related deaths in 2013 and earlier years, broken down by age, sex, selected drugs reported, underlying cause of death and NHS Board and Council areas, National Records of Scotland (NRS), Report


Organisation for Economic Co-operation and Development (OECD), 2013, Health at a glance 2013: OECD indicators, Organisation for Economic Co-operation and Development (OECD), Report


Pritchard, C. and L. Hansen (2005). Child, adolescent and youth suicide or undetermined deaths in England and Wales compared with Australia, Canada, France, Germany, Italy, Japan and the USA. Suicidal behavior in adolescence:


Sautkina, Elena; Bond, Lyndal; Kearns, Ade, 2012, Mixed evidence on mixed tenure effects; finding forms a systematic review of UK studies 1995-2009, IN Housing Studies, Vol 27 No 6 Sep 2012, pp748-782, Journal article


Scottish Executive, Health Department, 2003, Scottish Executive’s annual Report on drug misuse: January 2003, Stationery Office Bookshop


World Health Organisation (WHO), 2013, Status report on alcohol and health in 35 European countries, WHO Regional Office for Europe


Excluded: not mortality - 126


Committee on the medical Effects of Air Pollutants, 2006, Cardiovascular disease and air pollution, Department of Health


Donnellan, Craig (ed), 2003, The wealth divide (issue no 56), Independence PO Box 295


Ehlert, C. and S. Schaffner (2011). Health effects of temporary jobs in Europe (Ruhr economic papers no 295), Ruhr Universitat Bochum (RUB), Department of Economics, 44801 Bochum, Germany.


Given, Lisa; Webster, Catriona, 2008, Scottish social attitudes survey 2007 core module report 2: subjective perceptions of well-being in Scotland, Scottish Government, Social Research


Social Exclusion Task Force, 2010, Inclusion health: evidence pack, Cabinet Office,


Sullivan, Alice et al: Institute of Education, The consequence of age 7 of early childhood disadvantage in Northern ireland and Great Britian,Office of the First Minister and Deputy First Minister


**Excluded: not developed countries -69**


Save the Children.2013 "Surviving the first day: state of the world's mothers 2013."Save the Children.


**Excluded: other – 30**

Historical


Russell, J. B. Remarks by medical officer, to accompany mortality tables of the City of Glasgow, for the quarter ending.


General Register Office for Scotland (2013) Increased Winter Mortality - Background


Walsh, D. (2010). "Investigating a 'Glasgow effect': why do equally deprived UK cities experience different health outcomes? (Briefing paper 25)."

Press Releases (where full report available)


NHS Health Scotland News (2015) Rich/poor gap leads to thousands of unnecessary deaths in Scotland

World Health Organization (2008) Media Centre. Inequities are killing people on grand scale, reports WHO's commission (Press release)

Methodology/Method papers -


Errata


Citation only (but other author's work available)

Kunst, A., et al. (1992). An international comparison of socio-economic inequalities in mortality. Rotterdam, Department of Public Health and Social Medicine, Faculty of Medicine and Health Sciences, Erasmus University.


Critique


Book Review

Appendix 5  List of studies awaiting assessment or unobtainable

Papers Awaiting Assessment - 15


Falkingham, J. and E. Grundy (2006). "Demographic aspects of population ageing (ESRC Seminar Series: mapping the public policy landscape)."


**Foreign Language Papers - 24**


"[Interrelations between functional changes and health status and climatic factors of Extreme North (review)]." Gigiena I Sanitariia(7): 4-9.


**Unobtainable Papers – 91**


Coalfield Communities Campaign, 2005, Deprivation in Scottish coalfield communities, Coalfield Communities Campaign


Macdonald, C. Live long in Scotland - the relative contribution of medicine and standards of living to Scotland's falling mortality rates.


Mackintosh, Katie, 2009, Making it right (health inequalities), IN Holyrood, No 214, 15 Jun 2009 pp34-35,37, Journal article


Mercer, A. J. Disease and mortality change in the demographic transition in England and Wales: with comparative evidence from Europe.


Mortality rates for ages 45-74 in Scotland compared with England and Wales, Northern Ireland and 9 selected countries.


Sly, F. "Regional trends."

Spijker, Jeroen, 2004, Socioeconomic determinants of regional mortality difference in Europe (population studies series), Dutch University Press

Stewart, K. L. and G. University of (2014). Cardiac death in the young in Scotland: implications for screening. [Great Britain], University of Glasgow.UNOBTAINABLE


The, A. (2008). "It's a matter of life and death: the persistence of poor health in Britain's older industrial areas."


Wilkinson, R. G. The impact of income inequality on life expectancy. UNOBTAINABLE


Background Papers – 41


Riva, M., L. Gauvin and T. A. Barnett (2007). "Toward the next generation of research into small area effects on health: A synthesis of multilevel


Smith, G. D. (2003). Health inequalities: lifecourse approaches, Policy Press, Beacon House, Queens Road, Bristol BS8 1QU.


