NHS

Health Development Agency

Worklessness and health – what do we know about the causal relationship?

Evidence review

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Foreword

The Health Development Agency (HDA) was established in 2000. Since then it has been engaged, among other things, in building the evidence base in public health with a special focus on reducing inequalities in health. It has developed a number of ways of taking a systematic approach to compiling the evidence, identifying gaps and making the evidence base accessible. The evidence reviews and evidence briefings that the HDA publishes are two of the principal ways in which the evidence base is disseminated (full details of the process of developing the evidence base and the associated methodological activities can be found in Swann et al., 2002; Kelly et al., 2002, 2003, 2004; Killoran and Kelly, 2004; Graham and Kelly, 2004).

The HDA's *evidence reviews*, of which this is one, are traditional reviews, overviews or syntheses of multiple evidence sources drawn from different research traditions. These take a variety of forms and formats. In some cases they consist of analyses of primary studies drawn from the published or unpublished literature and sources. In other cases they comprise assessments of theoretical literature and the concepts and ideas that relate to the evidence base in public health. They provide a general evidence resource on a range of public health topics.

HDA *evidence briefings* are syntheses of the world English language systematic review literature on particular topics and consist of tertiary level research, ie reviews and syntheses of existing systematic reviews and meta-analyses.

The HDA's evidence products are available on the website – www.hda.nhs.uk/evidence – and the electronic versions are updated on a regular basis as new evidence becomes available.

The construction of the HDA Evidence Base has involved collaboration with a number of partners who have interests and expertise in practical and methodological matters concerning the drawing together of evidence and its dissemination. In particular the HDA would like to acknowledge the following: the NHS Centre for Reviews and Dissemination at the University of York; the EPPI-Centre at the Institute of Education at the University of London; Health Evidence Bulletins Wales; the ESRC UK Centre for Evidence Based Policy and Practice at Queen Mary College, University of London and its nodes at the City University London and the MRC Public Health Sciences Unit at the University of Glasgow; members of the Cochrane and Campbell collaborations; the United Kingdom and Ireland Public Health Evidence Group and the members of the Public Health Evidence Steering Group. This latter organisation acts as the overall guide for the evidence-building project of the HDA. The cooperation of colleagues in these institutions and organisations has been of significant help in the general work in preparing the framework for how we assess the evidence. The HDA is, however, responsible for the presentation and organisation of the material in the briefings.

Every effort has been made to be as accurate and up to date as possible in the preparation of this review. However, we would be very pleased to hear from readers who would like to comment on the content or on any matters relating to the accuracy of the review. We will make every effort to correct any matters of fact in subsequent editions. Comments can be made by using our website www.hda.nhs.uk/evidence

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Contents

Foreword	ii
Acknowledgements	iii
Summary	1
Introduction	4
Background	4
Aims of this review	4
Who is this review for?	4
Methodological issues	4
Policy context	5
Methodology	7
Identification of literature	7
Data handling process	8
Definitions	8
Papers included	9
Overview	9
Findings	11
Physical health	11
Psychiatric morbidity and unemployment	13
Social aspects of health	16
Gaps in the current literature and areas for further research	18
Conclusion	20
References	22
Appendix 1: Search strategy	23
Appendix 2: HDA Evidence base – critical appraisal of literature	24

Summary

Introduction

The Health Development Agency (HDA) has taken on the task of mapping and synthesising the evidence base for public health. The subject of this evidence review is the causal relationship between worklessness and ill health, and on the direction of that relationship.

Aims of this review

This review provides a synopsis of the literature about the relationship between worklessness and ill health. The aims are to:

- Identify all relevant review-level literature both through standard literature searching methods and by exploring the grey literature
- Review these papers and highlight recurrent themes and evidence that support or refute a relationship between work and health and, where possible, to report on the magnitude of that effect
- Set this evidence within the current employment policy context
- Highlight any gaps in the evidence and provide recommendations for policy and research commissioners.

Who is this review for?

This evidence review is intended to inform policy and decision makers, organisations with an interest and remit for work and health, and employers in the widest sense.

Policy context

This review enhances and builds on a strong momentum in government and elsewhere to continue to make a difference to the life chances of people who struggle with poor health. The consequences of increasing our understanding of the relationship between worklessness and health – and the active demonstration that work is good for people – should result in increased life chances. There are other potential beneficiaries, including the taxpayer, employers and, most importantly, the nation as a whole.

This review sets out the current research evidence and offers an insight into how the agenda might be taken forward. Clearly, though, understanding is only part of the equation. We can only effect real change by acting on that understanding and ensuring that in the future, where appropriate, all strategies and initiatives have employment as a central component and outcome.

About evidence reviews

Evidence reviews, of which this is one, are reviews, overviews or syntheses of multiple evidence sources drawn from different research traditions. These take a variety of forms and formats. In some cases they consist of analyses of primary studies, drawn from the published or unpublished literature and sources, and in others (such as this on worklessness) they consist of assessments of theoretical literature and the concepts and ideas which relate to the evidence base in public health. They provide an evidence resource on a range of public health topics.

Findings

Physical health

This section reports on the relationship between unemployment and physical health conditions, including studies exploring mortality in terms of overall population studies, and deaths due to specific health conditions, such as cardiovascular disease. It also includes morbidity

studies that focus on conditions such as cardiovascular disease, stroke and general rates of GP consultation. Deleterious health behaviours include alcohol consumption, smoking and consumption of illegal drugs.

Mortality and unemployment – population studies

- England and Wales (among other countries) demonstrate a positive association between mortality and unemployment for all age groups, with suicide increasing within a year of job loss, and cardiovascular mortality accelerating after two or three years and continuing for the next 10-15 years.
- Standard mortality ratios are higher for men who have been out of work.
- There is an estimated 20% excess risk of death for both men actively seeking work and their wives, with the possibility that this may be higher still in areas of higher unemployment.
- While poverty can be thought of as one of the potential mediating factors for increased mortality, unemployed people also adapt to their new status so that further deterioration (in terms of health and social status) does not occur beyond 12-18 months.

Mortality and unemployment – deaths due to cardiovascular disease and other physical health conditions

- There appears to be some association between unemployment and mortality due to health conditions such as cardiovascular disease, but this relationship is less clear for other conditions such as stroke.

Morbidity and unemployment – physical health conditions and health service usage

- Studies illustrate that during the anticipation and termination phase of factory closure, illness and health service use increase, the rate of hospital admissions doubles and conditions such as cardiovascular disease and higher blood pressure increase.

Morbidity and unemployment – health-related behaviours

- The pattern for health-related behaviours (eg alcohol use and smoking) is contradictory, with disagreement between studies and no overall pattern observable concerning unemployment, suggesting the need for further study.

Psychiatric morbidity and unemployment

Evidence suggests that there is a strong association between unemployment and measures of psychological and psychiatric morbidity. Factors such as levels of social support, geography, gender, age and type of employment appear to be confounders to this relationship. Upon re-employment, there appears to be a reversal of these effects. While the direction of causality is difficult to determine, unemployment is considered to be a significant cause of psychological distress in itself.

Suicide

- While unemployment may be associated with increased suicide, there is no clear evidence for a relationship in the UK. There appears to be a stronger relationship between parasuicide and unemployment.

General Health Questionnaire (GHQ) and generic measures of mental health

- Studies indicated a positive association between unemployed people and a higher prevalence of common mental disorders.
- The precise nature of the association between unemployment and increased mental health problems remains to be established.
- The literature describes a stabilisation of unemployed people's mental health levels once they have undergone a period of adjustment to their new circumstances.
- Factory closure studies indicate that job insecurity itself was found to bring higher levels of psychiatric morbidity among those anticipating the threat of redundancy compared to those anticipating no change.
- The impact of job insecurity and job loss on mental health appears to vary according to age, social support, duration of unemployment and level of unemployment within an area.
- For certain occupations it may actually be more advantageous for people's health to be unemployed as opposed to employed.

Locus of control and gender

- Reviews have identified a number of studies that consider weak locus of control as a precursor of mental distress, whereas those who are unemployed but have more positive and goal-oriented outlooks fare better.

- Research has had a prevailing focus on unemployed men. There is an assumption that women do not show psychological distress to the same degree as men because of lower levels of attachment and identification with work. Though some studies have found no association between unemployment and psychological distress, others have found that for single women the relationship between mental health and unemployment is similar to that for men.
- Being married has been understood as a 'protective agent' against psychological distress.

Selection vs causation

- As in all sections of this evidence review, the direction of causality is an issue of debate. Selection bias indicates that those with mental health problems are more likely to lose employment and those without to gain employment.

Social aspects of health

In addition to physical and mental health, there are a number of social variables that may have impact on or correlate with health and unemployment. They concern the social identities that we negotiate in our everyday lives, such as those according to gender, age and ethnicity.

Gaps in the literature and areas for further research

There is a remarkable degree of consistency in the gaps identified in the literature and the calls made for further research:

- Review authors remark that the impact of unemployment on health needs to be considered in the light of other mediating factors such as poverty, financial anxiety, education, income and individual contexts
- There needs to be more qualitative research based on gender theories to search for deeper mechanisms and mediating factors
- A lack of review-level literature addressing the relationship between ethnicity, health and worklessness suggests a need for more research in this area
- The epidemiological evidence suggests that the direction of causation from unemployment to illness is greater than the inverse but that this relationship is complex and not yet determined
- There needs to be a greater focus on job loss research that is more than descriptive, attempting to specify the relationship between demographic groups, properties of job loss experienced, and self-evaluative consequences of job loss
- A 'life-course' perspective to worklessness and health research would be useful, with unemployment being understood as one life event among a number of others
- Much more research needs to be done to be able to inform policy decisions and service provisions in the health arena.

Conclusion

- The evidence outlined in this review shows a relationship between unemployment and poor health, although causation is not proven.
- There would seem to be a strong relationship between psychiatric morbidity and unemployment.
- Much of the evidence from both original studies and reviews deals with the concept of unemployment, and not worklessness in its broadest sense.
- There is a need for an increased sophistication in understanding the health and work agenda within the context of health inequalities, especially the geographical dimension. Improvements in the nation's health may not by itself have a significant impact on health inequalities. There is a strong association between deprived areas, poor health, poverty and worklessness although the exact relationship is not clear.
- Given the potential differences on morbidity and life expectancy within local authorities, there may be an argument to examine the geographical dimension on worklessness and health at ward level if such data exist.

The evidence suggests a relationship between unemployment and health and a strong association between unemployment and poor mental health. The complex relationship though is less clear, in part confounded by other variables such as educational attainment, the environment and economic circumstance.

Although it is difficult to consider definitive implications for policy at this stage, there is a strong case for all health strategies to consider employment as an outcome, where appropriate. There is also a strong case for employment policy to evaluate the health impact of all its relevant interventions.

Introduction

Background

Decisions about policy and practice in the public sector are increasingly driven by consideration of the best available evidence. The Health Development Agency (HDA) has taken on the task of mapping and synthesising the evidence for the effectiveness of interventions to improve health and reduce health inequalities, across priority areas of public health, through its 'reviews of reviews'. This review to some extent represents a break from two of the HDA traditions:

- It does not review any public health interventions; rather, its focus is on the causal relationship between worklessness and health, and on the direction of that causal relationship
- Rather than being an evidence briefing, ie a review of systematic reviews and meta-analyses, this document represents a new HDA product called an evidence review (see 'Methodological issues', this page).

Aims of this review

This review provides a synopsis of the evidence about the relationship between worklessness and ill health. The aims of this review are to:

- Identify all relevant review-level literature both through standard literature searching methods and by exploring the grey literature
- Review these papers and highlight recurrent themes and evidence that supports or refutes a relationship between work and health and, where possible, to report on the magnitude of that effect
- Set this evidence within the employment policy context
- Highlight any gaps in the evidence and provide recommendations for policy and research commissioners.

Who is this review for?

This review is intended to inform policy and decision makers, organisations with an interest and remit for employment and health, and employers in the widest sense. It is designed to be read by a variety of users, including those simply looking for headline findings, those wanting complete and detailed information, and those who need to track back to the original primary and secondary sources.

Methodological issues

This evidence review is drawn from all review-level literature, including grey literature, rather than exclusively from systematic reviews and meta-analyses. This makes it a useful document when exploring a field where there is a dearth of evidence at the level of systematic reviews and meta-analyses.

The main methodological issue that arises is that there is little opportunity to assess objectively the quality of the literature reviewed. This means that the evidence review is much more of a scoping exercise than the more robust evidence briefing products. We do not evaluate the quality of the reviews included here – inclusion in this review is not an HDA endorsement of the quality and rigour of these papers.

There is also a recognised methodological problem when undertaking a review of reviews – that different reviews frequently include some of the same primary evidence. This would bias findings in favour of study results that occur more often in the individual reviews.

A final issue is that of time lag. Inevitably, if one relies on review-level data to gather information, some time –

usually one or more years – will elapse between the publication of single studies, the subsequent examination of these single studies by reviewers, and the publication of their reviews. Because of the processes involved in carrying out meaningful, high quality research this is to some extent inevitable, and it can be argued that the procedures that cause this delay – the need for publications to be peer-reviewed, the need for a body of work to build up before it can be reviewed and examined – help avoid publication or positive bias in review findings. It means that the reviews included here take into account single studies with a cut-off date of at least one year before the most recent review. If one single study has been published in the meantime that alters common conceptions or consensus about worklessness and health, it will take a while for the findings of that single study to filter into this forum.

In summary, the data presented in this evidence review are only a partial answer. In using this review to inform practice or policy making, there are a number of other sources of information and evidence that could usefully be taken into account. These include:

- Information from practice studies (eg practice databases, 'promising practice' case studies)
- Research studies that have not been included in reviews (eg qualitative studies, non-controlled case studies)
- Expert and practitioner opinion
- Client opinion and experience.

Mapping, collating and making available data from these alternative sources is a priority for the HDA. In the meantime, the Public Health Electronic Library (PHeL www.phel.gov.uk) will be a good starting point for the practitioner or policy maker seeking to take these other types of evidence into account.

Policy context

The consequences of increasing our understanding of the relationship between worklessness and health, and the active demonstration that work is good for people should result in several positive outcomes, not least of which is increased life chances for the person struggling with poor health. There are other potential benefits: an increase in economic activity could free up resources in the health system, cut the benefits bill and, most importantly, build a healthier nation. While the issue of work retention is not central to this agenda, there are almost certainly advantages in keeping people in work as opposed to allowing them to drift into long-term benefit dependency. Employers also benefit from a healthier workforce by way of reduced costs due to sickness absence and minimising recruitment costs. Therefore, as with most public health issues, prevention is almost certainly better than cure.

This review enhances and builds on a strong momentum in government and elsewhere to continue to make a difference to the life chances of people with poor health. There are a range of initiatives to support this, many of which are embedded in the health and work agenda, such as the Department for Work and Pensions' (DWP) Pathways to Work Pilots, and Framework for Vocational Rehabilitation, and the joint Department of Health (DH) and DWP Job Retention and Rehabilitation Pilot, which will report in 2005. Other related developments are *Mental health and inclusion* (Social Exclusion Unit, 2004), *Improving the life chances of disabled people* (Strategy Unit, 2005), and the *Choosing health* white paper (DH, 2004).

Clearly, understanding the association between worklessness and poor health is important from a broad range of perspectives. However, actively demonstrating the relationship is difficult, not least because of the level of complexity involved. This is not helped by the range of variables that serve to confound any meaningful, assured statements on the extent to which unemployment results in poor health (and on a more positive front the therapeutic value of work). The association between poor health and worklessness might be related to any number of other factors, such as poverty, individual capacity, the environment and illness history.

Much of the more robust evidence is statistical and is considered within the context of large, national populations, often having minimal application or meaning to those individuals whose health could benefit from knowing the advantages of employment. Those initiatives that can actively show a relationship between health and work are often small-scale and lack the validity needed by the scientific community and others. There is therefore a conundrum around how to provide a robust and meaningful evidence base. It will be critical for stakeholders to consider how best to achieve increased validity among small projects and initiatives, and how to

translate national findings from larger population studies into local action.

This review sets out the current research evidence. While it does not categorically demonstrate the association between health and work, it does offer insight into how the agenda might be taken forward. Understanding this agenda and its potential can make a vast difference to the wellbeing of the country. Clearly, though, understanding is only part of the equation. We can only effect real change by acting on that understanding and ensuring that in future, where appropriate, all strategies and initiatives have employment as a central component and outcome. We will then rightly have recognised the importance of work as a key public health intervention.

Methodology

This evidence review is based on findings from review-level data focusing on the relationship between unemployment and health. It is a 'review of reviews' and not a systematic review of interventions to address unemployment.

The methods used for this first edition, which are in line with the HDA's Evidence Base methodology (Swann et al., 2003), are described below.

Identification of literature

The search strategy was devised by the review team (comprising an external social research consultant, an external policy expert and members of the HDA research and information team). This evidence review aims to broaden the focus beyond systematic reviews alone (for example, by including descriptive reviews) while still employing the rigorous methodology characteristic of HDA research.

To ensure maximal data capture, an extensive literature search was conducted on:

- Literature in the public domain (journal articles, reports and other published literature)
- 'Grey' literature (unpublished material such as commissioned reports by individual agencies).

Searches of literature in the public domain were conducted by HDA researchers using the following databases (see also Search strategy, Appendix 1):

- MEDLINE
- Cinahl
- Embase
- Cochrane
- Amed
- Current Contents
- Sociological Abstracts
- HMIC
- SIGLE
- Assia
- Urbadisc

The social research consultant made contact with a range of research agencies focusing on employment and spoke to a number of experts in the field to identify 'grey' literature that would add to the body of data compiled by electronic searches. Searches were also made of internal libraries such as that of Department of Work and Pensions (DWP) (at the Adelphi, London). Agencies in which experts were contacted, or where records were accessed, included:

- Policy Studies Institute, London (Michael White)
- Institute for Employment Studies, Brighton
- Institute of Economic and Social Research, Essex University
- Institute for Employment Research, University of Warwick
- Policy Research Unit, Sheffield Hallam University (Christiana Beatty)
- Leeds Metropolitan Public Research Institute
- Centre for Analysis of Social Exclusion, London School of Economics
- Centre for Analysis of Social Policy, University of Bath (Marcus Evans)
- National Institute for Economic and Social Research
- Social Research Division, DWP (Grace Williams)
- Social Exclusion Unit (Donna Molloy)
- National Centre for Social Research (William O'Connor)
- London Health Commission (Catherine Max)
- Sector Skills Development Agency (Mike Campbell)
- Renewal.net
- Public Health Observatory websites.

Data handling process

Formal inclusion criteria were agreed by the project team and established for the review as:

- English language
- 1990 to present
- Systematic and wider descriptive reviews of unemployment and health as well as meta-analyses
- UK focused.

An initial list of 52 potential articles to be included in the review, generated by electronic searches conducted by HDA review team members, together with references generated by a grey literature search by the social research consultant, were brought together at a review team meeting. Through assessment of the abstracts, 21 full articles were sourced by the HDA. The full version of these articles went through a process of dual assessment by the HDA members of the review team using a slightly adapted version of the standard HDA critical appraisal tool (a slight amendment was made as there was no reliance on interventions for the purposes of this review – see Appendix 2). There was no blinding of authorship of retrieved papers. Any potential disagreements were resolved through discussion or, if necessary, through recourse to a third reviewer. The critical appraisal process identified 12 articles for inclusion within the evidence review.

Of the papers passed by the critical appraisal process, five focus on unemployment and mental health or parasuicide, four explore the relationship between unemployment or job insecurity and general health, two look specifically at youth unemployment and health (one from a gender perspective) and one paper is an extensive systematic review of the relationship between unemployment and health in 15 different European countries (Brenner, 2002).

Definitions

The scope of the literature searching and inclusion criteria was set to include 'worklessness' in its widest sense, as current thinking about worklessness is far broader than the simple distinction between employment and unemployment, and throughout this review the word 'worklessness' has been used in its generic and inclusive sense. A large proportion of the literature included, however, relates specifically to 'unemployment' as the subject of the investigation. Where this is the case, the word 'unemployment' has been used to maintain fidelity to the content of the review in question, and to avoid spontaneous generalisation of results which may not be generalisable to the wider context of worklessness.

Papers included

Overview

Articles included in the review process showed a range of different theoretical and empirical perspectives on the relationship between worklessness and health. However, all review articles share two underlying principles.

Methodologies

All authors identify a range of methodologies used by the studies in their investigation of the relationship between worklessness and health. For each study, there are advantages and disadvantages to the applied methodology in terms of what they are able to tell us about the relationship.

National-level epidemiological studies, for example, have attempted to pinpoint a statistical relationship between unemployment and morbidity and mortality, using datasets such as those provided by censuses. Frequently, these are longitudinal studies that attempt to observe relationships between such variables over time (for example, aggregate time-series analyses). Here, post-analytic theoretical inferences are given as explanations of the statistical variances that such studies observe. Other longitudinal studies have had a narrower focus, such as research looking at the impact of factory closures on workers.

While such studies allow us to view statistical relationships between certain health conditions/statuses and unemployment (as a staged process in the case of factory closure studies), they are able to say less about the direction of the causality between unemployment and health (of poorer health precipitating unemployment or unemployment precipitating poorer health).

More recent micro-level analyses have sought to understand unemployment from the perspective of the individual, viewing people as located within particular local economic, social and political contexts. Such studies are often cross-sectional and some attempt to elucidate the meaning that unemployment holds for people at a micro-level of their everyday lives.

Frequently, these studies are driven by a theoretical rationale that points to the diffuse and complex nature of the relationship between worklessness and health. Investigations are intended to confirm, refute and refine pre-existing theoretical perspectives and as such are micro-specific in nature. They do not focus on having a statistically rigorous approach (and so are not necessarily widely representative of factors beyond the locale on which they focus). Of course, these methodologies are archetypes and are presented here for analytic purposes only. In fact, these studies may well blend approaches, perhaps drawing on a range of additional methodologies to do so.

Causality

All review articles express at least some concern with the question of causality in the relationship between unemployment and health: whether poorer health causes unemployment or whether unemployment causes poorer health (selection versus causation). This question is multivariate and complex and is also related to the framework of methodological enquiry that research studies employ to begin with.

These two issues – methodological approach and the direction of causality – are fundamental to any research that attempts to investigate the relationship between unemployment and health and these issues are recurrent throughout the following subsections of this evidence review.

The following 12 review-level papers met the criteria outlined in the Methodology section

Bartley, M. (1994). Unemployment and ill-health: understanding the relationship. *Journal of Epidemiology and Community Health* 48: 333-7.

Brenner, M. H. (2002). *Employment and Public Health*. Vol I-III. Report to the European Commission. http://europa.eu.int/comm/employment_social/news/2002/jul/empl_health_en.html

Ezzy, D. (1993). Unemployment and mental health: a critical review. *Social Science and Medicine* 37 (1): 41-52.

Ferrie, J. E. (1999). Health consequences of job insecurity. *WHO Regional Publications Europe* 81: 59-99.

Fryers, T., Melzer, D. and Jenkins, R. (2003). Social inequalities and the common mental disorders: a systematic review of the evidence. *Social Psychiatric Epidemiology* 38: 229-37.

Hammarstrom, A. (1994). Health consequences of youth unemployment – review from a gender perspective. *Social Science and Medicine* 38 (5): 699-709.

Jin, R. L., Chandrakant, P. S. and Svoboda, T. J. (1995). The impact of unemployment on health. *Canadian Medical Association Journal* 153 (5): 529-40.

Lakey, J. (2001). *Youth unemployment, labour market programmes and health*. London: Policy Studies Institute.

Murphy, G. C. and Athanasou, J. A. (1999). The effects of unemployment on mental health. *Journal of Occupational and Organisational Psychology* 72: 83-99.

Owen, K. and Watson, N. (1995). Unemployment and mental health. *Journal of Psychiatric and Mental Health* 2: 63-71.

Shortt, S. E. D. (1996). Is unemployment pathogenic? A review of current concepts with lessons for policy planners. *International Journal of Health Services* 26 (3): 569-89.

Welch, S. (2001). A review of the literature on the epidemiology of parasuicide in the general population. *Psychiatric Services* 52: (3) 368-75.

Findings

Physical health

This section reports on the relationship between unemployment and physical health conditions, including studies exploring mortality in terms of overall population studies, and deaths due to specific health conditions, such as cardiovascular disease. It also includes morbidity studies that focus on conditions such as cardiovascular disease, stroke and general rates of GP consultation. Deleterious health behaviours include alcohol consumption, smoking and consumption of illegal drugs.

Mortality and unemployment – population studies

Brenner's (2002) investigation into the relationship between unemployment and health is one of the most commonly cited studies in the unemployment and health literature, and features at some point in all the articles considered for the purposes of this review. Through time-series analyses, Brenner investigated whether changes in the rate of employment have influenced mortality patterns across a number of European countries, including the UK. Using national-level unemployment data, Brenner's concern was to identify whether unemployment data recorded between 1966 and 1996 exhibited an association with the rates of mortality during these years.

For Brenner, there is a significant relationship between unemployment and mortality. In the UK, differential mortality rates could partially be explained by differential unemployment rates, especially among the over-50s. But Brenner demonstrates a positive association between mortality and unemployment for all age groups in England and Wales (among other countries), with suicide increasing within a year of job loss, cardiovascular mortality accelerating after two or three years and continuing for the next 10-15 years (see also Shortt, 1996).

Jin et al.'s (1995) systematic review of the available epidemiological evidence supports an association between unemployment and health, identifying longitudinal studies in the UK that have focused on standard mortality ratios (SMRs) for jobless men across two different time periods (1976 and 1981). In these studies, SMRs were found to be higher for men who had been out of work in both time periods as compared to one only. For the authors, the weight of evidence for associations between unemployment and increased risk of death from all causes is such that they consider a positive association to have been well established among the unemployment and health research community.

This is supported by Lakey (2001), who similarly identifies a large body of evidence indicating an association between unemployment and premature mortality.

In her review of the relationship between unemployment and ill health, Bartley (1994) identifies estimates that suggest a 20% excess risk of death among both men actively seeking work and their wives, with the possibility that this may be higher still in areas of higher unemployment. As mentioned in the section on 'Psychiatric morbidity and unemployment' (p14), one potential confounding effect is the lower social stigma surrounding unemployment in areas of high unemployment. In these areas, there is the potential availability of greater sources of support than in areas of lower unemployment where fewer people will have experience of unemployment overall.

While supporting a positive association between unemployment and increased premature mortality, Lakey (2001) also notes how the size of quantitative aggregate surveys necessarily involves a simplification of the complex concept of individual health. The assumption cannot be made that looking at mortality rates for large populations

can be translated into poorer health expectancies at an individual level. A number of the reviews included in this evidence review critique Brenner (2002) strongly for his expectation that being unemployed will inevitably equate to deleterious health outcomes. While Shortt (1996) observes this unidirectionality as overly simplistic, others criticise the lack of a methodological basis for using lag periods in Brenner's work (between spikes in the rates of unemployment and its effect on mortality rates) and argue that it is not possible to determine the direction of causality between mortality and unemployment using his approach.

For Bartley (1994), poorer health cannot account for higher rates of mortality alone, due to the curvilinear effect that research has observed in mortality rates for those unemployed. One would expect the mortality rate for a cohort of unemployed people to fall rapidly after those who were at the most advanced stages of illness had died. However, the author identifies a mortality pattern for such cohorts which can remain high for some 10 years after follow-up. While poverty can be thought of as one of the potential mediating factors for this, Bartley highlights how unemployed people also adapt to their new status so that further deterioration (in terms of health and social status) does not occur beyond 12-18 months. Of issue are the mechanisms that produce these relationships. The author surmises that available evidence points to unemployment involving physiological changes, such as lowered immunity, as well as having impact on mental health, which is discussed in more detail below.

Mortality and unemployment – deaths due to cardiovascular disease and other physical health conditions

Jin et al. (1995) point out that it is the incidence of cardiovascular disease (and suicide) that tend to be the mortality statistics most often investigated. For Brenner (2002), there is a positive association between unemployment and increased death due to heart disease from time-series data on populations from a range of countries, including England, Wales and Scotland after adjustment for trends in consumption of tobacco, alcohol (and, in Scotland, for very long cold winters).

Both Jin et al. (1995) and Lakey (2001) show how European, census-based longitudinal studies on cause of death from cardiovascular disease have found significantly higher SMRs for this cause of death in British cohorts of unemployed men from the 1981 census, and for the wives of men in the 1971 cohort (though not the men themselves). There appears to be an association between unemployment and mortality that extends to the wives of unemployed men, with raised mortality rates existing across classes (as well as being more likely to be associated with other causes of mortality such as cardiovascular disease, lung cancer, accidents and suicide).

Jin et al. (1995) outline how British men also have higher SMRs due to ischaemic heart disease (although for Shortt, 1996, several studies only demonstrate strong association between unemployment and mortality when ischaemic heart disease is considered). In addition, Jin et al. identify a strong correlation of increased deaths due to stroke with unemployment among men. Review articles did not identify any significant studies investigating mortality from a more micro-level perspective.

The evidence supports a strong association between increased mortality and unemployment at an aggregate level. There appears to be some association between unemployment and mortality due to other health conditions such as cardiovascular disease, but this relationship is less clear for other conditions such as stroke.

Morbidity and unemployment – physical health conditions and health service usage

Given the mooted association between unemployment and mortality, one would expect there to be some form of relationship with increased morbidity and, while fragmented, review authors identify several studies to support this. Ferrie (1999) identifies how longitudinal studies of workplace closures have found that there are significant adverse effects on several measures of physical health during the anticipation and termination phase of a factory closure (the initial stage, when news of potential closedown is received and the final period of closure of a factory itself). The author highlights how studies have identified how illness and health service use (such as GP consultations) show an increase during factory closure.

While noting methodological limitations, Ferrie (1999) also identifies a number of studies that support findings of increased morbidity and use of health services following factory closure. Jin et al. (1995) concur, noting that workers in factory studies had more than double the

rate of hospital admissions and between one-fifth to three-fifths were more likely to visit their GPs in the week before interview for all working age men.

Other factory plant closure studies have shown a positive association between unemployment and health conditions such as cardiovascular disease and higher blood pressure. Review authors note that the emphasis in factory closure studies has been on blue-collar workers in the private sector, since large-scale white collar redundancies have been relatively recent. Exceptions to this include the Whitehall II study, a large-scale, longitudinal public sector study during which civil servants have faced the sale of their departments to private interests, with adverse changes in most measures of self-reported health status in male and females (see Ferrie, 1999).

Morbidity and unemployment – health-related behaviours

The association between health-related behaviours (including alcohol consumption, smoking and drug taking) and unemployment is the most ambiguous, according to the available evidence (Ferrie, 1999). Bartley identifies a disagreement in the literature over whether unemployed people are heavier drinkers, with some studies (such as a British Regional Heart study)* reporting that consumption does not increase during periods of unemployment for middle-aged men (for example, due to decreased personal finances). Findings of other studies have found heavy drinking in young men to be more prevalent (for example, if unemployed for more than six months).

This has led researchers such as Ferrie (1999) to conclude that the available evidence shows alcohol as having no clear association with unemployment overall. However, Lakey (2001) notes that this may point to a polarised pattern with young male heavy drinkers at one end of the scale and older men decreasing their consumption at the other. While unemployment appears to be a risk indicator for increasing alcohol consumption, it is also the case that the risk factors for both unemployment and heavy drinking may be the same.

On a methodological note, Hammarstrom (1994) notes that studies frequently lack a control for pre-job loss drinking as a baseline for comparison. For tobacco, longitudinal studies indicate that young people are more likely to be smokers if unemployed or inactive and that women in particular increase their usage if unemployed, although the same pattern was not evident for men.

The pattern for other health behaviour such as the taking of illegal drugs is much more difficult to assess since usage is not purely for combatting stress (as argued for smoking) but is also involved in the construction of alternative cultural identities. Clearly, there are distinct methodological difficulties in studies being able to investigate the use of substances that by their very nature are illegal.

There appears to be an association between measures of morbidity and unemployment as demonstrated by factory closure and other studies in the UK, with indices such as use of health services increasing prior to actual unemployment itself. The pattern for health-related behaviours is contradictory, with disagreement between studies and no overall pattern observable in relation to unemployment, suggesting the need for further study.

Psychiatric morbidity and unemployment

GHQ and generic measures of mental health

Studies that have attempted to investigate correlations between unemployment and measures of psychological or psychiatric distress have frequently used the General Health Questionnaire (GHQ) as a standardised measurement tool, particularly in its 12-point form. For review authors such as Murphy and Athanasou (1999), the use of standardised measures of psychological distress such as GHQ has increased their confidence in the validity of the findings. Comparing studies using a variety of measurement scales to capture psychiatric morbidity is not easily compatible from a methodological perspective.

Lakey (2001) observes that a number of British studies have pointed to poor mental health among unemployed people, with higher levels of stress experienced by those unemployed as compared to employed. Where other measurements have been identified – such as lower levels of happiness, self-esteem and general distress when being unemployed (Hammarstrom, 1994) – these have frequently been established using the GHQ together with other scales for depression and loneliness as a basis for

** See www.ucl.ac.uk/primcare-popsci/brhs*

comparison. Bartley (1994) outlines how the health effect of unemployment links directly to financial problems. The author draws a comparison between the proportional change shown by studies employing the GHQ.

In a review of nine major studies (including four with a UK focus), Fryers et al. (2003) indicate that there are positive associations between those unemployed and a higher prevalence of common mental disorders. Murphy and Athanasou's (1993) investigation of 16 longitudinal studies conducted since 1986 (focusing on various measures of personality, mood and psychiatric vulnerability) points to an association of increased psychological distress with unemployment. The authors assert that the weight of evidence generated by the plethora of scientific literature on the subject has put this association beyond doubt while also noting that the precise nature of the unemployment and mental health relationship remains yet to be established.

Reviews present the unemployment and health literature as describing a stabilisation of unemployed people's mental health levels once they have undergone a period of adjustment to their new circumstances. Owen and Watson (1995) note how 'stage model theorists' identify an initial peak of poor mental health after three months, followed by a plateau after 9-12 months (a curvilinear relationship). However, review authors view this as methodologically problematic and more of a descriptive framework than an overarching theory. The model also treats the unemployed as a homogeneous group and labels them if they do not follow the 'pattern'. In this vein, a number of the review authors call for attention to be paid to the meaning and context of unemployment in relation to mental health to help to expose the mechanisms and causal direction in which the relationship operates. While the relationship between unemployment and mental health may well be mediated through a number of factors such as education and income, the evidence to support this in a UK context is not yet available (Fryers et al., 2003).

Factory closure studies have pointed to how job insecurity itself was found to bring higher levels of psychiatric morbidity by comparing those anticipating the threat of redundancy with those anticipating no change. Duration of job insecurity has also been highlighted as a factor in terms of changes in people's levels of psychological distress when taking up a new job. For Murphy and Athanasou (1999), the majority of their reviewed studies support the contention that, while those who are unemployed do become more symptomatic than employed comparator groups, there is also a corresponding fall in distress levels when taking up a new job.

Ferrie (1999) identifies that in the 1980s young people leaving work also experienced a decline in their psychological wellbeing, which was reversed on their returning to work. Middle-aged men reported a higher level of psychological distress when experiencing unemployment than men aged 30 or over 50 (but this affected both men and women). Those people with more social support appeared protected against the detrimental psychological effects of unemployment with duration of unemployment being a factor. Moreover, Hammarstrom (1994) notes how in areas with high unemployment there were associations with stronger social support and lower levels of stigmatisation, suggesting that where people have fewer networks and less support they have recourse to fewer resources with which to face stressful life-events.

Ezzy (1993) identifies how, within studies stressing the latent consequences of unemployment (ie the non-financial aspects, following Jahoda, 1992), there is an assumption that unemployment is unambiguously negative (and the inverse). Issues such as the type of employment that people have do not come into play. This is highlighted by Ferrie (1999), who identifies evidence that working in a high-risk industry at a time of high unemployment is less healthy than being unemployed altogether. The type of employment experienced when in work has also been highlighted in the review literature as carrying over into how unemployment may itself be experienced, with white-collar staff experiencing better health than their blue-collar counterparts in times of unemployment.

Suicide

Brenner (2002) identifies suicide as being positively associated with unemployment rates in several European countries including Britain, with the British rate of suicide for unemployed men being 1.6 times that of employed reference populations. Citing an Office of Population Census and Survey longitudinal study, Bartley (1994) highlights how men unemployed in 1971 had a SMR for suicide of 236 and were at greatest risk between 36-44 years of age. Lakey (2001) suggests that there has been a disproportionate location of suicide within unemployed people (together with a raised likelihood of parasuicide), especially if people have been unemployed for more than a year and that the group most likely to have performed

a suicidal act was young women not active in the labour market.

Owen and Watson (1995) claim that there is a significant association between unemployment and suicide, citing a 20 year Edinburgh study that identified 75% of all suicides as being out of work for six months or more, with a relative risk more than 10 times greater among unemployed people than employed. However, across other reviews and studies the relationship between suicide and unemployment remains somewhat more inconsistent. While some national studies have observed an association between increased suicide and recession, others have been less conclusive.

Jin et al. (1995) note that while some studies have supported the association of unemployment with increased suicide, these have most frequently been cross-sectional or individual-level studies that have not been able to articulate anything about the direction of causality in relation to unemployment. While Bartley (1994) reflects many review authors in identifying unemployment as being an informing rather than causal factor in suicide, for Lakey (2001) this has not yet been convincingly established by available evidence, even though unemployment and suicidal behaviour do seem to reflect common factors that predispose to both types of risk.

Parasuicide

As with suicide, the evidence suggests that there is a disproportionate representation of unemployed people in the incidence of parasuicide (Lakey, 2001). For Owen and Watson (1995), a study in Oxford demonstrated a significant increase in the number of parasuicides as the unemployment rate increased (41-66 and 4.8-9.9% respectively). The same authors also identify how the highest suicide and parasuicide rates presented in an Edinburgh study were found to be in inner-city areas. For Lakey (2001) and Owen and Watson (1995) this reflects a wider issue for cross-sectional studies that focus both on suicide and parasuicide, in that inner-city locations, while also experiencing high rates of unemployment, also experience a range of other negative indices (eg poor quality housing, poverty, transitory residential populations). Unless these are controlled for, it remains difficult to separate the effect of unemployment from them.

Locus of control and gender

In terms of experiential deprivation, reviews identify a number of studies that have focused on the locus of control that people have, which is felt to be closely linked to the concept of 'environmental clarity' (such as what to do to get a job). Lakey (2001) notes how evidence of lack of environmental clarity leads to mental distress, so that those who are unemployed but have higher levels of environmental clarity have more positive and goal-oriented outlooks and perceive their days to go more quickly.

Other studies have highlighted that the ability to fill a day maintains a strong association to higher wellbeing scores in unemployed people, in addition to a number of studies showing unemployed people as having difficulty in filling their days and spending more time in passive activities such as sleeping or watching TV. Having higher levels of variety in one's everyday routine is also correlated with lower levels of anxiety and depression.

As with most unemployment and health studies, research has had a prevailing focus on unemployed men (see 'Gender', p17). As Owen and Watson (1995) observe, the prevailing assumption has been that women do not show psychological distress to the same degree as men because of lower levels of attachment and identification with work. While some studies have found a negative association between unemployment and psychological distress (Platt, 1984, cited in Owen and Watson, 1995), others have found that for single women the relationship between mental health and unemployment is similar to that for men. Being married has been understood to be a 'protective agent' against psychological distress.

Selection vs causation

As in all sections of this evidence review, the direction of causality is an issue of debate. Selection bias would indicate that those with mental health issues were more likely to lose employment and those without to gain employment. For review authors such as Owen and Watson (1995), some studies have been able to overcome methodological limitations of selection bias by excluding from their analysis people with pre-existing mental health conditions, people dissatisfied with their jobs or those having undergone a relationship break-up.

By identifying two reviews with a large enough representative sample of the labour force to control for adequate numbers of the potential confounders, Murphy and Athanasou (1999) identify unemployment as a significant cause of psychological disturbance. The evidence about how large the variance is for the negative impact on mental health has been identified as not being

well established within the literature, with studies identifying figures ranging from 3-16% of GHQ variance being attributable to unemployment. By determining the effect sizes for reviewed studies, review authors identify that the move from unemployment to employment is substantive (0.26-0.71) while the move from employment to unemployment has tended to be less, having some practical significance (0.36).

Evidence suggests that there is a strong association between unemployment and increased measures of psychological and psychiatric morbidity, particularly across studies using the General Health Questionnaire. While unemployment may be related to suicide, the evidence base for an increased association is unclear in the UK, although the relationship between parasuicide and unemployment does appear to be stronger. Factors such as levels of social support, geography, gender, age and type of employment would appear to be confounders to this relationship. Upon re-employment, there appears to be a reversal of these effects. While the direction of causality is difficult to determine, unemployment is considered to be a significant cause of psychological distress in itself.

Social aspects of health

In addition to physical and mental health, there are a number of social variables that may have an impact on or correlate with health and unemployment. They concern the social identities that we negotiate in our everyday lives, such as those according to gender, age and ethnicity.

Gender

Gender is not made explicit in many analyses of unemployment. Review authors such as Hammarstrom (1994) note that there is a common assumption across studies that women are socialised to appreciate different goals from men and it is these goals – including employment – that are less valued. The effect of employment on the family, children and partners is an area that has not been investigated to any great degree, beyond studies that have identified increases in psychological distress and elevated levels of ischaemic heart disease in the wives of unemployed men.

Murphy and Athanasou (1999) note that even where there is a male and female focus within a study, men still tend to dominate numerically. Shortt (1996) supports this view, noting the greater emphasis on males within the unemployment literature (with more data on women evident in an international context). The author points to studies that have found that children born to unemployed fathers have a lower birthweight (comparable to maternal smoking during pregnancy) and that this correlation has been supported in other studies. Longitudinally, this was found to continue as the children grew up with greater admission to hospital, together with increased GP consultations for families where male workers became unemployed. For Shortt (1996), the data points to a pathological impact of unemployment on the children and family of the unemployed.

Exploration of gender has been limited and inconsistent and until there is accurate and consistent data recorded in the UK of unemployed women, review authors conclude that this will remain the case.

Age

Youth – Murphy and Athanasou (1999) identify a small number of studies looking at youth unemployment, but observe that 'it is a moot point as to whether studies involving youth and young adults need to be considered differently from those involving more mature adults' (p89). Lakey (2001) observes how younger people have generally better health than their older counterparts but that suicide and parasuicide are of concern, particularly among young men, as well as health-related behaviours such as drugs and eating disorders.

For Owen and Watson (1995), the impact of youth unemployment is assumed to differ because young people have different expectations of the labour market, thanks to their lack of experience. A cross-sectional and longitudinal analysis of a group of school leavers found there was no significant relationship between unemployment and psychiatric morbidity – the relationship between the two decreased over time.

Early retirement and retirement on health grounds – According to a number of review authors, ageing is one aspect of social health that has not been as well understood in relation to unemployment. While older workers were disproportionately affected by workforce reductions in the late 1980s and early 1990s recession, it

is difficult to know to what extent this was ‘voluntary’. Studies do not differentiate adequately between retirees and those made redundant, which may well have implications for their physical and mental health. An additional factor is that the social meanings of categories of retirement are not fixed but depend on the prevailing level of employment and the financial implications of different ways of leaving employment.

Ferrie (1999) hypothesises that until the 1980s early retirement was connected to a breakdown in health, but beyond this it was increasingly associated with financial security. She notes that there has been little research on the impact of early retirement on either physical or psychological health due to the methodological issues in separating it from the process of ageing. For Ferrie (1999), raised mortality can be identified in the first, fourth and fifth years after early retirement, with health status before retirement as the only significant predictor of survival. In a British Regional Heart Study,* smoking and alcohol consumption were significantly higher at initial screening for those who subsequently retired early than for those who remained continuously employed. Retirees also experienced a gain of over 10% in body mass. Mortality has also been found to be significantly higher for those men retiring early after controlling for health status and behaviours before employment.

Conversely, other studies have found high satisfaction levels in people who are retired, with some returning to part-time/short-term contract work. In short, the few attempts at an empirical examination of the health effects of early retirement have produced conflicting results. Problems with definition of early retirement and its interaction with retirement on health grounds have meant that most studies have been hampered by serious sampling and methodological problems. They have also mostly had a focus on men since relatively few women under 60 have traditionally described themselves as retired.

Ethnicity

As black and minority ethnic communities in the UK are disproportionately located in circumstances of socio-economic disadvantage and unemployment (particularly for groups such as Bangladeshis, Pakistanis and African-Caribbeans), one would expect the deleterious health effects of unemployment to be exaggerated for these communities in comparison to the wider population. While some UK studies have looked at ethnic differences in terms of psychiatric morbidity and unemployment, review articles highlight a lack of substantive studies that attempt to investigate whether ethnic or cultural issues may be risk factors in terms of unemployment and health.

A lack of a substantive UK unemployment evidence base concerning women and people from black and minority ethnic backgrounds makes it difficult to identify potential associations with unemployment and health. While it is unclear if there is a quantitative and qualitative difference in unemployment as experienced by younger as opposed to older people, particular issues such as health-related behaviours and suicide remain of concern. Methodological and definitional issues involved in studies of older people and early retirement have meant that there is not yet an established UK evidence base, although limited available evidence does point to raised mortality rates with early retirement in some contexts.

** See www.ucl.ac.uk/primcare-popsci/brhs*

Gaps in the current literature and areas for further research

There is a remarkable degree of consistency in the gaps identified in the current literature and the calls made for further research.

Poverty and financial anxiety

For Bartley (1994), the impact of unemployment on mental health is partly mediated through poverty and financial anxiety. Financial problems have an impact on levels of stressful life events associated with debt, effect on diet and quality of the home environment, together with the decreased support networks that unemployed people have when facing such stressful life events. Fryer et al. (2003) similarly emphasise that the relationship between unemployment and mental health has to be understood as mediated via education and income combined.

Underlying mechanisms

For Hammarstrom (1994), the relationship between unemployment and ill health has a high likelihood of involving both selection and exposure and there needs to be more qualitative research based on gender theories to search for deeper mechanisms and mediating factors.

Direction of causality

For Jin et al. (1995), the epidemiological evidence suggests that the direction of causation from unemployment to illness (thus causing poor health) is greater than the inverse (poor health causing unemployment) but that this relationship is complex and not yet fully understood.

Mental health

Ezzy (1993) identifies the importance of exploring the issue of context in understanding unemployment. Poorer mental health should not be seen as a mechanical response by unemployed people to their environment. The author argues that individuals employ strategies, or life stories, as ways of facilitating identity legitimation, and mental health issues have to be seen as a product of failure to find meaning. Identity theory can help to explain mental health consequences of unemployment as a 'status passage' – one of many such passages that people experience in their lives (for example, divorce, bereavement). Ezzy (1993) calls for greater focus on job loss research that is more than descriptive and that attempts to specify the relationship between demographic groups, experiences of job loss, and the self-evaluative consequences of becoming unemployed.

Life course

This emphasis on context is something that is reflected in Lakey's (2001) call for a 'life-course' perspective to unemployment and health research. In this context, unemployment is understood as one life event among many and it is in this context that the association of variables has to be understood. It is the cumulative stress of repeated adverse life events that is thought to impact negatively on health. Such an approach is attentive to the factors that may make individuals resilient to stressful life events. Social capital has been mooted to have this effect. Lakey (2001) outlines how, in the UK, factors such as poor parental supervision, early school failure and low self-esteem have been identified as important in the development of an anti-social career.

Policy based research

Finally, Murphy and Athanasou (1999) note that much more research needs to be done to be able to inform policy decisions and service provisions in the health arena. The mental health effects of employment status still

remain only partially understood in that there seems to be a clear statistical correlation, but the mechanism through which this relationship is operationalised is still not understood. The authors advocate the need for studies focusing on differing geographic areas to understand local economic context. They consider age to be one of the factors worthy of systematic attention and about which comparatively little is known within the UK.

General

To answer questions about the confounding effects of early retirement and the different qualitative impact of unemployment on health as one gets older, Murphy and Athanasou (1999) note that research has to focus on specific age cohorts. This is strongly supported by Shortt (1996), who calls for the establishment of longitudinal studies in the UK that include appropriate control groups and continue for time periods of at least one decade.

The lack of review-level literature addressing the relationship between ethnicity, health and employment suggests a need for more research in this area.

Conclusion

The evidence outlined in this review shows a relationship between unemployment and poor health, although causation is not proven. There would seem to be a strong relationship between psychiatric morbidity and unemployment. Understanding this complex association is important and will almost certainly have implications for policy, especially for those strategies that focus on health improvements. Key to this is the meaningful translation of findings into positive messages about the potential therapeutic value of work.

Much of the evidence from both original studies and reviews deals with the concept of unemployment and not worklessness in its broadest sense. It is unlikely that long-term ill and disabled people feature strongly in much of the current evidence. This is important, as unemployment, especially youth unemployment, is diminishing as a social policy issue, thanks to the success of both the Jobseeker's Allowance and the New Deal schemes. One of the key challenges for welfare policy in the early part of this century is how best to activate those people on disability benefits for whom work might be an option, and indeed whose life chances may improve through employment. There is also a strong need to manage the significant rise in the number of people claiming incapacity benefits, currently standing at around 2.7 million. This number has almost trebled since 1979 and indeed is three times the current unemployment rate of just over 900,000.

There has been a significant shift in policy on the health and work agenda, largely prompted by the New Deal for Disabled, Pathways to Work, and the recent Framework for Vocational Rehabilitation, all of which are strategies focused on encouraging and enabling sick and disabled people to access and retain work. However, it may be some time before we understand fully what works in helping this group into work, in part because it is only relatively recently that employment policies have concentrated on this group. It is therefore not surprising that the evidence on what works to help sick and disabled people into work is inconclusive. Given the economic and social imperative there is a strong case to develop an evaluation framework to understand more about this complex issue, set within the context of learning more about the relationship between life chances (including health) and worklessness.

However, the relationship between worklessness and health forms only one aspect of the issue. To convince the broad range of stakeholders to adopt work as a key intervention to improve health and wellbeing there also needs to be an active demonstration that work is health enhancing, and here the evidence is less clear. However, research by the Department of Work and Pensions on older workers suggests that people who carry on working beyond state pension age tend to be healthier, wealthier and happier than those of a similar age who are not working.*

There is a need for more sophistication in understanding the health and work agenda within the context of health inequalities, especially the geographical dimension. Improvements in the nation's health may not by itself have a significant impact on health inequalities. There is a strong association between deprived areas, poor health, poverty and worklessness, although the exact relationship is not clear.

Given the potential differences in morbidity and life expectancy within local authorities, there may be an argument to examine the geographical dimension of worklessness and health at ward level, if such data exist. For example, specific interventions in the most deprived

* *Working after state pension age: quantitative analysis*
www.dwp.gov.uk/asd/asd5/rrep182.asp

local authorities may reduce inequalities in health between the local authority and the national average without making a significant difference to the most disadvantaged wards, so potentially perpetuating inequality. The same may be true of efforts to increase employment rates at local authority level.

In summary, the evidence suggests a relationship between unemployment and health and a strong association between unemployment and poor mental health. However, the nature of this complex relationship is less clear, as in part it is confounded by other variables such as educational attainment, the environment and economic circumstance. This review offers a framework for understanding the issues concerning the health and work agenda, and a platform to stimulate more detailed work on this important area of work, such as an enhanced evidence base incorporating findings from government strategies and initiatives. It is therefore recommended that future work should:

- Establish the relationship between worklessness and health in deprived areas, possibly to include some qualitative research to enhance any statistical analysis
- Establish methodologies to explore the extent to which work has a positive effect on health
- Consider worklessness in its broadest definition.

Although it is difficult to consider definitive implications for policy at this stage, there is a strong case for all health strategies to consider employment as an outcome, where appropriate. There is also a strong case for employment policy to evaluate the health impact of all its relevant interventions.

Further work that progresses the health and work agenda has the potential to make a difference not only for health improvement and increased employment outcomes, but also for possible positive impacts on community and neighbourhood renewal strategies, health and safety strategies and a range of associated social policy areas. So an integral part of developing the work on health and employment will be to unpick the complex interrelationships between the associated variables to create a more holistic strategy that will help more people reach their potential.

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APPENDIX 1

Search strategy

1. meta-analysis.pt,sh.
2. (meta-anal: or metaanal:).tw.
3. (quantitativ: review: or quantitativ: overview:).tw.
4. (systematic: review: or systematic: overview).tw.
5. (methodologic: review: or methodologic: overview:).tw.
6. (integrative research review: or research integration:).tw.
7. quantitativ: synthes:.tw.
8. or/1-7
9. (medline or medlars).tw,sh. or embase.tw.
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15. (peto or der simonian or dersimonian or fixed effect:).tw.
16. or/9-15
17. review.pt,sh. or review:.tw. or overview:.tw.
18. 16 and 17
19. 8 or 18
20. UNEMPLOYMENT/
21. workless$.mp.
22. jobless$.mp.
23. unemploy$.mp.
24. or/20-23
25. HEALTH/ or ("ill health" or "ill-health").mp. [mp=title, original title, abstract, name of substance, mesh subject heading]
26. incapacity benefit$.mp.
27. sickness benefit$.mp.
28. economic inactivity.mp.
29. poverty/
30. "Quality of Life"/
31. Health Status/
32. or/25-31
33. 24 and 32
34. 19 and 33

APPENDIX 2

HDA Evidence Base – critical appraisal of literature

Authors: ______________________________

Title: ______________________________

Source: ______________________________

Relevance to topic			
Does this paper address your topic area?	Yes	No	Unsure
Circle the type of paper:			
• Systematic review			
• Meta-analysis			
• Synthesis			
• Literature review			
• Other review (please specify)			
Does it address (circle as appropriate)?			
• Effectiveness (interventions and treatments)			
• Causation			
• Monitoring and surveillance trends			
• Cost			
• Other (please specify)			
Transparency			
Does the paper have a clearly focused aim or research question?	Yes	No	Unsure
Consider whether the following are discussed:			
• The population studied	Yes	No	Unsure
• The outcomes considered	Yes	No	Unsure
• Inequalities	Yes	No	Unsure
Systematicity			
Do the reviewers try to identify all relevant English language studies?	Yes	No	Unsure
Consider whether details are given for:			
• Databases searched	Yes	No	Unsure
• Years searched	Yes	No	Unsure
• References followed up	Yes	No	Unsure
• Experts consulted	Yes	No	Unsure
• Grey literature searched	Yes	No	Unsure
• Search terms specified	Yes	No	Unsure
• Inclusion criteria described	Yes	No	Unsure
Is it worth continuing?	Yes	No	
Why/why not?			

Quality			
Do the authors address the quality (rigour) of the included studies?	Yes	No	Unsure
Consider whether the following are used:			
• A rating system	Yes	No	Unsure
• More than one assessor	Yes	No	Unsure
If study results have been combined, was it reasonable to do so?	Yes	No	Unsure
Consider whether the following are true:			
• Are the results of included studies clearly displayed?	Yes	No	Unsure
• Are the studies addressing similar research questions?	Yes	No	Unsure
• Are the studies sufficiently similar in design?	Yes	No	Unsure
• Are the results similar from study to study (test of heterogeneity)?	Yes	No	Unsure
• Are the reasons for any variation in the results discussed?	Yes	No	Unsure
What is the overall finding of the review? Consider: • How the results are expressed (numeric – relative risks, etc) • Whether the results could be due to chance (*p*-values and confidence intervals) • Whether the findings are specific to the UK			
Are sufficient data from individual studies included to mediate between data and interpretation/conclusions?	Yes	No	Unsure
Does this paper cover all appropriate study designs? for this field (within the aims of the study)? If no, what?	Yes	No	Unsure
Relevance to UK			
Can the results be applied/are generalisable to a UK population/population group?	Yes	No	Unsure
• Does the study contain UK specifc data?	Yes	No	Unsure
• Are there cultural differences from the UK?	Yes	No	Unsure
• Are there policy/provision differences within the UK?	Yes	No	Unsure
• Is the paper focused on a particular target group (age, sex, population sub-group etc)?	Yes	No	Unsure
Accept for inclusion in the HDA Evidence Review?	**Yes**	**No**	
Use to inform the review of effectiveness?	Yes	No	Refer
Use to inform the background discussion?	Yes	No	
Additional comments			

Notes